

PV SOLAR SYSTEMS

*Achieve Immediate Grid Parity with a
Modern Solar Power System*

22 & 23 AUGUST 2022

LE MÉRIDIEN PETALING JAYA

TRAINING PROGRAMME ID: 1000136691

8 CDP Approved by ST

12 CPD Approved by MBOT

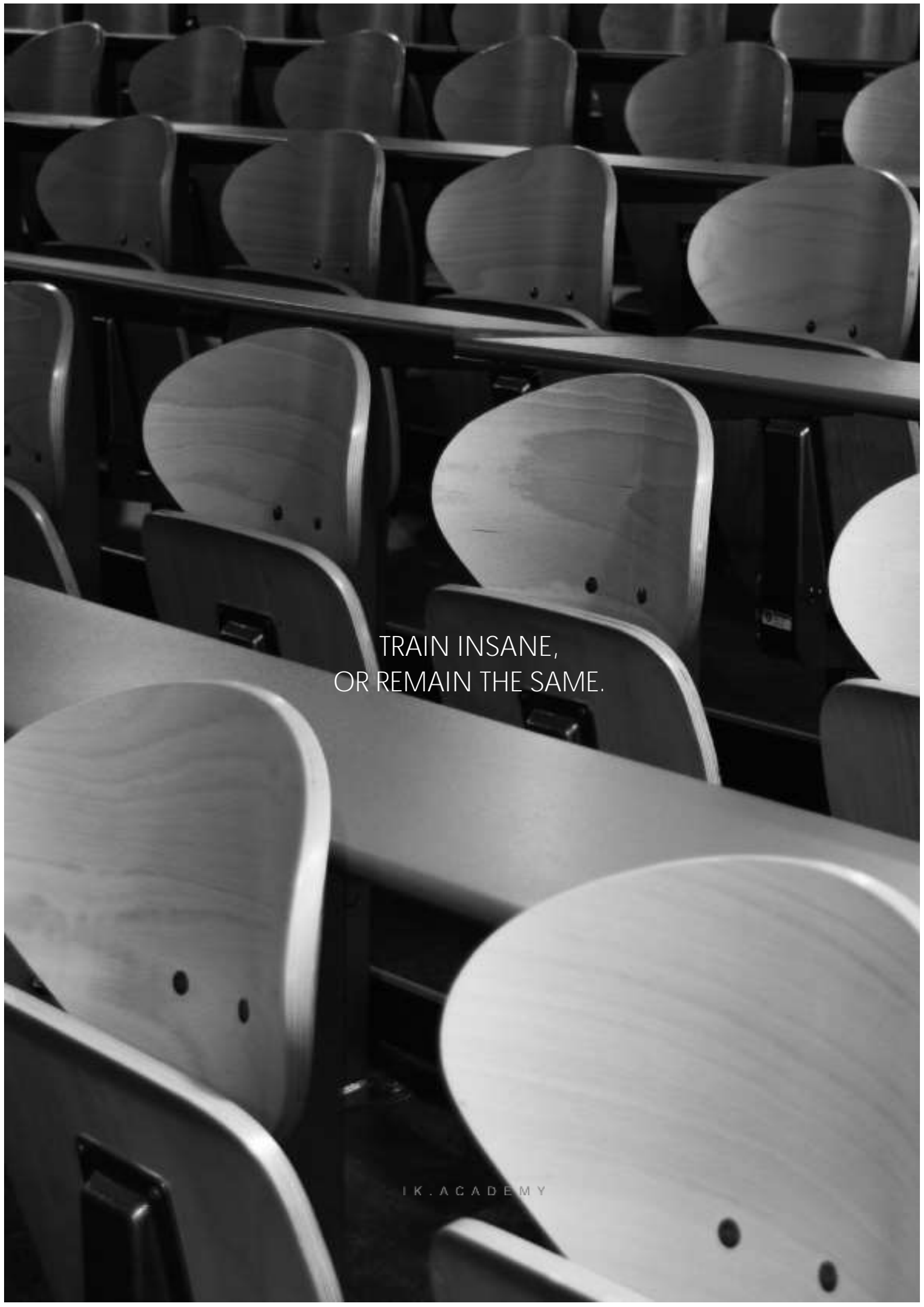
13 CPD Points Approved by SEDA



Our Consultant: **Paul David Millott**

- Many solar power systems do not save energy, why?
- How you can save energy with a PV system?
- Is Net Metering/Feed in Tariff (FiT) cost effective?
- Why is a standalone PV system more efficient than a grid connected system?
- How do I calculate how much energy a solar panel will produce?
- If I buy a 100kW PV system how do I know how much energy it will produce?
- Why does the terminology for PV make no sense, example 1MW of PV can mean many different things and does not indicate the energy that can be produced.

And More...

A black and white photograph of an empty classroom. The image shows rows of wooden desks and chairs, viewed from a slightly elevated angle. The desks are light-colored, and the chairs have curved backs. The lighting is soft, creating a sense of quiet and stillness. The text "TRAIN INSANE, OR REMAIN THE SAME." is centered in the middle of the image in a white, sans-serif font.

TRAIN INSANE,
OR REMAIN THE SAME.

IK.ACADEMY



INTRODUCTION

Why Solar Power? Free electricity from the sun would appear to be the future power of the next generation. Now that solar photovoltaic modules are available, at much lower prices than ever before, it would be cheaper to obtain electricity directly from the sun. This is especially the case for Malaysia, which has the advantage of unlimited sunshine all year round.

The 2-day course will explain the overview of PV system and implementation in Malaysia, issues related to greenwashing, what is energy saving? And why is energy saving important with PV systems? We will also cover important topics on PV module characteristics, solar PV performance and comparison, selection, ROI and risk involved, design and installation of PV system, operation and maintenance of PV system, components in a PV system, international standards governing PV systems and integration case study. A simple demonstration of standalone PV systems will be carried out on the 2nd day to show the real components and understand how they are connected.

COURSE OUTLINE

Overview and Introduction about PV System

- Difference between Solar water heaters and Solar electricity generators.
What is Net Metering/FIT?
- What is stand alone PV?
Is Net Metering/FIT of benefit to householders/building owners?
Is stand alone PV more beneficial to residential premises than Net Metering/FIT?
- Greenwashing and what is energy saving?

Current PV implementation in Malaysia and around the world

PV Module Characteristics

- Different PV modules work in different conditions. Know the characteristics to choose the correct module for your location and system requirements.

Solar PV Performance and Comparison

- Why does 1Mw of this PV panel produce 60% more energy per year than 1Mw of another panel, yet both panels cost the same price?

Selection, ROI, Risk & Performance of Solar System

- How to select the correct PV for your use. Correct selection can bring the ROI down from 11 years to 5 years by improved performance.



COURSE OUTLINE (Con't)

Design & Installation of PV Systems

- Design to save energy not just for the sake of adding Solar panels. Solar panels DO NOT save energy.
- Ensure installers are members of the local, professional, PV associations.

Operation & Maintenance of PV Systems

- Learn how to check your PV system and know where to get professional maintenance and repairs quickly.

Standards of PV Systems

- Applicable Standards of PV Systems

Interaction of PV System Components

- Can I buy Solar panels from one supplier and put them with solar controllers from another supplier and solar batteries from yet another supplier.
- How to buy dedicated PV systems.

PV Inverter and grid integration

- Why is my 98% efficient Inverter only 20% efficient when I switch on 1 light bulb at night? Do I need to use an Inverter?
- Why would I want to use Solar power if I already have electricity from TNB. Isn't this wasteful to have both TNB and PV together?
- How much power is lost when I put my PV output into the TNB grid?

Energy Storage

- What is the difference between a car battery and a solar battery and why is this important?

Case Study – Integration of PV System in Commercial Building/ Industrial Plants

- Comparing Net Metering/FIT over 21 years to stand alone PV over 21years. See which is the better method to save energy and cost.

Demonstration of standalone PV system

- See the real components and how they are connected.

Future of PV System

TENTATIVE SCHEDULE

*Training schedule is tentative and may be subject to change.

DAY 1

Time	Schedule Outline
9.00 am – 10.30 am	Overview and Introduction about PV System <ul style="list-style-type: none"> • Difference between Solar water heaters and Solar electricity generators. What is Net Metering/FIT? • What is stand alone PV? Is Net Metering/FIT of benefit to householders/building owners? Is stand alone PV more beneficial to residential premises than Net Metering/FIT? • Greenwashing and what is energy saving?
10.30 am – 10.45 am	Tea Break
10.45 am – 1.00 pm	Current PV implementation in Malaysia and around the world PV Module Characteristics <ul style="list-style-type: none"> • Different PV modules work in different conditions. Know the characteristics to choose the correct module for your location and system requirements.
1.00 pm – 2.00 pm	Lunch
2.00 pm – 3.30 pm	Solar PV Performance and Comparison <ul style="list-style-type: none"> • Why does 1Mw of this PV panel produce 60% more energy per year than 1Mw of another panel, yet both panels cost the same price?
3.30 pm – 3.45 pm	Tea Break
3.45 pm – 5.00 pm	Selection, ROI, Risk & Performance of Solar System <ul style="list-style-type: none"> • How to select the correct PV for your use. Correct selection can bring the ROI down from 11 years to 5 years by improved performance.

DAY 2

Time	Schedule Outline
9.00 am – 10.30 am	<p>Design & Installation of PV Systems</p> <ul style="list-style-type: none"> • Design to save energy not just for the sake of adding Solar panels. Solar panels DO NOT save energy. • Ensure installers are members of the local, professional, PV associations. <p>Operation & Maintenance of PV Systems</p> <ul style="list-style-type: none"> • Learn how to check your PV system and know where to get professional maintenance and repairs quickly.
10.30 am – 10.45 am	Tea Break
10.45 am – 1.00 pm	<p>Standards of PV Systems</p> <ul style="list-style-type: none"> • Applicable Standards of PV Systems <p>Interaction of PV System Components</p> <ul style="list-style-type: none"> • Can I buy Solar panels from one supplier and put them with solar controllers from another supplier and solar batteries from yet another supplier. • How to buy dedicated PV systems.
1.00 pm – 2.00 pm	Lunch
2.00 pm – 3.30 pm	<p>PV Inverter and grid integration</p> <ul style="list-style-type: none"> • Why is my 98% efficient Inverter only 20% efficient when I switch on 1 light bulb at night? Do I need to use an Inverter? • Why would I want to use Solar power if I already have electricity from TNB. Isn't this wasteful to have both TNB and PV together? • How much power is lost when I put my PV output into the TNB grid? <p>Energy Storage</p> <ul style="list-style-type: none"> • What is the difference between a car battery and a solar battery and why is this important?
3.30 pm – 3.45 pm	Tea Break
3.45 pm – 5.00 pm	<p>Case Study – Integration of PV System in Commercial Building/ Industrial Plants</p> <ul style="list-style-type: none"> • Comparing Net Metering/FIT over 21 years to stand alone PV over 21years. See which is the better method to save energy and cost. <p>Demonstration of standalone PV system</p> <ul style="list-style-type: none"> • See the real components and how they are connected. <p>Future of PV System</p>

OUR CONSULTANT

Paul David Millot

EDUCATION & PROFESSIONAL QUALIFICATION

Education	1967 - 1970	Standard Education U.K. O' Levels A Levels
Professional Qualification	1972 – 1975	Diploma. Radiography, Nottingham University Hospital, United Kingdom
	1975 - 1977	State registered Radiographer, Nottingham University Hospital. <ul style="list-style-type: none"> - Time served electronics engineer. - Worked on design of Magnetic -Resonance Imaging, (MRI) - Worked on development of Computerised Axial Tomography, (CAT scan)
Training/ Membership:	1974 - Present	Member of MENSA, United Kingdom
	1990 - Present	Member of MENSA, Malaysia
	1991 - Present	Member of MACRI, Malaysia
		Ex Secretary of MPIA
		Certified OFF GRID PV Installer
		Certified OFF GRID PV System designer
		Certified BIPV Installer
		Member of College of Radiographers and Society of Radiographers. State registered Radiographer. (U.K.)
		Recognised as a leading Authority on Thin Film PV.



OUR CONSULTANT (Con't)

WORKING EXPERIENCE

Chestcare Ltd.

Director

Developed and operated UK's first on site processing, mobile Mammography Unit and trained engineers how to build and repair x ray machines.

National Science Centre, Malaysia

Technical Training and Scientific Advisor

The National Science Centre, Kuala Lumpur, is now training its staff to design and built new exhibits and to maintain and repair the existing exhibits. Without Mr. Paul Millott's expertise the national Science Centre would not have been able to develop such a good team of exhibit related personnel. This programme is still running and advancing more and more rapidly all the time.

Mr. Paul is assisting with new design techniques and technology, which is useful for a variety of internal and outside, uses. This technology includes Solar power.

National Planetarium, Malaysia

Technical Consultant and Trainer

The National Planetarium, Kuala Lumpur. Trained the technical staff and designed the new exhibits.

Malaysia Institute of Nuclear Technology

Technical Consultant Nucleovoltaic panel. Solid state. Safe, Cold, Nuclear reactor developed for use in Malaysia.

MPIA. Malaysian Photovoltaic Industry Association.

Founder member of the association and Secretary.

Arranged ISPQ training and accreditation to bring installers up to International standards in Malaysia.

Solar Voltaic (M) Sdn Bhd

Research Director

Developed many new techniques for saving energy and increasing power output.

NOSS

Led the DACUM committee and achieved the NOSS for PV installers for JPK. Malaysia now has its own Standards which meet International Criteria. These were developed by myself in conjunction with other International accreditation agencies.

REGISTRATION FORM

03-76511000

Please register the following personnel to attend the training as above
Please photocopy for multiple bookings.

Name: _____

NRIC: _____

Designation & Dept. : _____

Email: _____

Office (Direct Line) _____

Mobile Phone: _____

Name: _____

NRIC: _____

Designation & Dept. : _____

Email: _____

Office (Direct Line) _____

Mobile Phone: _____

Name: _____

NRIC: _____

Designation & Dept. : _____

Email: _____

Office (Direct Line) _____

Mobile Phone: _____

Company Name: _____

Contact Person: _____

Designation: _____

Address: _____

Office (General Line): _____

Office (Direct Line): _____

Fax No: _____

Email: _____

Person In Charge: _____

(Finance)

Email (Finance): _____

Contact Number: _____

(Finance)

I hereby agree to Asia iKnowledge Sdn. Bhd.'s Company Registration Policy
by signing and affixing the company stamp below:

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Authorized Signature

Company Stamp

4 EASY WAYS TO REGISTER

Call : +603-76511000

Fax : +603-76511001/2

Email : register@ik.academy

Mail : Suite 3A21, Kelana Centre Point, Block A,
Jalan SS7/19, Kelana Jaya, 47301 Petaling
Jaya Selangor, Malaysia

TRAINING INVESTMENT

Early Bird Registration

(Before 22nd July 2022)

Early Bird Pricing : RM 2500 per pax
(RM 2650/pax incl 6% SST)

Normal Registration

Individual Pricing : RM 2710 per pax
(RM 2872.60/pax incl 6% SST)

Group Pricing : RM 2610 per pax
(RM 2766.60/pax incl 6% SST) (for 3 pax & above)

HRD Corp Claimable

HRD CORP CLAIMABLE COURSES REGISTRATION
POLICY

For HRD-CORP CLAIMABLE COURSES clients, the grant approval letter must be obtained from HRD CORP at least 48 hours prior to the training date. In the event that the grant approval letter is not obtained, IK Academy reserves the right to deny your entry into the training session. You may opt to issue a letter of undertaking to IK Academy as a guarantee of payment. Note that the letter of undertaking is subject to review by the management of IK Academy.

IK Academy reserves the right to issue invoices directly to clients should there be any failure to provide the grant approval letter issued by HRD CORP after the training is concluded.

COMPANY REGISTRATION POLICY

It is important to read and understand our Company Registration Policy before signing or stamping the registration form. You may get a copy of our policy from our personnel or from the link below:

<http://ik.academy/assets/ikpolicy.pdf>

CANCELLATION & PAYMENT POLICY

You may substitute the participants any time. No cancellation is allowed upon issuance of confirmation and tax invoice. Payment has to be made prior to training date.

PROGRAM POLICY

Our consultant & topics are confirmed at the time of publishing. However, circumstances beyond the control of the organizers may occur. Asia iKnowledge S/B reserves the right to alter or modify the advertised speakers/ dates/topics if necessary.

PAYMENT DETAILS

Payment is required within 7 days upon receipt of the invoice. All payment must be received 7 working days prior to the training date.

1. Direct Deposit

Company Name: ASIA IKNOWLEDGE SDN BHD

Account number: 144-300-562-0

Bank: **United Overseas Bank (Malaysia) Berhad, UOBM Damansara Uptown, Ground Floor, No. 1, Jalan SS21/58, Damansara Uptown, 47400 Petaling Jaya, Selangor**

* Please instruct your bank to pay all transfer charges from your account and send in a copy of remittance advice by email/fax.

2. Bank Cheque or Bank Draft

Payable to "ASIA IKNOWLEDGE SDN BHD"