Supporting Pacific governments and their development partners working in the energy sector by facilitating access to up-to-date, reliable energy data and project information

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Bula everyone

Welcome to your 24th issue of the Energiser, the first since the Third Pacific Regional Energy and Transport Ministers’ Meeting in Tonga on 24–28 April 2017. It is therefore proper that we take time in this issue to reflect on the outcome of the meeting.

Visionary
The ministers demonstrated true leadership qualities in the meeting by providing a vision for what they would like the energy sector of the region to be. Certainly, they would like to phase out the region’s reliance on fossil fuel by whatever means possible. They therefore declared a vision of 100% renewable energy. They re-emphasised their commitment to the Paris Agreement and its related processes and therefore automatically apply ‘ambition’ and ‘urgency’ to the vision they have set for the region. It simply means that the two major fossil fuel consumption sectors in the region (power and transport) would have to undergo transformation from being fossil fuel-based to being fuelled by renewable energy sources.

Consistency
The ministers were consistent in their firm stand for a cleaner and healthier environment and did not want any language that would dilute their undisputed belief that a mitigation pathway of 1.5°C is what the world should work towards in order to save our planet.

Actions speak louder
The ministers acknowledged and praised the achievements made since the last meeting in 2014. Increases in the number and capacity of renewable energy installations in the region were noted. The adoption of renewable energy efficiency legislation was highlighted. The new approach the region has taken to build capacity in sustainable energy and climate change adaptation was adopted as a model to be upscaled, and the increasing attention to energy efficiency in the transport sector was given the go-ahead.

Acceleration
The tone of the ministers’ meeting outcomes was one of doing things differently and quickly. It called for reforms and for these reforms to be carried out urgently. Reforms are mostly effective when supported by the political weight of legislation. The region needs to look at energy as a sector by itself, deserving its own umbrella management and coordination legislation supported by subsidiary legislation, including the role of the regulator in this sector. To support the acceleration in the use of renewable energy and energy efficiency technologies in the region, the ministers launched the Pacific Centre for Renewable Energy and Energy Efficiency, with its focus on the private sector, value adding in productive sectors, and sustainable energy entrepreneurship.

Results and impacts
The ministers want to see and hear about results and impacts. In this respect, they wanted the meeting partners to consider holding the meeting on a biannual basis, rather than every three years.

Thank you
Finally, Energiser readers, this 24th issue of the newsletter is my last in the capacity of Deputy Director (Energy) in the Economic Development Division of SPC. Seven years ago, I took on the challenge of heading the Regional Energy Programme hosted by SPC, including starting this publication. I am glad that you stood by it 24 times.

There are ongoing reforms at SPC to better serve its members and partners. The leadership of the Energy Programme will change and the future of Pacific Energiser will be revisited too.

I wish the new management of the Energy Programme all the best and thank you most sincerely for all your support.

Malo ‘aupito

Solomone Fifita
Leadership, governance, coordination and partnerships

Third Pacific Regional Energy and Transport Ministers’ Meeting

(Nuku’alofa, Tonga, 26–28 April 2017)
Theme: Affordable, reliable and sustainable energy and transport services for all

COMMUNIQUÉ

1. The Third Pacific Regional Energy and Transport Ministers’ Meeting was organised by the Pacific Community and hosted by the Government of Tonga at the Fa’onelua Convention Centre in Nuku’alofa, Tonga from 26–28 April, 2017. The meeting was officially opened by His Royal Highness, Crown Prince Tupouto’a ‘Ulukalala. The meeting was chaired by the Honourable Siaosi Sovaleni – Deputy Prime Minister, Minister for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) and Minister of Foreign Affairs, and the Honourable Semisi Sika, Minister for Infrastructure. It was attended by the Prime Ministers of Cook Islands and Tuvalu and Ministers/Secretary and Associate Ministers from the following Pacific Island countries and territories (PICTs): Federated States of Micronesia, French Polynesia, Marshall Islands, Niue, Papua New Guinea, Samoa, Solomon Islands, Tuvalu and Vanuatu. Heads of delegations or senior officials also attended on behalf of American Samoa, Australia, Fiji, France, Guam, Nauru, New Caledonia, New Zealand, Palau, United States of America and Wallis and Futuna.

2. The meeting was also attended by the High Representative for Landlocked Least Developed and Small Island Development States and Under Secretary General, the United Nations Secretary-General’s Special Representative and Chief Executive Officer for the SEforALL initiative (Sustainable Energy for All), and representatives from the United Nations Industrial Development Organization (UNIDO), the International Maritime Organization (IMO) and many other international and regional intergovernmental and non-governmental partner organisations, universities, civil societies and the private sector.

The Ministers:

3. Expressed their deep gratitude to His Royal Highness, Crown Prince Tupouto’a ‘Ulukalala and the Government and the people of Tonga and their co-host, the Pacific Community (SPC), for the excellent arrangements made in hosting the Third Pacific Regional Energy and Transport Ministers’ Meeting and the preceding meetings of the Energy and Transport Officials and for the generous hospitality extended to them during their stay in Tonga. They further expressed their appreciation to the Honourable Siaosi Sovaleni and the Honourable Semisi Sika for their capable leadership in chairing the meeting.

4. Congratulated the SPC on the 70th Anniversary, and expressed their gratitude for its invaluable contributions towards the sustainable development of its Members. The Ministers reaffirmed the leadership role of SPC in the implementation of the regional frameworks for the Energy and Transport sectors.

5. Applauded the launch of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE), an initiative of SPC,
the Government of Tonga and the Sustainable Energy Island and Climate Resilience Initiative (SIDS DOCK) supported by UNIDO and the Government of Austria through the Austrian Development Agency (ADA) and members of the Council of the Regional Organisations of the Pacific (CROP). They also applauded the signing of the Memorandum of Understanding on Flag State Implementation for Domestic Ships in the Pacific islands Region (Pacific MoU), the first in the world to address the safety of domestic shipping.

6. Applauded the attendance of Ms Rachel Kyte, UN Secretary-General’s Special Representative and Chief Executive Officer for the SEforALL, and Mr Stein Hansen, Director and Regional Representative of UNIDO and welcomed their presentations on “Affordable, Reliable and Sustainable Energy and Transport Services for All” and the implications of these, respectively, on Sustainable Development Goals (SDGs) and the promotion of circular island economies. The meeting also welcomed the presentation by Mr. Juvenal Shiundu, Senior Deputy Director, Technical Cooperation Division of IMO on “The contribution of Maritime Transport to the 2030 Agenda for Sustainable Development.” The meeting also congratulated Ms Fekita ‘Utoikamanu on her appointment as the United Nations High Representative for the Least Developed Countries, Land-locked Developing Countries and Small Island Developing States.

7. Acknowledged the adoption of the Small Islands Developing States Accelerated Modalities for Action (SAMOA) Pathway, SDGs and the coming into force of the Paris Agreement as historical shifts in the dynamics of the global and regional effort on sustainable development and poverty eradication, more particularly for Small Island Developing States (SIDS). At the regional level, the Framework for Resilient Development (FRDP) was adopted as the regions guiding document for resilient low-carbon development.

8. Reaffirmed the need to take ambitious and urgent global actions to keep global warming well below 2 degrees Celsius and aiming for 1.5 degrees Celsius and to avail adequate financial resources to SIDS for technology development and climate change adaptation and mitigation.

9. Acknowledged the commitment of the region to demonstrate leadership in the fight against climate change, as stated in the Majuro Declaration on Climate Leadership.

10. Acknowledged the pivotal role of affordable, reliable and sustainable energy and transport services for all in the sustainable development of the Pacific Islands region and the contribution of these sectors to global efforts to achieve the SDGs and reduce greenhouse gas (GHG) emissions and recognised that urgent reforms are required in both the Energy and Transport sectors in the PICTs in order to maximise the region’s contribution to global efforts to reduce GHG emissions and to maximise benefits to the people and the environment. Urged all Parties to Paris Agreement to urgently meet their targets in their Nationally Determined Contributions (NDCs).

11. The 2030 Agenda for Sustainable Development and the contribution of the Energy and Transport sectors Recognised the importance for PICTs to accelerate regional momentum towards framing their priorities for the 2030 Agenda for Sustainable Development and the achievement of the SDGs using the concept of Green/Blue Economy and reflect it in national policies. Ministers also urged development partners to support PICTs in meeting their energy and transport related SDGs and continue to coordinate development assistance in both sectors with capacity-building to improve monitoring and reporting on SDGs.

12. Maximising opportunities under Climate Financing Welcomed the current energy and transport-related funding proposals that are being developed for consideration by the Green Climate Fund (GCF) and tasked Members, relevant organisations and partners to work with Accredited Entities in order to advance preparations for submission to GCF.

Agreed in relation to energy sector, the following as high priority reforms for implementation in the next three years:

13. Progress from the previous communiqué Noted progress on the implementation of the seven high priority areas identified by the Second Pacific Energy and Transport Ministers Meeting in 2014.

14. Accelerate the adoption and enforcement of energy sector laws Acknowledged that the adoption and enforcement of appropriate legal frameworks are required for the effective management and governance of the energy sector, such as an Energy Act, energy sub-sector laws related to energy efficiency and the establishment of a regulator’s office. Noted also the formation of the Pacific Regulators Alliance, and the need for regulatory frameworks to create an enabling environment for PPP.

15. Commitments to the global efforts to reduce GHG emissions Endorsed the vision of 100% renewable energy generation for the region and confirmed the value and need for regional Renewable Energy (RE) and Energy Efficiency (EE) targets.

16. New approach to capacity-building on sustainable energy Acknowledged the need for reform in the capacity-building efforts of Members to meet national, regional and global obligations. Supported the approach that the region’s capacity-building must be based on officially-accredited /industry recognised qualifications constructed around a “competency” and “skill-set” approach, rather than non-formal ad-hoc, project-based training. This approach is currently being undertaken by the European Union Pacific Technical and Vocational Educational and Training in Sustainable Energy and Climate Change Adaptation project (EU PacTVET).

17. Strengthen and consolidate support to existing efforts: Acknowledge and support the work of SPC, including:

i. the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) and Development partners were called upon to provide further financial support;

ii. the Pacific Regional Data Repository (PRDR) Strategy 2018-2023;

iii. the petroleum advisory to support safety and find cost-effective supply and price verification information;

iv. the feasibility of phasing out fossil fuel subsidies and to use higher quality fossil fuels that are less damaging to the environment than those currently in use.
18. Endorsed the mandate of the Pacific Power Association (PPA) - “supporting the power utilities of the PICTs in the provision of high quality, secure, efficient and sustainable electricity services”.

19. Acknowledged with appreciation the further NZD1 billion commitment by development partners at the Pacific Energy Conference in 2016.

Agreed in relation to the transport sector, the following as priorities for implementation in the next three years:

20. Continued coordination and partnerships
Acknowledged progress that has been made in the implementation of the Framework for Action on Transport Services (FATS) since the 2014 Transport Ministers’ meeting and committed to continued efforts to further progress its implementation through improved regional coordination and collaboration. They recognised and acknowledged the significant and valuable contribution of international and regional development partners particularly Australia and IMO and their long-term commitment to the sustainable maritime development of the Pacific region.

21. Gender equality in the maritime sector
Welcomed the recent initiatives to enhance gender equality and empower women in the maritime sector. Governments, development partners, civil society and local communities were enthusiastically urged to champion the provision of an enabling environment to achieve SDG5 (Achieve gender equality and empower all women and girls). The development of a regional Strategy for Pacific Women in Maritime was strongly supported and prioritised to assist with this objective.

22. Improving safety at sea for all
Reaffirmed the paramount importance of a safe environment and safety culture in international and domestic shipping through coordination and collaboration on relevant initiatives. Adoption and implementation of harmonized maritime laws and a long-term approach to capacity development in the Pacific maritime sector is required to provide an enabling environment for all to achieve a culture of safety and environmental stewardship. The Ministers:

i. adopted the text of the Memorandum of Understanding on Flag State Implementation for Domestic Ships in the Pacific Islands Region, a world first; and

ii. endorsed the Regional Strategy on Safety of Navigation in the Pacific.

23. Reducing GHG emissions from Pacific maritime transport
Acknowledged global efforts to reduce GHG emissions and urged all stakeholders to take appropriate action to progress low-carbon maritime transport in the Pacific Islands region and to actively participate in international negotiations. Noted Pacific and European cooperation and leadership at the IMO in the High Ambition Coalition for shipping to reduce GHG emissions and ensure that IMO provides its contribution towards the Paris Agreement goal of guarding temperatures to well below 2 degrees and aiming for 1.5 degrees.

Urged IMO to accelerate its work on the accounting of GHG emissions from shipping.

Endorsed the leadership shown by Micronesian Sustainable Transport Centre (MSTC) and the IMO-EU Maritime Technology Cooperation Centre (MTCC) as leading examples of how to progress low carbon maritime transport in the Pacific Islands region.

24. Eliminating dumping at sea
Urged all stakeholders to improve their environmental stewardship by implementing all relevant international instruments and domestic laws related to marine pollution. Endorsed the Pacific Oceans Pollution Prevention Programme Strategy 2015-2020 (PACPOL Strategy) and the Pacific Regional Reception Facilities Plan (RRFP), a world first. Noting that commercial fishing vessels pose a greater threat to the marine environment than other vessels, it was agreed to work with relevant Ministries in their respective States to pursue an holistic approach in the management of fishing vessels.

25. Equitable and Fair Air Services Agreements, and Greater Control and Management of Upper Airspace
Noted the work being carried out by Pacific Aviation Safety Office (PASO) and the Pacific Islands Forum Secretariat (PIFS) and the limitations in current arrangements requiring further discussions amongst SPC, PIFS and PASO.

MEETING OUTCOMES AND RESOLUTIONS

26. Considered and adopted the outcomes of the Energy Officials’ and Transport Officials’ meetings as resolutions of this ministerial meeting. The resolutions are attached as annex I (Energy Resolutions) and annex II (Transport Resolutions) to this Communiqué

FOURTH PACIFIC REGIONAL ENERGY AND TRANSPORT MINISTERS’ MEETING

27. Greatly appreciated the offer from Papua New Guinea and Samoa to host the next Pacific Energy and Transport Ministers’ Meeting and recognised the need to possibly meet in 2019 given the rapid developments in energy and transport sectors.

To access Third Pacific Regional Energy and Transport Ministers’ Meeting papers and presentations, please click on below link to download:

http://prdrse4all.spc.int/node/4/content/third-pacific-regional-energy-and-transport-ministers-meeting-24-28-april-2017

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The Pacific Community (SPC) opened the first Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) in Nuku‘alofa, Tonga in April during the Third Pacific Regional Energy and Transport Ministers’ Meeting.

Speaking to Pacific ministers for energy and transport and invited guests at the opening, Tonga’s Deputy Prime Minister, Minister for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications, Siaosi Sovaleni, said: ‘Tonga is privileged to host the Pacific Centre for Renewable Energy and Energy Efficiency on behalf of the Pacific. This centre of excellence will provide valuable support to Pacific Island countries and territories towards progressing their respective priorities and commitments for achieving sustainable energy.’

The centre was established with support from the United Nations Industrial Development Organization (UNIDO), SIDS DOCK and the Government of Austria. PCREEE is part of a wider SDG-7 partnership and aims to establish a network of regional sustainable energy centres for Small Island Developing States (SIDS) in Africa, the Caribbean, the Pacific and the Indian Ocean. The partnership is part of the SAMOA Pathway.

The partnership contributes to the Sustainable Development Goals (particularly SDG 7 and SDG9), the Regional Framework for Action on Energy Security in the Pacific and Nationally Determined Contributions under the Paris Agreement (SDG 13).

Stein Hansen, UNIDO’s Director and representative, thanked the Government of Tonga for its leadership and stressed the importance of the centre. ‘The network of regional centres represents an excellent way to promote SIDS-SIDS cooperation on common energy issues. The success of economic key sectors, such as fishery, agro-business, manufacturing and tourism, highly depend on improved access to more affordable, reliable and sustainable energy and transport services,’ he said.

According to Martin Ledolter, Managing Director of the Austrian Development Agency, the centre is an ‘important contribution to accelerate the shift from fossil fuel dependency to renewable energy and energy efficiency’.

Enele Sopoaga, Prime Minister of Tuvalu and President of the SIDS DOCK Assembly, congratulated all partners on the truly genuine and durable partnership.

Pacific Community Director-General, Dr Colin Tukuitonga, said: ‘SPC works for the well-being of Pacific people through the effective and innovative application of science and knowledge. PCREEE serves this mission by acting as an innovative hub that brings together technical expertise and knowledge from around the world on matters related to sustainable energy project implementation.’

Dr Tukuitonga explained that there is still a long way to go, as this is one of the most fossil-fuel dependent regions in the world.

‘Every year, we import about USD 800 million to 1 billion worth of fuel. Most of this fuel is used for transportation and power generation,’ he said.

As well as being a hub, leveraging a network of intra- and extra-regional partnerships, the PCREEE design will also promote domestic energy entrepreneurship and will act as a business incubator for innovative energy start-ups and business models with high potential for local value creation.

PCREEE will provide a host of support services for the region. Some early initiatives are the development of registries for data, products and training. The centre will also support the Pacific Energy Regulators Alliance – a network of regulators that set the rules for the private sector investment and the prices / tariffs they will get in return. There are also plans to focus on women and energy – a critical gap in the current regional energy programme.

Tonga was selected as the site for PCREEE as a result of a consultative process, and in recognition of the interest and support by the Government of Tonga in promoting renewable energy and energy efficiency.

The South-South and SIDS-SIDS collaborations have taken another leap into reality, as the Pacific is now a part of a network of regional sustainable energy centres of excellence for SIDS and can work closely with:

- the ECOWAS Centre for Renewable Energy and Energy Efficiency;
- the Southern African Centre for Renewable Energy and Energy Efficiency;
- the East African Centre for Renewable Energy and Energy Efficiency;
- the Regional Centre for Renewable Energy and Energy Efficiency in the Arab region; and
- the Caribbean Centre for Renewable Energy and Energy Efficiency.

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Left to right: Mr Stein Hansen (Director Regional Office – UNIDO), Hon Henry Puna (Cook Islands Prime Minister), Mr Martin Ledolter (Managing Director – Austrian Development Agency), Hon Akilisi Pohiva (Prime Minister of Tonga), Hon Enele Sopoaga (Prime Minister of Tuvalu) and Dr Colin Tukuitonga (Director General of SPC)
The Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE) hosted by the Pacific Community (SPC) has commenced operations in Nuku’alofa, Tonga.

At the margins of the 10th Conference of the Pacific Community and the celebration of its 70th Anniversary, a memorandum of understanding was signed by Dr Colin Tukuitonga, Director General of the Pacific Community (SPC) and Hon. Siaosi Sovaleni, the Deputy Prime Minister and Minister for Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications (MEIDECC) and Foreign Affairs of the Kingdom of Tonga. The MoU highlights the firm commitments of both parties to collaborate and to support the long-term sustainability of the Nuku’alofa-based PCREEE.

“Tonga is privileged to host PCREEE on behalf of the members of the Pacific Community. We are not only providing the office space and facilities, we are providing Tongan experts to support the initial technical expertise at the Centre. We will also make available our numerous renewable energy and energy efficiency projects on the ground for the research and training activities of the Centre and we are prepared to assist in the resource mobilisation effort of the Centre,” said Tonga’s Deputy Prime Minister, Siaosi Sovaleni.

“SPC works for the well-being of Pacific people through science, knowledge and innovation. SPC is committed to ensuring PCREEE becomes a knowledge and innovation hub that brings together world class technical expertise and knowledge from around the world to serve the sustainable energy needs of its members,” said Dr Colin Tukuitonga.

“For this commitment, I am pleased to announce the appointment of Mr Solomone Fifita as the head of the PCREEE. Mr Fifita is a veteran with more than 30 years of work experience in the energy sector of the Pacific Islands. A former Energy Planner in Tonga, he has also served in senior energy positions with the Pacific Islands Forum Secretariat, the Geoscience Division of SPC, Secretariat of the Pacific Regional Environment Programme and in the last seven years was the head of the Pacific Regional Energy Programme hosted by the Economic Development Division of SPC. Mr Fifita is a respected professional in the region and is recognised internationally. He has served as Lead Reviewer for the Secretariat of the United Nations Framework Convention on Climate Change and as Lead Author for specialised energy-related reports of the Intergovernmental Panel on Climate Change or IPCC”, said Dr Colin Tukuitonga.

The PCREEE is a new approach to strengthening SPC’s in-country presence, building strategic partnerships with member countries and collaborating within a global network of regional centres of excellence in priority sectors/areas for the Pacific Island countries and territories.

PCREEE will upscale and replicate innovative energy models, targeting private sector activities in capacity development, knowledge management and innovation, awareness raising, as well as private sector investment and business promotion.

Furthermore, it will support targeted renewable energy and energy efficiency programs to enhance the productivity of key industries with high job leverage (e.g. agriculture, tourism, fishery, manufacturing, creative industry) and the creation of a local sustainable energy servicing and manufacturing industry.

The centre is co-hosted by SPC and the Tonga Government at Nuku’alofa, Tonga and is a collaboration between SPC, United Nations Industrial Development Organization, SIDS Dock, the Government of Tonga and the Government of Austria.

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PCREEE Consultants

Administration Assistant  
Mrs ‘Anasisi Valoa T. Masima

Responsible for the administration, finance and secretarial work of the PCREEE

Previous work includes:
• Sales and Administrative Assistant – California
• Administrative Assistant – MEIDECC, Tonga
• Information Officer – Tonga Visitor’s Bureau
• Sales and Ticketing Agent – Royal Tonga Airlines

Energy Efficiency Officer  
Mr Sione Fe’iloakitau Misi

Responsible for assisting with all the energy efficiency work of PCREEE

Previous work includes:
• Lecturer at the Tonga Institute of Higher Education / School of Agriculture
• Assistant Graduate Teacher at Vava’u High School and Tonga High School
• PALS National Coordinator

A graduate of the University of the South Pacific, majoring in Mathematics with an emphasis on Statistics. A former Science and Mathematics teacher at Tonga High School and for the last year, he was the Energy Officer (Database) with the Department of Energy in Tonga. ‘Eliate has now taken on the role of Knowledge Management Expert at the PCREEE.

In this role, he will be responsible for the database and awareness activities of the Centre. He is currently working with the Energy Database Officer in Suva on Tonga’s data contributions to the PRDR and will focus on providing more private sector and business sector specific information and data from around the region to the PRDR.

Technical Manager with Tonga Cable Ltd and lastly as Energy Planner (Renewable Energy) with the Department of Energy in Tonga.

Vahid has now taken on the role of Renewable Energy Expert at the Technical Department of the PCREEE. In this role, he will be responsible for the Centre’s work in renewable energy and will work very closely with the Centre’s Private Sector Expert and to assist with the renewable energy projects in Suva, when needed.

Vahid Lefau Fifita

Peceli Nakavulevu, former Director of Energy in Fiji, joined the PCREEE team in early September as Private Sector Expert under a consultancy with UNIDO. He is no stranger to the region and to Tonga. Apart from his work with the Fiji DoE, he also worked as a freelance consultant for Tonga’s EU budget support funded sector reform aimed at mainstreaming the national renewable energy and energy efficiency plans in the TERM into the government’s plans and budgetary processes.

More recently, he was part of the team that developed Fiji’s NDC Energy Sector Implementation Roadmap.
Establishing a Global Maritime Technology Cooperation Centre Network in the Pacific

In 2016, the International Maritime Organization (IMO) with four-year funding support from the IMO-European Union Project, Capacity Building for Climate Mitigation in the Maritime Shipping Industry, began an initiative to create a Global Maritime Technology Cooperation Centre (MTCC) Network and establish an MTCC in the following regions: Africa, Asia, the Caribbean, Latin America and the Pacific. The overall objective of this initiative is to support participating developing countries in these regions, particularly the Least Developed Countries (LDCs) and Small Island Developing States (SIDS), in limiting and reducing greenhouse gas emissions from their shipping sector through technical assistance and capacity building to promote energy efficiency in maritime transport. The Global MTCC Network project is funded by the European Union and implemented by IMO.

The Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP), in joint consultation with their member countries, prepared a proposal to act as the host institutions of MTCC in the Pacific (MTCC-Pacific). SPC and SPREP are two regional organisations providing capacity-building activities in the scope of their programmes. Regional maritime capacity-building activities are related to the mandate of both organisations namely: maritime safety and governance; trade facilitation and port efficiency; and pollution prevention from ships for SPREP. SPC and SPREP have internal training capabilities, as well as a strong network of experts from neighbouring countries such as Australia and New Zealand, regional organisations, and IMO through its Technical Cooperation Division. This led the two organisations to build this collaborative area of maritime energy, starting in 2014 with the development of the concept of Green Pacific Ports.

The project to establish the MTCC started in May 2017 and will be conducted by SPC and SPREP over 2017–2019. The vision of the Pacific MTCC is to promote a Pacific low-carbon maritime transport that supports the sustainable development goals of Pacific Islands countries and territories (PICTs) and the transition towards greener economies in the Pacific. The Pacific MTCC will act as a catalyst for PICTs to adopt national approaches to uptake low-carbon technologies and operations within their maritime sectors and collect relevant data for informed decision-making, thus reducing their greenhouse gas (GHG) emissions and their reliance on fossil fuel, and contributing to global efforts to address climate change issues.

The Pacific MTCC will provide capacity-building activities to improve the capacity of PICTs to comply with international instruments and facilitate the implementation of energy-efficient measures in the maritime industry. The delivery of pilot projects will also assist in the promotion of low-carbon technologies and operations in the maritime sector in targeted countries.

The Pacific MTCC will form part of international and regional centres of excellence networks to share information and experiences and promote the uptake of low-carbon technologies and energy-efficient practices in the maritime industry. The overall objective of the Pacific MTCC is to support targeted PICTs in their efforts to reduce their GHG emissions and reliance on fossil fuel by the implementation of standards, best practices and innovative solutions by maritime transport operators. The following results are expected in 2017–2019:

- MTCC-Pacific formed and established;
- capacity-building activities at the national and regional levels delivered;
- a pilot project on ‘uptake of ship energy-efficient technologies and operations’ implemented;
"The overall objective of this initiative is to support participating developing countries in these regions, particularly the Least Developed Countries (LDCs) and Small Island Developing States (SIDS)"

- a pilot project on ‘fuel consumption data collection and reporting’ implemented; and
- communication and visibility actions delivered.

As a centre of excellence, MTCC-Pacific will partner with other centres focusing on GHG emissions and climate change mitigation. This will create a regional network of centres of excellence, sharing information and experiences on renewable energy and energy efficiency to address climate change issues.

To oversee the work of the MTCC-Pacific, advise on capacity-building and technology issues and engage with PICTs at the policy and technical level, an advisory group will be formed and will meet at least twice a year. Members of the group will be targeted countries, regional organisations and experts in the field of low-carbon maritime transport. This will allow the implementation of strategic partnerships with regional organisations, such the Pacific Island Development Forum, the Pacific Islands Forum Secretariat and the University of the South Pacific. In addition, MTCC-Pacific will build on SPC’s work programme that supports Pacific women in the maritime sector and the Pacific Women in Maritime Association to ensure that gender issues are addressed through MTCC-Pacific activities.

The strong regional dimension of the MTCC is essential to achieving the assigned objectives in collaboration with regional organisations in the Pacific region. MTCC-Pacific will therefore serve as a platform for coordination. Regular updates will be provided on MTCC-Pacific’s achievements in the near future.

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In 2013, Forum Leaders endorsed the Majuro Declaration for Climate Leadership. In this Declaration, the leaders recognised their unique vulnerability to climate change, the predicted catastrophic impacts on the security and livelihoods of their people, and the significant benefits that come with their transition to renewable, clean and sustainable energy sources. They confirmed their climate leadership in the form of the renewable energy, energy efficiency and greenhouse gas mitigation targets.

Two years later, in 2015, the Pacific submitted their Intended Nationally Determined Contributions and joined the global community in the adoption of the Paris Agreement. The Agreement emphasised the urgent need to address the significant gap between the aggregate effect of Parties’ mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with holding the increase in the global average temperature to well below 2°C above pre-industrial levels. They also agreed to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

After another two years, in April 2017, on the occasion of the Third Pacific Regional Energy and Transport Ministers’ Meeting, the ministers reaffirmed the Pacific’s commitment to pursue the 1.5°C mitigation pathway and adopted a regional vision of 100% renewable energy.

The Intergovernmental Panel on Climate Change (IPCC) is currently working on producing a special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. Some 560 experts were nominated to take part as authors of this report, but only 86 were selected, two of whom are from the Pacific region. Dr Morgan Wairiu of Solomon Islands, currently serving as the Deputy Director of PACE at the University of the South Pacific, is part of the chapter dealing with framing and context. Solomone Fifita of Tonga, Deputy Director (Energy) at SPC, was drafted into the chapter dealing with the mitigation pathways compatible with 1.5°C in the context of sustainable development. It is pleasing to see the leadership shown by the political masters of the region and the participation of regional experts in a process that Pacific leaders have fought so hard for.

The IPCC special report on the 1.5°C mitigation pathways will not be finalised until 2018 but it is worth recognising the region’s leadership in the 23rd Session of the Conference of the Parties to the UNFCCC. Speaking at the opening of the Climate Action Pacific Partnership event (3–4 July in Suva, Fiji), Frank Bainimarama, Fiji’s Prime Minister and incoming President of COP 23 in Bonn in November, emphasised the need for Pacific Islanders to bring forward the global climate action agenda and to find transformative, practical and replicable solutions to tackle climate change. ‘We are all in the same canoe – not just the island nations but the whole world. No-one is immune to the effects of climate change. All 7.5 billion people are in the same boat,’ he said.

‘As Pacific Islanders, we are fighting for our very survival. For all we hold dear. For all that God has given us and has been entrusted to us by our forebears to care for and pass on to generations to come. And for some of our members, their very existence as sovereign nations with land and coastlines hangs in the balance,’ he added.

We join the millions around the world in acknowledging and saluting our leaders for their leadership.

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The adoption of national energy targets in renewable energy and energy efficiency, the adoption of greenhouse gas mitigation targets in the Nationally Determined Contributions to the Paris Agreement, and the pursuit of the global targets contained in the Sustainable Development Goals (SDGs), particularly in SDG7, coupled with the desires of governments to have safe, clean, reliable and affordable energy services, signal the need for reform in the energy sector of PICTs.

In all cases, the energy sector is made up of various sub-sectors including coordination and planning, petroleum, power, renewable energy and energy efficiency. The planning and coordination of the energy sector to meet governments’ sustainable development aspirations and obligations becomes a tedious task when these sub-sectors are managed and planned in isolation and independently of each other, when some have very old legislation, and when there is no overarching legislative framework to coordinate them.

Various studies in the energy sector of PICTs have pointed to the absence of an energy sector legislative framework to be a key obstacle to achieving their energy sector aspirations.

The Third Pacific Regional Energy and Transport Ministers’ Meeting held in Tonga in April 2017 discussed and encouraged countries to pursue the path to reform the energy sector through legislation, regulations and financing.

At present, various countries are at different stages in the reform process. Cook Islands and Palau have their respective Energy Amendment Act (2012) and Energy Act (2016), the only two PICTs with such legislation. On energy efficiency, Fiji, Tuvalu and Vanuatu have adopted reforms through legislating electrical appliance labeling and standards, while other countries, such as Cook Islands, Kiribati, Samoa, Solomon Islands and Tonga, are in train with the formal adoption of such legislation.

More recently, Kiribati, Marshall Islands, Nauru, Samoa and Tonga have embarked on the transformation of their energy sectors by developing an energy legislation framework. This has prompted the need to revise and align existing energy acts and regulations so as to conform to the policies and aspirations of the government of the day.

The Pacific region has moved from the days of no specific energy policy to a more structured sector that requires a strong governance framework. Such transformation of the energy sector over the last decade has set a strong foundation to better implement activities, such as those planned by the 11th European Development Fund (EDF11) and the Green Climate Fund (GCF), to meet their national targets.

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discussion and encouraged countries to pursue the path to reform the energy sector through legislation, regulations and financing.
The Energy Programme of the Pacific Community is the only regional programme that provides petroleum advisory services to PICTs. This is in terms of technical advice relating to specific challenges in the petroleum sectors of PICTs, the conduct of regional training workshops, the production of specialised petroleum-related publications, and the sharing and verification of petroleum market / pricing data and information. Since July 2016, SPC has not been able to maintain the same level of service due to declining financial support for its petroleum advisory activities. It no longer has a petroleum adviser and SPC’s work on petroleum is now restricted to market data sharing, analysis and verification, updating the petroleum pricing manual, studies of fossil fuel subsidies, and monitoring the transition to cleaner fossil fuels. For this service, SPC is currently paying an annual subscription fee of USD 53,000 to access Platt’s publications and data. The current subscription runs to November 2017 but, if the current level of funding support to the Energy Programme does not change, then, regrettably, this service will have to be discontinued in 2018.

S&P Global Platts, a division of the S&P Global, is the lead publisher of petroleum pricing data in the Asia-Pacific region. PICTs rely on this as an independent source of petroleum market data for the verification and setting of petroleum prices in the PICTs.

SPC and Platts have been discussing a proposal for getting enhanced Platts services to all SPC member countries. The proposal is particularly designed for SPC members and for the greater benefit of their access to comprehensive Platts’ services in the most cost-effective way.

In this proposal, SPC does not have to share or redistribute Platts’ data, as Platts is responsible for providing the data directly to the users. SPC will be responsible only in so far as it will represent all SPC member countries as a single entity to sign the Platts contract and make a single total service payment. Platts’ proposal was submitted to the Third Pacific Regional Energy and Transport Ministers’ Meeting in April 2017 and the ministers directed that a task force be convened to continue the negotiation with Platts for the best outcome that is required by SPC and its member countries, noting that Platts’ proposal is valid only until the end of 2017.

The composition of the Pacific Petroleum Task Force is as follows:

1. Capt. Sione Lousiale Kava – Petroleum Manager, Office of Petroleum Management, American Samoa Government, American Samoa (Chair);
2. Lord Dalgety – CEO, Tonga Electricity Commission (Deputy Chair);
3. Mr Kunal Nandan – Chief Finance Officer, South Pacific Oil, Solomon Islands;
4. Mr Joel Abraham – CEO, Fiji Commerce Commission (to be confirmed); and
5. SPC Energy Programme Representative (Secretary)

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5. SPC Energy Programme Representative (Secretary)

The objective of the task force is to come up with a cost-effective and financially sustainable arrangement for accessing Platts’ publications and data and Saudi Aramco LPG prices, and for strengthening the capacity of SPC to provide petroleum advisory services.

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Exploring solar power as a means of improving educational outcomes in remote Kiribati schools

Two Kiribati boarding schools, Meleang Taabai Secondary School (MTSS) on Tabuaeran (Fanning) and Alfred Sadd Memorial College (ASMC) in Abemama, are still without 24-hour electricity. Both schools rely on electricity generated by a diesel generator that is usually available only in the evenings, putting a restriction on educational activities. SPC, in cooperation with Deutsche Gesellschaft für Zusammenarbeit (GIZ) and funded by the European Union, is now working to provide these schools with access to electricity, using solar hybrid systems. The project is called Kiribati Solar Boarding Schools Project and it is part of the Adapting to Climate Change and Sustainable Energy Programme (ACSE). The Government of Kiribati has set a target for all boarding schools in rural areas to have renewable energy by 2025, a target the project is aligned with.

In 2017, SPC and GIZ carried out joint scoping missions to both schools to do an initial technical assessment, and conduct a gender and energy needs assessment and a cost benefit analysis to assess the economic feasibility of the project. The two boarding schools consist of school buildings, student dormitories, and staff housing.

Although technically an energy project, the project can also be considered an educational project, since one of the main benefits sought is improved educational outcomes. According to ASMC principal, Birita Mamoe, access to improved electricity will improve the practical activities of the school with use of refrigerators for food storage for students, better lighting for students, unlimited use of computers during school hours and better lighting in the school kitchen.

At the moment, electricity is provided in both schools for only about three hours during the evening, which limits the use of electrical appliances, such as computers and the internet for teaching and studying, and the hours available for study. This could be improved with a solar hybrid system. Although further benefits could be gained by providing staff housing with electricity for the use of refrigerators, rice cookers, laptops, televisions, etc., the priority of the project is the electrification of school facilities and student dormitories. The solar hybrid systems are also expected to reduce the carbon footprint of the schools and their expenditure on fuel. However, solar hybrid systems have costs of their own, such as maintenance. repair and battery replacement, which means it may be unrealistic to expect savings in monetary terms from the new system.

Providing solar hybrid systems to remote atolls has its challenges. Shipping the system components to the project site is expensive and, in the case of Tabuaeran, ships to the island are not very frequent, resulting in a cost and logistical issue. People also need to travel by plane to these locations to carry out design and installation, since local capacity to do this is limited. Maintenance and repair work is also expected to be a challenge, since people
(56x222) with the necessary technical skills may also have to be regularly flown in from other parts of Kiribati, making it expensive. In the case of parts failure, it may also take a long time to deliver the required spare parts, during which electricity may not be available. For these reasons, the upfront costs of design and installation, as well as the operation and maintenance costs, become higher, lowering the economic returns on investment compared to urban areas.

Despite the challenges, solar hybrid systems seem to be the way forward in rural schools in Kiribati. In Abemama, two schools have already been installed with solar power: Chevalier College and Kauma Seventh Day Adventist College. If properly operated and maintained, these systems should provide electricity for rural schools for years to come.

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A move to address climate change

For the first time Coca-Cola Amatil (Fiji) Ltd (CCAF) launched their solar energy project — a move to address climate change.

Officially opened by Fiji Prime Minister, Voreqe Bainimarama on 3 July, the initiative is said to help improve the company’s energy efficiency.

A statement issued by the company states that the opening of CCAF Solar Energy Project marked a significant event for the whole Amatil Group.

The company’s general manager Roger Hare said the solar energy project was the first of its kind in the Amatil family and was also something they were proud of as it aligns with the environmental values.

“We take our corporate social responsibility very seriously and support the Fiji Government’s efforts to encourage a more resilient Fijian community and economy by addressing the global impacts of climate change,” he said.

And Coca-Cola Amatil’s group managing director Alison Watkins said their sustainability framework focused on four areas that were important to them and they believed that they would make the most impact on people, consumers’ wellbeing, environment and the community.

“This first stage of the solar project will provide 40 per cent of our Suva site energy requirements and when stage two comes online 80 per cent of the site energy needs will come from the sun. A fantastic outcome for Amatil and the environment,” Ms Watkins said.

The statement highlighted that CCAF and Sunergise Fiji & New Zealand have entered a partnership for the installation of more than 3,860 solar panels to our Suva production plant which provides a 40 per cent cleaner renewable energy source – it is equivalent to powering 207 homes, carbon offset of 25,000 trees and 415,000 litres of diesel.

Sunergise co-founder, Ajay Raniga said they were honoured to partner with Coca-Cola Amatil to create the largest grid connected rooftop installation in the country, New Zealand and the Pacific Islands.

The statement revealed that the 1.1mw solar system is equivalent in size to about 200 residential systems, consisting of over 3,860 solar panels and 39 25kW inverters. Producing 1,408,000 kilowatt hours of energy per year, the system will save 974 tons of carbon dioxide annually. This is the equivalent of saving 414,722 litres of diesel per year, or avoiding 3,730,751 car kilometres annually or planting 24,964 trees.

To date Sunergise and its customers have installed over 8.5 mw of clean power and produced over 15 gigawatt-hours of electricity."

It further state that CCA Fiji has been undertaking initiatives toward meeting goals identified around reducing refrigeration and manufacturing emissions utilising solar energy, promoting sustainable packaging utilising renewable and recycled content, and increased material resource efficiency.

Recently CCA Fiji had introduced solar fridges to refrigerate products and have placed five in the market on a trial basis before further roll-out.

Initial discussions of this project began with Coca-Cola Amatil’s head office in New Zealand and Sunergise. A feasibility study took place in November 2016 and works began on this project in March 2017.

The now complete project consists of over 3860 solar panels that provides 40 per cent of the facility’s total power supply.

On the remote outer island of Abemama in Kiribati, the Energy Planning Unit of the Ministry of Works and Public Utilities (MWPU) recently completed the installation and commissioning of a 25kW solar PV system at the Christian Community Leaders (CCL) Manoku School. The project is implemented by the International Union for Conservation of Nature – Oceania Regional Office (IUCN ORO), and funded by the Grand Duchy of Luxembourg under the flagship of the Energy, Ecosystems and Sustainable Livelihoods Initiative (EESLI) of the recently retitled Climate Change Mitigation and Disaster Risk Reduction (CCM and DRR) Programme. The key objective of the project was to offset the existing reliance on imported fossil fuels by the Manoku community and create increased opportunities for the residents to engage in study, productive work, and income-generating activities when it is dark.

CCL was established to train missionaries for the Catholic Church. Residential students are married couples, recruited for the two-year programme from throughout Kiribati. They are accompanied by staff: missionaries of the Sacred Heart Community and Sisters from Our Lady of the Sacred Heart community. The facility is designed to accommodate up to 500 individuals. Hence, the provision of renewable energy for CCL, Manoku, affects many Abemama residents, and during the ceremony celebrating the commissioning of the installation on 6 May 2017, attendees from the community were given the opportunity to speak and commemorate the occasion.

The primary objectives of the project were planned as follows:

• elimination of diesel fuel use for electrification purposes;
• 24-hour access to electricity services for the community;
• improved energy efficiency through conversion to LED lighting fixtures; and
• increased income generation through sales of processed and frozen seafood.

The Energy Planning Unit ensured that the project was aligned with the Kiribati Development Plan 2016–2019, the Kiribati Nationally Determined Contributions, the Kiribati National Energy Policy, and the Kiribati Joint Implementation Plan. It has served as another success for the Energy Planning Unit, and marked the first point of collaboration between Kiribati and EESLI through IUCN’s CCM and DRR Programme. Given the timely and successful implementation of project activities, the Energy Planning Unit and IUCN have discussed opportunities for subsequent projects, investing in renewable energy and energy-efficiency technology in partnership with other stakeholder organisations and agencies operating in Kiribati.

As for the 25kW installation, supply of the system was opened for tender, and Clay Energy, based in Suva, Fiji, made the successful bid. Upon arrival of the system in Kiribati, the installation itself was conducted by Energy Planning Unit staff. They were supported by CCL staff residents, who provided infrastructural support in the form of the control room housing, and fencing to contain all the system components. Participating CCL staff members were also trained by MWPU personnel, and will be attending to the operation and maintenance of the system between government visits to monitor the performance and state of the installation.

As of 6 May 2017, the Sunny Island Inverter display provided a read-out of 1.870MWh generated in 44.34 days since the system was installed. This means, given the specific CO₂ emission rates of diesel (0.24kg CO₂/kWh), 448.8kg of CO₂ emissions have already been mitigated. Extrapolating from the current figures, it is projected that 3.694 tonnes of CO₂ will be avoided per annum, depending on variations in solar irradiance over the course of the year.

1http://www.engineeringtoolbox.com/co2-emission-fuels-d_1085.html
Energy efficiency in land transport in Pacific Islands

Mobility is an enabler for urban life in large and small cities alike. The creation of affordable, reliable, and low-emission transportation that is efficient and economical for freight and business remains a key dimension in urban planning, and economic and industrial development. Therefore, the provision of sustainable mobility requires policy-makers and planners to understand and incorporate the needs of different societal stakeholders into policy frameworks for the provision of both public and private transport.

Given the remoteness of Pacific Islands, the dispersed populations, and the high transportation costs, infrastructure investment in transport is important to counteract diseconomies of scale, isolated communities, and the high costs of accessing markets. The consumption of imported petroleum fuels in the economies of the region is mostly accounted for in the transport sector. It is estimated that about 85% of the petroleum fuel consumption is consumed by the transport sector, and 50% of this is accounted for by land transport. A few country examples are shown below.

- In Niue in 2014, the transport sector was estimated to account for 71% of the total fuel energy consumption. Of this, over 99% of the fuel consumed in the transport sector is for land transportation.
- Land transport represents most of the petroleum fuel consumption in Vanuatu – 50% by volume in 2011.
- In Samoa, the transport sector accounted for over 80% of total fossil fuel consumption in 2005.
- It has been estimated that, in Solomon Islands, the transport sector accounted for 42.1% of total energy consumption in 2011.

The road transport sector has rapidly changed in the region. The influx of cheap and second-hand cars has not only introduced traffic jams and more pollution, it has also placed management and engineering pressure on existing management systems and infrastructure. Changing weather conditions and frequent rain mean road conditions are often poor, vehicle flows and routes are not well managed, and records are poorly maintained. Moreover, there appears to be a trend toward larger, fuel-inefficient vehicles in recent years. Without practical means for more efficient and alternative transport fuel use, overall petroleum consumption will not decline significantly. Addressing greenhouse gas emission and the resilience of the Pacific transport sector are long overdue, not only in terms of energy security but also in terms of low carbon and resilient development. According to the World Bank (2012), urban transport produces around 23% of global CO₂ emissions.

Addressing emissions from vehicles could also significantly curb air pollution, especially from black carbon and other particulate matter released by cars and trucks. The recently adopted Sustainable Development Goals (SDGs) include sustainable transport objectives as part of SDG7 on clean and sustainable energy; innovation, industrialisation and infrastructure in SDG 9; and sustainable cities and communities in SDG 11. Fossil fuel import spending for transport means fewer resources available for education, health care, climate change adaptation, and small and medium-sized enterprise development. Therefore, a rapid transformation towards alternative renewable energy and energy-efficient mobility and transport solutions is needed. However, the uptake of these markets is currently hindered by a broad range of interrelated barriers.

Several technologies and other low-cost measures are available and can be promoted to address these problems and channel the path towards low-emission transport systems. The energy sector is the primary focus for all Pacific Nationally Determined Contributions (NDCs). Palau, Kiribati and Federated States of Micronesia specifically mention transport as a mitigation focus area in their NDCs. Currently, efforts are aimed at picking up earlier efforts to support the promotion of a low-carbon and resilient land transport sector in the Pacific region, the objective of which is to facilitate sustainable and energy-efficient land transport systems.

Back in 2007 the then SOPAC and UNDP jointly developed a GEF-financed, multi-country Promotion of Environmentally Sustainable Transportation in the Pacific Islands (PESTRAN) project proposal, covering Vanuatu, Fiji and Samoa. However, the proposal was not submitted for GEF’s consideration due to the introduction of the GEF Pacific Alliance for Sustainability (PAS) in GEF-4. An effort was made by SPC in 2012 to reintroduce the PESTRAN proposal for funding under SIDS-DOCK, but that was not successful. Nonetheless, energy efficiency in land transport is a current priority for the Pacific Island region, as can be seen in national and regional energy, transport and climate frameworks and roadmaps.

Sustainable transport was highlighted as a priority in the needs assessment undertaken by UNIDO/SPC for the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE). Efficient and renewable energy transport is part of the regional mandate of
PCREEE, located in Tonga. At a recent regional workshop by SPC, USA, IRENA and Japan on Financing for Renewable Energy in Small Island Developing States (SIDS) held on 1–3 December 2016 in Nadi, the idea of developing a Green Climate Fund (GCF) proposal on energy efficiency in land transport was discussed with PICTs, donors and development partners. The meeting acknowledged SPC’s effort to initiate discussions on the development of the initial PESTRAN funding proposal. It noted the interest of UNDP, ADB and the EU to participate and assist with the development of a GCF proposal that is open to participation by other interested PICTs, and tasked UNDP and SPC to lead in the consultative development of the concept for submission to the GCF in 2017. The outcome of the Nadi discussions was endorsed by the Meeting of Heads of Energy and Maritime Transport that was held in Vanuatu on 7–9 December 2016.

On 24 April 2017, an Energy and Transport Officials’ Meeting was held in Tonga. Heads of energy and transport and energy and transport officials from 16 Pacific Island countries and territories (PICTs) attended the meeting. The ministers ‘Agreed to task SPC to lead in developing the GCF energy efficiency in land transport proposal together with UNIDO and international partners with experience in mobility in islands (e.g. Germany, ADB) and include SIDS-SIDS collaborations through the global network of regional energy centres’.

The officials’ meeting was followed by the Third Pacific Regional Energy and Transport Ministers’ Meeting from 26–28 April 2017. The ministers in their communiqué ‘Welcomed the current energy and transport-related funding proposals that are being developed for consideration by the Green Climate Fund (GCF) and tasked Members, relevant organisations and partners to work with Accredited Entities in order to advance preparations for submission to GCF’.

As mentioned above, very little has been done so far to increase energy efficiency in the land transport sector. There are currently no major ongoing or planned country or regional initiatives specifically aimed at facilitating sustainable and energy-efficient land transportation systems. However, some relevant past and recent country level initiatives are described below.

- The Government of Fiji has established voluntary national fuel standards, specifically 5% (max.) biodiesel to be blended with diesel and 10% (max.) of ethanol to be blended with gasoline. A few years ago, a local company produced biodiesel and another produced a blend of coconut oil and diesel, but these are no longer in operation. Recently the Government of Fiji introduced financial incentives for electric and hybrid vehicles, specifically zero duty, including for second hand vehicles. From 1 January 2017 and for the next two years, zero duty will continue for all new hybrid vehicles, but will be discontinued for second hand vehicles.
- IUCN has supported research on biofuel for land transport and non-motorised transport in Samoa.
- Several years ago, two private companies on Efate, Vanuatu, produced coconut oil on a small scale as a substitute for diesel fuel for power generation and transport. In 2002, about 200 minibuses were using the oil daily with no serious technical difficulties. However, government legislation and regulation in 2003 dramatically reduced the use of coconut oil as a diesel fuel substitute. A change in tax laws raised the price of fuel blends. The new rules made it illegal to blend fuels without a license.
- In 2016, Solar Islands Technology, a company registered in Tonga, launched its first set of solar tuk-tuk that were assembled in Tonga.
- In April 2017, the Land Transport Authority in Fiji reported that 200 vehicles per month fail to comply with the smoke emission tests at the Land Transport Authority inspection centres. The LTA said that with close to 110,000 vehicles currently registered on the roads nationwide, it is concerned with the emission of excessive black fumes from vehicles’ exhaust. It said that each month an average of 250 diesel-powered vehicles in the Central-Eastern Division, 200 in the Western Division and 50 in the Northern Division go through the emission test requirements set for such vehicles.
- In early May 2017, the Prime Minister of Cook Islands opened the first of a total of 15 electric car-charging stations on Rarotonga, a partnership between government and the power utility.

Information, including lessons learned from these and other relevant initiatives, will be considered when developing funding proposals to address this priority area.
Regional appliance standards and energy labelling

Appliance performance standards and energy labelling programmes have been demonstrated throughout the world to be one of the quickest, easiest and most cost-effective ways to lower electricity bills for consumers, reduce fuel imports for countries, and reduce CO₂ emissions. For PICs that are confronted with issues of electricity supply shortages, and constraints in transmission and distribution networks, increasing the energy efficiency of appliances and lighting is a cheaper and faster solution than adding more power plants or reinforcing the grid. It also allows grids with limited capacity to provide electricity for more consumers.

The Pacific Appliance Labelling and Standards (PALS) Programme, currently the only regional energy efficiency programme, assists PICs in the use of a harmonised mandatory performance standards and energy labelling. Adopting a harmonised appliance performance standard for the region or sub-region far outweighs any economic and practical benefits of doing it individually. A regional/sub-regional approach allows for a common effective period for the change and its enforcement. It will enhance the economy of scale of the region’s energy efficiency effort and support regional cooperation in terms of training, information exchange and border control cooperation. PICs that will not adopt appliance standards risk being left behind and become a dumping ground for inferior inefficient appliances.

Solomon Islands, Tuvalu and Vanuatu have adopted legislation on energy efficiency

Three Pacific Island countries (PICs), Solomon Islands, Tuvalu and Vanuatu have adopted legislation on appliance energy labelling and standards and three others – Samoa, Tonga and Kiribati – are likely to follow in the not too distant future. These PICs have had no way of identifying more energy-efficient products or restricting the import of inefficient products. The legislation ensures that refrigerators, freezers, airconditioners and lighting products that meet Australian and New Zealand standards (AS NZS) are imported and used in their countries.

These countries are part of the Pacific Appliance Labelling and Standards (PALS) programme that has been assisting PICs in implementing labelling and standards through legislative frameworks. Adopting legislation or regulation in these three countries was a great achievement, given the lengthy process that is required to develop and adopt legislation.

For Solomon Islands, energy labelling and standards was incorporated as part of two pieces of legislation: the Consumer Protection Act and the Customs Act. For Tuvalu and Vanuatu, new legislation was developed: Tuvalu’s Energy Efficiency Act and Vanuatu’s Energy Efficiency of Electrical Appliances, Equipment and Lighting Products Act.

These three countries are adopting Australian and New Zealand standards (AS NZS) for minimum energy performance standards and labelling (MEPSL) for refrigerators, freezers, air conditioners and lighting. Apart from developing legislation for standards and labelling, the PALS Programme has been supporting the countries with training and capacity enhancement activities, as well as public awareness.

The legislation in these countries has the following characteristics:
- it nominates the government minister who is primarily responsible for administering MEPSL (the regulator), although other agencies may also be involved;
- it gives the minister powers to set and enforce MEPSL for the range of products to be covered immediately and in the future;
- it has a clear and simple mechanism for adding or removing products from the scope of regulation;
- it nominates the agency of government that is primarily responsible for administering MEPSL (the regulator), although other agencies may also be involved in administration;
- it gives the regulator the powers necessary to administer MEPSL, including the power to deal with non-compliant products;
- it sets out guidelines for working arrangements between agencies if more than one agency is involved;
- it is clear on which parties have an obligation to comply, and their responsibilities;
- it identifies parties who are exempt or can seek exemption; and
- it includes essential administrative provisions.

The Energy Office of the respective countries is responsible for administering the legislation.

Ensuring sustainability of standards and labelling

Appliance performance standards and energy labelling is fairly new in the Pacific, with Fiji being the first country to adopt appliance standards and energy labelling legislation for refrigerators and freezers in 2012. Fiji was followed by Tuvalu and Vanuatu in 2016 and Solomon Islands in 2017. As for any new project, it requires time to build and strengthen capacity and resources to sustain the project. The real test for standards and labelling is when legislation is implemented and effective. Tuvalu, Vanuatu and Solomon Islands have just started to experience administering their new legislation and other countries will follow a similar path, but a key question is: What happens when the PALS Programme comes to an end in mid 2019? The programme has been exploring financial support through the Green Climate Fund (GCF).

From 2012 to 2017, SPC, with funding and support of the Australian Government, ran the PALS programme. The programme ensures that capacity at national and regional level is developed and/or strengthened to manage standards and labelling programmes. It also ensures that necessary administrative and supporting frameworks are in place and all stakeholders have a good understanding of what they need to do when the legislation is enacted and implemented.

The PALS Programme in 2014–2015, following endorsement by Pacific ministers responsible for energy and transport, collaborated with the UNEP en.lighten initiative and, with funding from the Australian Government, established the Pacific Efficient Lighting Strategy (PELS) to focus on phasing out inefficient lighting in the Pacific region, using a strategy based on UNEP en.lighten’s integrated policy approach.

Following the completion of the PELS document in 2015 and nearing the end of the PALS Programme, funding for expanding energy efficiency work was not assured, so UNEP enlighten and the PALS Programme discussed the idea of developing a GCF proposal to build on the current PALS and PELS initiatives.

The GCF concept was first presented at the PALS Steering Committee Meeting on 14 April 2016 in Suva, Fiji. More than 40 participants from national energy offices, customs offices,
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trade and commerce offices, as well as regional agencies and development partners, attended the meeting. The concept was also presented at the Pacific Energy Summit on 6 June 2016 in Auckland, New Zealand. Energy utilities, climate sectors, regional and multilateral organisations and the private sector were represented at the meeting. The proposal was also discussed at the GCF Pacific Regional Meeting on August 1–4 2016 in Suva.

This GCF proposal includes 14 PICs: Cook Islands, Fiji, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. It focuses on improving energy efficiency through demand-side management in the electricity sector.

The proposal aims to reduce greenhouse gas emissions and the reliance on fossil fuels in PICs, and improve demand-side efficiency through market transitions towards energy-efficient and high quality appliances and lighting technologies.

The proposal was presented during the Pacific Energy Advisory Group meeting held in Vanuatu in December 2016. It was further discussed during the Third Pacific Regional Energy and Transport Ministers’ meeting in Tonga, on 26–28 April 2017, when the ministers agreed to ‘Endorse the SPC–UNEP proposal on Promotion of Energy Efficient Appliances, Lighting and Equipment in Pacific Island Countries and agree to support its submission to the GCF for consideration’.

In preparing for the full project proposal, a Project Preparation Facility (PPF) application was submitted by UNEP to the GCF Secretariat on 5 July 2017. The PPF is requested to support the development of the project proposal through project preparation activities, such as analysis of a baseline scenario and development of detailed project components. We acknowledge with much appreciation the contributions of all the PICs and development partners that have supported this regional proposal. It is our hope that GCF will assist PICs in strengthening their standards and labelling programmes.

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The Samoa Ministry of Finance, through its Energy Policy and Coordination Division (EPCD) and support from the Ministry of Education, Sports and Culture (MESC), conducted the Samoa Energy Awareness Campaign from April to June 2017. The campaign, which was made possible through funding from the PALS Programme, included a school competition.

The competition focussed on school children, and both primary and secondary school children from around Upolu and Savaii were invited to participate. The overall theme was Sustainable Energy, with the main focus on the themes Use Energy Wisely for primary schools and Be Energy Smart for secondary schools. The main purpose of the campaign was to increase awareness about the importance of making smart energy choices, emphasising the significance and advantages of renewable energy and energy efficiency. The competition was divided into four categories:

<table>
<thead>
<tr>
<th>Competition</th>
<th>Age Category</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poster</td>
<td>5–8 years</td>
<td>Primary School</td>
</tr>
<tr>
<td>Poem</td>
<td>9–13 years</td>
<td>Primary School</td>
</tr>
<tr>
<td>News Article</td>
<td>14–16 years</td>
<td>Secondary School</td>
</tr>
<tr>
<td>Video</td>
<td>17+ years</td>
<td>Secondary School</td>
</tr>
</tbody>
</table>

Letters were distributed by the MESC team to the primary and secondary schools at the beginning of May, inviting all to participate in this great event before the competition closed at the end of May.

Participants
Over 1000 entries were received from various schools in both Upolu and Savaii. The entries comprised of 688 posters, 508 poems, 28 news articles and 8 videos. Although it was a competition, the main focus was to allow the children to conduct research and learn more about the energy efficiency and renewable energy sources available in Samoa.

Promotional materials
A total of 1,196 colouring books and 2,500 energy calendars for 2018 were printed and laminated to be awarded to each participant. Part of the campaign was the distribution of energy calendars to our energy stakeholders as well.

Posters and poems
These competitions were specifically for primary school students within the age groups of 5 to 8 and 9 to 12 years. The bulk of the entries were from this component of the competition, adding up to 1,196 entries, mostly from Savaii. Teachers and parents offered kind support for the children who competed in this section.

News article and video competition
These competitions were designed for secondary schools. Levels 9 to 11 competed in the news article section while years 12 and 13 competed in the video competition. There were no entries from any secondary school in Savaii for these competitions. The eight video entries were received from Faleata College, Faatuatua College, Samoa College, Aana Secondary School and St Mary’s College, all on Upolu.
Judging day
On 14 June 2017, a panel of judges came together to evaluate the entries for the video and news article competitions and select the top three. The panel consisted of a member from the Renewable Energy Division within the Ministry of Natural Resources and Environment, a representative from the Scientific Research Organization of Samoa, and Mrs Heremoni Su’apa’ia-Ah Hoy, who is a Principal Officer within the EPCMD. The Energy staff were given the opportunity to judge the posters and poems competition.

Prize-giving day
The prize-giving was held at the TATTE Conference Room on 29 June 2017. School principals and teachers of the participating schools were invited to attend. The top three winners for each category were presented with their prizes, and consolation prizes – 2018 calendars and colouring books – were given to all other participants.

The winning entries were showcased during the gathering. This was the highlight of the event and it reflected the overflow of enthusiasm shown by our young people towards achieving goals that will accomplish the Energy Policy and Coordination Division’s mission.

The winners for each competition are shown below.

<table>
<thead>
<tr>
<th>Competition</th>
<th>Poster Competition</th>
<th>Poems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st place</td>
<td>Titilua Anapu (Samoa Primary School)</td>
<td>Aurora Neemia (Samoa Primary School)</td>
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<tr>
<td>2nd place</td>
<td>Baseto Farani (Falelima Primary School)</td>
<td>Fetalaiga Seru (Samoa Primary School)</td>
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<tr>
<td>3rd place</td>
<td>Divine Leone (Sataua Fasaga Primary School)</td>
<td>Aotearoa Lesatele (Vaimoso Primary School)</td>
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</tbody>
</table>

In the poster, poem and news article competition, first prize was a WST 150 voucher, 2nd prize was a WST 100 voucher and 3rd prize was a WST 50 voucher. In the video competition, first prize was a WST 250 voucher, and 2nd and 3rd prizes werea WST 200 and WST 150 voucher respectively.

Conclusion
The effort shown by the participants in their videos, articles, posters and poems reflected the huge knowledge increase amongst the younger generation regarding energy efficiency and renewable energy. The competition gave them the opportunity to seek information, research and learn more about the significance of renewable energy and how to be energy efficient, thus achieving the main goal of the awareness programme.

With adequate financial support, the awareness programme can be extended to other levels of society and not limited to schools. In addition, prizes and promotional materials can be improved, and the involvement of media outlets can be increased in order to extend awareness to all communities. Our wish is for SPC to be able to use some of the materials, such as the videos from this competition, for promotional purposes.

For more information, please contact:
Sione Foliaki,
PALS Coordinator, Samoa
Sione.foliaki@mof.gov.ws
Updates on the Pacific Regional Data Repository for Sustainable Energy for All (PRDR)

At the beginning of 2017, much attention was given to prioritising efforts relating to the PRDR strategy, seeing to its finalisation, and preparing a presentation paper for inclusion in the much anticipated Third Pacific Regional Energy and Transport Ministers’ Meeting in Nuku’alofa, Tonga, in April this year.

The PRDR strategy provides the framework for the implementation mechanism, including the financial plan for the PRDR over the next five years from 2018 to 2023. There are three target areas in the strategy.

The first target area is to strengthen the services of the regional PRDR team, with the aim of having a five-year funding commitment to establish a dedicated PRDR project management team. This will ensure a dedicated coverage of the project over a set time with secured funding to increase data collection and population processes to the PRDR portal and enhance awareness of the PRDR initiative and its benefits to the region.

The second target area is the development of a database system that will be the basis for linking the regional data collection efforts of the PRDR to international databases. The repository feature of the PRDR has been completed, with the PRDR team actively uploading reports into the portal. The database page of the portal, however, is yet to be developed, and SPC is urged to complete this component, noting the increasing demand from governments and development partners for evidence-based reporting. The activity is planned for two years (2018 to 2019).

The third target area is to support the national PRDR focal offices to strengthen their data collection efforts, targeting a five-year funding commitment from 2018 to 2023. The countries visited by the PRDR team reported that the level of national data collection efforts had mixed success. Where applicable, support to the PRDR focal offices will focus on the recruitment of energy data officers and attaches, strengthen data retrieval and digitising effort, build office resources through procurement of associated hardware equipment, and strengthen the capacity of energy officers through training, workshops and surveys.

It is estimated that a budget of USD 6.075 million will be required for the full implementation of the PRDR strategy. Of this amount, 41% is for the regional efforts, 3% is for the database development component, and the remaining 57% is for strengthening the national PRDR efforts.

The month of April this year saw the endorsement of the PRDR strategy during the Third Pacific Regional Energy and Transport Ministers’ Meeting in Nuku’alofa, Tonga.

The second quarter of 2017 covered a number of country missions. The first was a mission to Tonga to support the energy office in the compilation of their energy data, as well as to populate their energy database efforts, including collecting data for the PRDR.

Late May and early June saw country missions to Cook Islands and Niue to share awareness and buy-in to the PRDR efforts, targeting key data providers. Assistance to Niue also included undertaking data collection at the Niue Power Corporation, as well as support for the Ministry of Natural Resources to develop a template to track the progress of Niue’s renewable electricity generation as part of monitoring efforts to achieve their Nationally Determined Contribution targets.

The plan for the rest of 2017 is for the PRDR team to focus much of their effort on the development of proposal concept notes, including seeking funding support to implement the PRDR Strategy from 2018.

Finally, the PRDR team wishes to acknowledge and thank the following key partners for their support and contributions:

- the World Bank Group and the Trust Fund for Statistical Capacity Building, for their technical assistance to the PRDR from 2015 to 2016, which led to the compilation of the PRDR strategy document;
- the Government of Australia, for its continuous support to the PRDR administration team operation since the establishment of the PRDR regional office at SPC in 2014; and
- the European Union Energy Initiative Partnership Dialogue Facility, for supporting the implementation of selected PRDR activities and resources from 2014 to October 2016.

For more information, please contact:

Frank Vukikomoala,
Energy Database Officer, Pacific Community
FrankV@spc.int
Congratulations - Heremoni

Name: Heremoni Suapaia-Ah Hoy
Country: Samoa
Course: Master of Energy (MEnergy)
Commencement Date: 14th February, 2016
Institution: The University of Auckland (UOA)

Course Overview:
The demand for renewable energy worldwide is constantly growing and evolving. As energy sources diversify to meet this need, so must our understanding about engineering, science, and the commercialisation of renewable resources and technology.

The course is designed to meet the increasing need for experts across all areas of the energy sector. It is a versatile, multidisciplinary degree that provides a broad introduction to the industry, and the ongoing developments in research and technology. The course will equip experts with the technical, economic, regulatory, and business knowledge required for innovation in the energy sector.

Pacific energy events calendar (September–December 2017)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Venue</th>
<th>Responsible agencies</th>
<th>Officer responsible</th>
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<tbody>
<tr>
<td>18–22 September</td>
<td>Technical inspection of SHS for cane farmers in the Western Division</td>
<td>Rakiraki, Fiji</td>
<td>SPC</td>
<td>Makereta Lomaloma</td>
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<tr>
<td>25–29 September</td>
<td>Survey of cane farmers for solar homes systems (SHS) in Vanua Levu</td>
<td>Labasa, Fiji</td>
<td>SPC</td>
<td>Makereta Lomaloma</td>
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<tr>
<td>October (TBC)</td>
<td>Pacific Petroleum Taskforce Meeting</td>
<td>Nadi, Fiji</td>
<td>SPC</td>
<td>Rupeni Mario</td>
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<td>13–17 November</td>
<td>PALS Steering Committee Meeting/ PALS Database Training</td>
<td>Samoa (tbc)</td>
<td>SPC</td>
<td>Makereta Lomaloma</td>
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<td>6–17 November</td>
<td>COP23</td>
<td>Bonn, Germany</td>
<td>UNFCCC</td>
<td><a href="mailto:secretariat@unfccc.int">secretariat@unfccc.int</a></td>
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<tr>
<td>4–8 December (TBC)</td>
<td>Pacific Energy Advisory Group Meeting and PCREEE Steering Committee</td>
<td>Suva, Fiji</td>
<td>SPC</td>
<td>Rupeni Mario</td>
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<tr>
<td>11–15 December</td>
<td>MTCC-Pacific official launch</td>
<td>Suva, Fiji</td>
<td>SPC</td>
<td>Thierry Nervale</td>
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