Sustainable change through education, engineering and communication

GSES® global sustainable energy solutions

Update on Quality Technical Training Initiatives for the Pacific

Training • Consulting • Engineering • Publications



GSES established in 1998 has two main business streams

Renewable Energy Consulting

- *Engineering Services*
- *System compliance Inspections*

Training

- *Conduct Training (over 20 countries)*
- *Train Trainers and License our material*
- *Develop RE Training Frameworks*

GSES In the Pacific

- GSES has been operating in Pacific since 2005 and since then has been promoting quality technician training.
- GSES acts as the Secretariat for SEIAPI.

Private Industry Frustration

In 2005 Herb Wade and I wrote the Pacific Renewable Energy Training Initiative (PRETI) - a document developed to encourage funders to spend $4m on developing training capacity

1. Donors have spent in access of $1billion on solar projects
2. There have been many reports written on “training needs”
3. 6 million Euros spent on the EU PacTVET project for Climate Change and Sustainable Energy training development
4. Ad hoc training courses
5. BUT all the private companies installing the systems in the Pacific cannot get any training for their technicians

Feedback from 17 workshops in 14 countries in 2018 was .....

MORE TRAINING IS NEEDED

Long Term Objective with Training

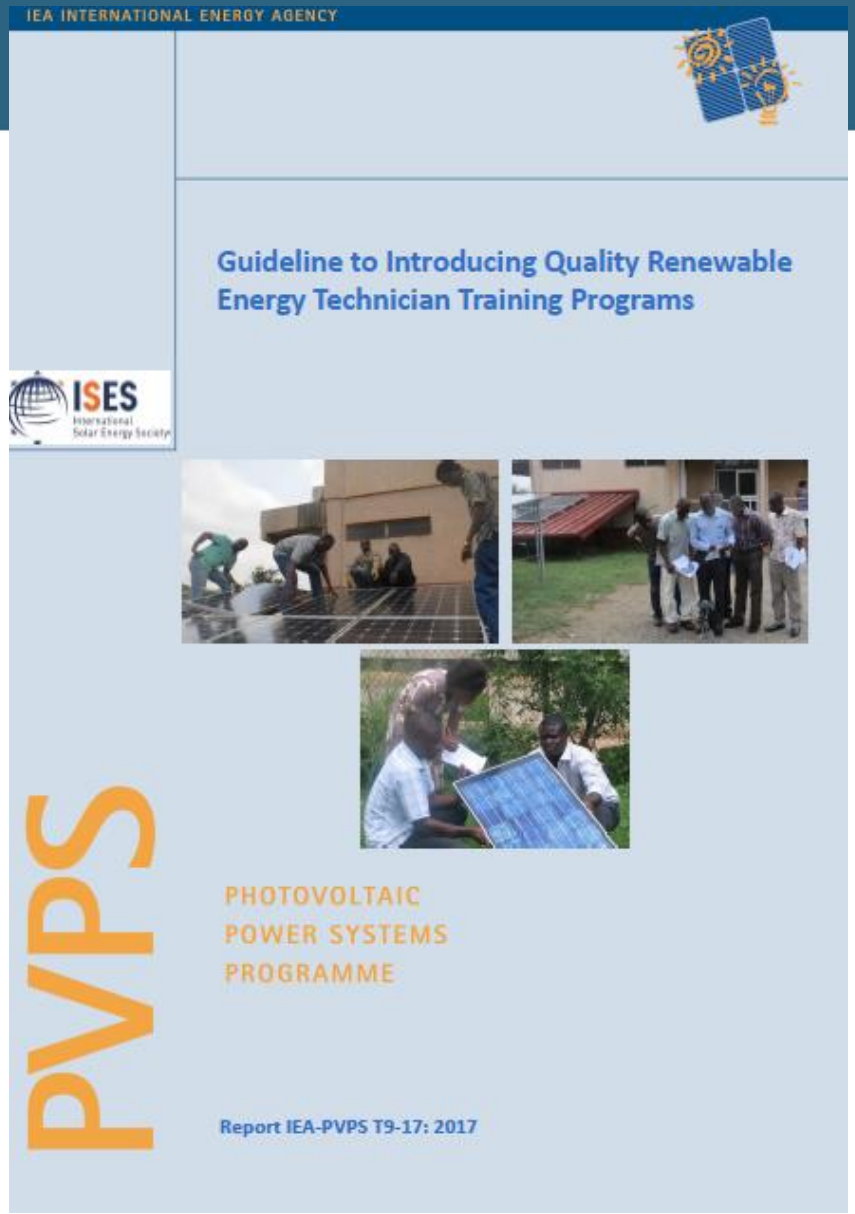
- Training is “mainstream” – conducted by in-country training institutes involved with other “trade” training.

Written in Paper for ISREE 9 Gotenburg 2003

- Often approached by countries, regions, donors on how to establish quality training program for RE

HOWEVER

- Not many people really know what a quality training for technicians is?



Quality Technician Training

- Comprises two main components:
  - Quality management standard
  - Competency standards - Units of competency - Job Task analysis (same thing different names)

PPA/SEIAPI Technician Certification and Accreditation Program

SEIAPI initially launched the Program in May 2012.

April 2014: Scheme relaunched as the PPA/SEIAPI Certification/Accreditation Program

Individuals are able to be certified as:

i) designers;

ii) installation (maintenance) technicians;

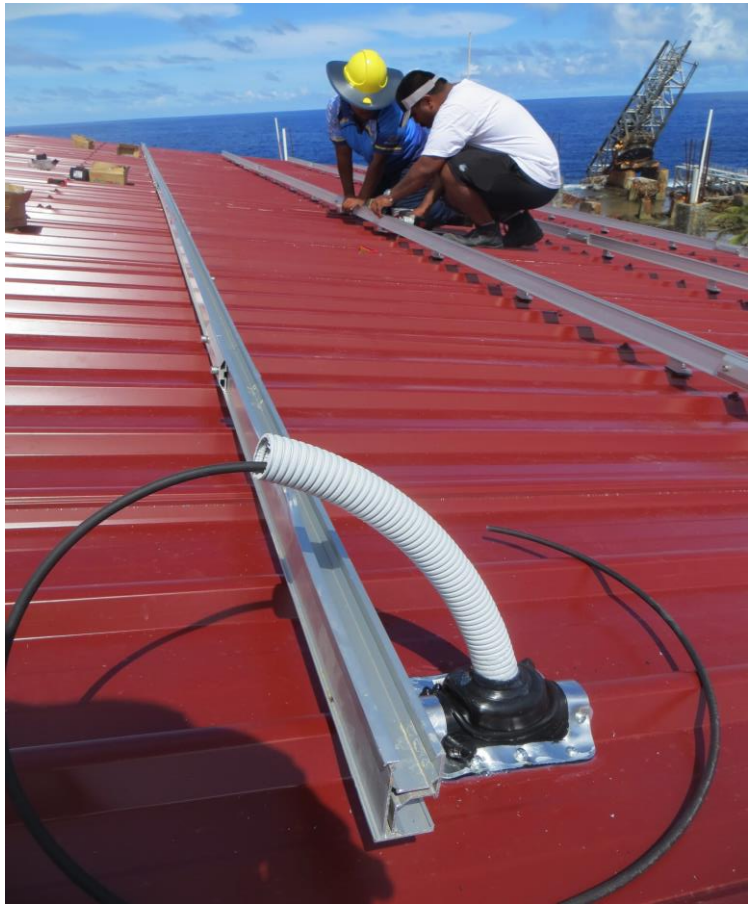
and

ii) inspectors (of system installations).

Accreditation

The organisation (or business entity) is able to be accredited as the supplier of products, systems and services.

However, to be accredited in providing products/services in a specified technology, the organisation needs to have certified designers and installers on their staff or under sub-contract.



Competency Standards Developed

Released 1 May 2012

- Designer of Grid Connect PV Systems
- Installer of Grid Connect PV systems

Released 1 September 2013

- Designer of Solar Based Off-Grid Power Systems
- Installer of Solar Based Off-Grid Power Systems
- Installer of Solar Based Off-Grid Power Systems

EU-PacTVET

- 6 Million Euro project-started late 2014
- Focussed on training for climate change and sustainable energy
- Developed what is known as Certificate I , II, III and IV for Sustainable Energy

Good for young people gaining basic knowledge but not what the industry required

- Developing Skillsets
- Submitting for approval to EQAP to be entered into the PRQS

Unit Standards Developed 2018 through SEIDP

- Designer of Grid Connected PV Systems
- Installer of Grid Connected PV Systems
- Designer of Solar Based Off-Grid Power Systems - SHS
- Designer of Solar Based Off-Grid Power Systems – Stand Alone
- Designer of Solar Based Off-Grid Power Systems - Hybrid
- Installer and Maintainer of Solar Based Off-Grid Power Systems - SHS
- Installer and Maintainer of Solar Based Off-Grid Power Systems – Stand Alone
- Installer and Maintainer of Solar Based Off-Grid Power Systems - Hybrid
- Installer of Solar Based Off-Grid Power Systems - SHS
- Installer of Solar Based Off-Grid Power Systems – Stand Alone
- Installer of Solar Based Off-Grid Power Systems - Hybrid.
- Operation and Maintenance of PV systems

News Ones Developed or Being Developed 2019

- Solar Water Pumps –Selection and Installation
- Solar Water Heating-Selection and Installation
- Energy Efficiency – Residential and Small commercial
- Grid connected PV with Batteries - Design
- Grid connected PV with Batteries - Install
- Micro-hydro Systems - Design
- Micro-hydro Systems - Install

PRIF: Regional Training Program Scoping Study

Objective: Investigate and confirm electrical training needs in the Pacific which can be best addressed by a regional approach (n.b. broader than just RE, incl MGMT, AMP, DGs etc)

Methodology: Technical Assistance (ITP – May to Aug 2019)

- Review and confirm existing TNA's
- Mapping active and planned programs
- Consultations with stakeholders and identify path forward.

Outcomes:

- Frameworks for design. 11 principles, including:
  - Addressing previous coordination and scheduling issues
  - Sustainability, toward cost recovery and away from ad hoc or project basis
  - Involve the private sector (access to courses and role in planning)
  - Distributed (incountry) training where possible, Lautoka EFL when centralised
- Recommend a feasible model
  - Governed and run from existing institutions (PPA, EFL, and skill based independent board design)
- Identify the required support and mechanisms to deliver (next steps)

GIZ Project

GIZ has purchased for PPA a license to use GSES training resource material for:

- Design and Install Grid connect PV Systems
- Design and Install Off Grid stand alone power systems
- Design and Install Hybrid Systems
- Design and Install GCwB

Resources

- Face to Face Course Agendas
- PowerPoints for lectures
- In class exercises and answers
- Practical Session Descriptors
- Assessment Material
- Trainers Guide

Training Centre Capacity Building

- GIZ supporting developing training centre at Solomon Islands National University
  - Purchasing training hardware
  - Train the trainers
- Possibly expand to other countries
- SEIAPI Priority:
  - Fiji, Vanuatu, PNG, Tonga and Cook Islands and Samoa as private solar systems increase

SEIAPI is licensee for GSES manuals:

- Design and Installation of Grid Connect
- Design and installation of Stand Alone Power Systems
- Design and Installation of Grid Connect PV with batteries


THANKYOU
www.gses.com.au