

This submission relates to the recommendations made with regard to the:

PACIFIC COMMUNITY

THIRD REGIONAL MEETING OF PACIFIC MINISTERS FOR ENERGY AND TRANSPORT

(Nuku'alofa, Tonga, 24–28 April 2017)

<http://prdrse4all.spc.int/data/content/third-pacific-regional-energy-and-transport-ministers-meeting-24-28-april-2017>

Theme: Affordable, reliable and sustainable energy and transport services for all

AGENDA ITEM – Update on training, research and capacity building activities on sustainable energy in the Pacific Island countries and territories

(A joint paper by the Pacific Community (SPC) and The University of the South Pacific (USP))

The European Union Pacific Technical and Vocational Educational and Training in Sustainable Energy and Climate Change Adaptation project or EU PacTVET is a €6.1 million project currently being implemented in all 15 P-ACP countries by SPC and USP.

This submission is presented as a chronological narrative report with regard to the activities and outputs of the EU PacTVET project and identifies which PCCB mandate each activity is in regard to.

It should be noted that this submission looks only at the Sustainable Energy activities of the EU PacTVET project as these are most related to capacity-building activities for the implementation of nationally determined contributions in the context of the Paris Agreement. Other activities of EU PacTVET are related to Climate Change Adaptation.

EU PacTVET Inception

In relation to PCCB mandate 1. Identification of capacity gaps and needs and provision of recommendations to address them; the EU PacTVET project commenced in 2014 with training needs and gap analyses in 15 P-ACP countries (*Cook Islands, Federated States of Micronesia (FSM), Fiji, Kiribati, Nauru, Niue, Palau, Papua New Guinea (PNG), Republic of the Marshall Islands (RMI), Samoa, Solomon Islands, Timor Leste (East Timor), Tonga, Tuvalu, and Vanuatu*).

These analyses revealed that formal qualifications were required for “genuine” capacity building in the areas of sustainable energy and climate change adaptation. At the EU PacTVET inception meeting in October 2015, all 15 P-ACP countries reviewed and endorsed national priority areas for sustainable energy and climate change adaptation TVET (Annex 1). Eleven of the fifteen countries identified some component of educational quality assessment (qualification and delivery accreditation) as key areas for assistance.

In relation to PCCB mandate 5. Exploration of how developing country Parties can take ownership of building and maintaining capacity over time and space; and, 4. Identification of opportunities to strengthen capacity at the national, regional and subnational level; EU PacTVET was given endorsement from 15 P-ACP countries to proceed with the development of “regional” qualifications in sustainable energy incorporating country priority needs. This has led to regional development of Certificate Levels 1 to 4 on the Pacific Qualifications Framework (PQF) in Sustainable Energy using the Fiji Higher Education Commission policies and procedures. (The PQF has 10 levels where level 1 is equivalent to a school leaving certificate and level 10 is Doctorate level).

National stakeholders at the Inception Meeting were keen to ensure opportunities for learning via formal qualifications were available to all people affected by climate change, meaning that the

capacity building opportunities should be applicable across the board from grassroots community members, through to technicians and government and private sector managers.

In this regard, vocational qualifications have been constructed around a “competency” and “skill-set” approach. This means that people can pick what competencies they need to “up-skill” in order to improve their own capacity – a menu of competencies and skill sets are available within the qualifications.

For example, at levels 3 and 4 “strands” include “energy management”; “energy efficiency”; and “renewable energy” with specialisations in solar (on and off grid), micro-hydro, hybrid wind, and biomass and biogas). Completing a range of units across a single strand will build into a full qualification.

Countries can deliver different aspects of qualifications (i.e. competencies, which build into skill sets, which build into a qualification) according to their own needs. National providers have been identified (e.g. Cook Islands Tertiary Training Institute, Kiribati Institute of Technology, Motufoua High School – Tuvalu) who will deliver different skill sets and strands.

Additionally, as qualifications are regional, skill sets will be mutually recognised and can be built upon by completing competencies/skill sets at more than one educational provider.

Current status

In relation to PCCB mandate 2. Promotion of the development and dissemination of tools and methodologies for the implementation of capacity-building; The EU-PacTVET project has partnered with the Fiji Higher Education Commission (FHEC) and the Educational Quality Assessment Programme (EQAP) to develop and accredit regional TVET qualifications in sustainable energy. A Regional Industry Standards Advisory Committee (ISAC) for sustainable energy was established to provide technical input (members included the Pacific Power Association, and 60% representation from private sector and utilities). While ISAC meetings were held face to face in Fiji, representatives from all 15 P-ACP countries participated through online management platform “Basecamp” and two regional ISAC meetings were held.

Outcomes include: endorsement of qualifications and competences for Certificate levels 1 to 4 in sustainable energy; agreement on the process to obtain regional accreditation through EQAP. National accreditation processes are being clarified individually with each country. (Only 6 of the 15 countries participating in the EU PacTVET project have national accreditation authorities); support to train the trainers based at national TVET institutions for delivery of sustainable energy Certs 1 to 4 qualifications/ skillsets/ competencies.

The Certificates 1 to 4 in Sustainable Energy are “owned” by the Sustainable Energy Industry Association of the Pacific Islands (SEIAPI) who will be responsible for updating the qualifications and who have submitted the qualifications for accreditation to EQAP. However, sustainable energy qualifications (unit standards) and learning resources are an “open educational resource” and are open access and free to use.

Regional Certs 1 &2 in Sustainable Energy have recently been regionally accredited by EQAP.

Learning resources are currently under development (example: Annex 2) and the Certs 1 & 2 in Sustainable Energy and 4 & 4 in Resilience are due to be delivered in semester 2 this year.

Issues

In relation to PCCB mandates 3. Identification and collection of good practices, challenges, experiences and lessons learned from work on capacity-building by bodies established under the Convention; and 7. Promotion and exploration of synergies for enhanced collaboration with institutions outside the Convention and the Paris Agreement engaged in implementing capacity-building activities.

The EU PacTVET project is a response to the millions of dollars that is spent in the region on ad-hoc, informal, one-off and uncredited trainings of various sizes and shapes in sustainable energy and climate change adaptation. The formal qualifications developed and implemented under the EU PacTVET project will support advancements of the trainees in their work places and career. It should enable gradual advancement of trainees to higher qualifications and support labour mobility within and outside of the region. Donor support for sustainable energy non-formal training delivered by external providers rather than genuine capacity building via formal accredited qualifications in sustainable energy delivered by in-country educational providers is not the best use of scarce resources and should be discouraged. Donors should be encouraged to support the regionally developed and accredited qualifications which are now being delivered by national educational institutions.

The formal qualifications offered by the PacTVET is recognised by the national and regional industry and professional associations. Via formal, recognized and accredited qualifications, trainees could easily become members of the Sustainable Energy Industry Advisory Association of the Pacific Islands (SEIAPI) and given licenses to practice.

With the commitments that the PICTs have made on their intended nationally determined contributions and their respective national energy targets, the demand for trained and qualified people in sustainable energy is increasing. The TVET qualifications developed and implemented under EU PacTVET provide “pathways” to educational opportunities such as those at USP. USP is offering courses and programmes at undergraduate, postgraduate, Masters and PhD levels. Current enrolment of PIC students in these programmes is increasing and PICT governments are encouraged to make use of these home grown opportunities.

Resulting Resolutions from the Ministers Meeting:

- i. **Agree** to the region’s capacity building and training on sustainable energy to be based on formal accredited TVET qualifications and support to continuing research and development in the area of sustainable energy;
- ii. **Acknowledge** the activities being carried out by the EU PacTVET project, the Pacific Community and the University of the South Pacific in support of developments in sustainable energy;
- iii. **Agree** to encourage PICTs students to pursue educational pathways and higher qualification opportunities on sustainable energy available from nationally and regionally accredited tertiary education institutions;
- iv. **Agree** that while encouraging a national approach, we also support a regional approach to accreditation of sustainable energy competency-based qualifications and skill sets in the vocational educational sector – including a system for incorporating quality assurance/ accreditation/ recognition of formal and informal learning (project-based training);
- v. **Agree** that while encouraging national systems, we also support the development of regional systems for recognition of current competencies and recognition of prior learning;
- vi. **Agree** to support an industry-driven demand based TVET system for sustainable energy through national and regional professional industry associations; and

- vii. **Encourage** close cooperation between USP (as a Pacific Centre for Renewable Energy and Energy Efficiency - PCREEE hub) and PCREEE on capacity building and the nexus between innovation, entrepreneurship and business incubation to facilitate involvement of national educational institutions.

Annex 1 – Priority Areas for inclusion in TVET qualifications

Subject Area	Country															Total
	CK	FJ	FM	KI	NA	NU	PA	PG	RM	WS	SI	TL	TO	TV	VU	
Sustainable Energy Programs																
Renewable Energy Solar PV System (On Grid)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
Solar PV System (Off Grid/Centralized)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	14
Stand-Alone Solar PV Home System		x			x	x		x			x		x		x	7
Wind Turbine Plant	x	x	x	x	x	x	x		x		x	x	x	x	x	13
Hydro Plant (all sizes)	x	x	x	x		x			x		x	x	x		x	10
Biomass and Bio-gas	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
Basic Renewable Energy Sources		x	x		x	x	x	x			x			x	x	9
Energy Efficiency																
Refrigeration and Air Con	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
Efficient Land Transport						x		x	x			x	x		x	6
Efficient Sea Transport	x	x	x	x	x	x	x	x	x	x	x		x	x	x	14
Energy Auditing and Applying Efficient Energy Solutions		x			x	x		x	x	x	x	x	x		x	10
Energy Sector Planning and Management	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
Domestic and Office Appliance/Home and Office Appliance					x			x	x	x	x		x		x	7
Project Management																
Project Concept Planning Drafting	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
Logical Framework Analysis	x	x	x	x		x	x				x	x	x	x	x	12
Monitoring and Evaluation	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
Report Writing	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	15
Project Visibility		x	x	x		x	x									5

Annex 2: Climate Pathway Calculator for Pacific Small Island Developing States – Web based Capacity Building Portal

1.0 Introduction

The NDC target has been established by many countries which is in line with the COP21 agreement. It is with an ambitious collective goal to hold warming well below 2 degrees with efforts to limit warming to 1.5 degrees. It is also agreed that mitigation measures of individual countries to be expressed in nationally determined contributions (NDCs) (Climate Focus, 2015). However, if we look at Fiji and the region, it is still believed that there is still a gap in general population being aware of the pathways that need to be taken to achieve the NDC. It is also noted that the methodology for determining NDC is not available and this is a knowledge gap that could have been filled if local were given a role in determining the NDC. The NDC's were mostly calculated by consultants. Since NDC

target has already been established looking at various projections, the appropriate action can be taken to build capacity so that the appropriate agreed pathways can be known by many. Hence appropriate tools such as Climate pathway calculators can be developed and used to realise the NDC goals of each country and necessary actions can be taken to meet the agreed targets stipulated in the NDC.

2.0 Climate Calculator

One important tool created to help facilitate decision making for climate mitigation is 2050 climate calculator. It is a global calculator and an open source software that can be developed to model the pathways a country can take to realise the climate mitigation goals as set out in the NDCs. It can be programmed as a web based tool which can be easily accessible and used by many. A national 2050 climate calculator model can also evaluate what could happen if a county does not take any stringent actions and only progresses along a business as usual (BAU) developmental pathway. More specifically it can be used to recognise a range of physically possible scenarios for the future and explore their impacts with an aim to reduce emissions to tackle climate change, conserve natural resources like water, or reduce dependence on fuel imports (2050 Calculator, 2014).

This calculator provides a platform for people to have more informed conversation and enable those in power to make appropriate and suitable decisions. This tool can be used to answer the following questions (2050 Calculator, 2014):

1. How much energy can be supplied from different technologies?
2. What will be the cost of different energy pathways?
3. Which sectors should be focused on first and which are of less importance?
4. How can the emission targets be achieved?
5. What impacts the different pathways would have on our land and air quality?
6. What could happen to our energy security and dependency?
7. What technology options can be publically acceptable?

There are three (3) versions of calculator made so far:

- Full model - built in Excel, which contains all the calculations and assumptions. This allows expert users to develop and examine pathways in more detail or to vary options to suit their needs.
- Web tool - an interactive and user-friendly web interface that allows users to explore all the options in an easy way. This is aimed at policy makers and stakeholders, but is also suitable for members of the public who are very interested in the subject.
- My2050 - a simplified, game-style version that is aimed at the general public.

The calculator can be tailor-made for different national audiences since all countries have their unique paths that can be taken to realise the target. The Global Calculator development is proven and started in 2013 by UK researchers from Imperial College London and included collaborators from an international European network, Climate-KIC, and global institutions such as the International Energy Agency, the World Resources Institute.

3.0 Gap for Capacity Building

It is firmly believed that awareness and complete digital information is very important for policy makers and wider community to realise the NDC targets. As it is, the NDC target is merely a target and many of us will not be aware of what are the potential steps (referred as pathways) that needs to be taken to achieve the NDC and 2 degrees goals. A considerable time, effort and money can be spent on creating awareness and discussing about pathways but this will only involve a handful of people. The global calculator is not country specific and many countries including Australia and New Zealand has already developed the 2050 Climate Calculator (also known as 2050 pathways calculator). Development of web-based interactive calculator will not only provide the needed information to policy makers but will provide good knowledge to wider community to make informed decisions.

Therefore, Fiji and the neighbouring pacific island countries (region) needs to develop the 2050 pathways calculator which can also be web-based. The development of this calculator needs a wider stakeholder consultations to come to a consensus about specific pathways applicable to Fiji or for our

region. This idea will then be programmed into a software and available free online for everyone to use. It should be noted that this is not a simple exercise and requires massive interpretation of data thus it is a small project that requires dedication, time, funds and database with various information and data. It is firmly believed that the idea presented here is directly related to NDC and COP agreements and it is important to build capacity to actually visualise the effect of different pathways which is extremely important.

References

2050 Calculator. 2014. The 2050 Calculator [Online]. Available at: <https://www.2050.org.uk/what-is-a-2050-calculator> [Accessed April 2017].

Climate Focus. 2015. The Paris Agreement Summary. www.climatefocus.com.