



UNSW
SYDNEY



Collaboration on Energy and
Environmental Markets



Pacific Island Countries and Territories Electricity Utility Boards Directors Workshop

*Professor Iain MacGill, Jay Prasad and
Edoardo Santagata, Dr Maria Balatbat
and Associate Professor Anna Bruce*
Collaboration on Energy and
Environmental Markets (CEEM)
UNSW Sydney

Associate Professor Atul Raturi
University of the South Pacific

Utility Board members workshop
*30th Pacific Power Association
Conference*
25-28th September 2023
Saipan

Welcome to Saipan and the PPA conference



Introductory remarks

- Nicholas Murphy – Australian Department of Foreign Affairs and Trade (DFAT)
- Dr Kelly Strzpek – Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW)

Agenda

Start Time	Finish	1 Monday 25/09/2023		
		Chair	Presenter	Topic
8:30	8:40	Iain MacGill	TBC	Formal Welcome
8:40	8:50		Kelly Strzepek / Nicholas Murphy	Opening Remarks- DCCEEW / DFAT
8:50	9:00		Iain MacGill	Welcome/Agenda/Introductions
9:00	10:00			Discussion on Key Concerns and Common Issues
10:00	10:30	Morning Tea		
10:30	11:00	Jay Prasad	Maria Balabat	Sustainable Governance in the Utilities Sector, Trends in Sustainable Business
11:00	11:30		Atul Raturi	SDGs, NDCs and the role of the electricity sector in achieving them
11:30	12:00			discussion
12:00	13:00	Lunch		
13:00	13:30	Atul Raturi	Jay Prasad	planning frameworks for energy transition
13:30	14:00		Edoardo Santagata	Decarbonising the Pacific: national policy and sectoral targets
14:00	14:30		AIFFP / DFAT humanitarian	infrastructure finance, disaster response capabilities
14:30	15:00			
15:00	15:30	Afternoon Tea		
15:30	15:50	Iain MacGill	Edoardo Santagata	Energy sector transition modelling
15:50	16:10		Anna Bruce	distributed resources and tariff design
16:10	16:30			Discussion and Wrap-up Day 1
Start Time	Finish Time	Day 2 Tuesday 26/09/2023		
		Chair	Presenter	Topic
8:30	9:00	Main Event: Opening Ceremony		
9:00	10:00			
10:00	10:30	Morning Tea		
10:30	11:00	Atul Raturi	Lilika, Inka	Pacific Women in Power: Session 1- Intro and Baseline Report
11:00	11:30		Inia Saula	Energy Resilience and Grid- FESRIP
11:30	12:00		Jay Prasad	Integrating high PV penetrations in grids
12:00	13:00	Lunch		
13:00	13:30	Iain MacGill	Lilika, Inka	PWIP Session 2- PWIP
13:30	14:00		Lilika, Inka	Building our gender vision and values
14:00	14:00		General	how can the PPA better serve utility boards
14:00	14:20		General	finance for energy transition
15:00	15:30	Afternoon Tea		
15:30	16:00	Jay Prasad	TBC	Regulatory Reform in PICTS, OPERA
16:00	16:20		Iain MacGill	Discussion and Recap, Wrap Up Workshop
16:20	16:30			Workshop Survey Questionnaire





UNSW
SYDNEY

Professor Iain McGill **UNSW Sydney**



Dr Iain MacGill is a Professor in the School of Electrical Engineering and Telecommunications at UNSW Australia, and Joint Director (Engineering) for the University's Collaboration on Energy and Environmental Markets (CEEM).

Iain's teaching and research interests at UNSW include electricity industry restructuring and the Australian National Electricity Market, sustainable energy generation technologies, distributed energy resources in the built environment, energy efficiency options, energy access in developing and emerging economies, energy and climate policy and environmental regulation. He has run industry short courses and workshops and consulted to industry and government clients in these areas in Australia and internationally.

Presentation Topic:

An introduction to electricity sector challenges and opportunities, what role for utility boards?



UNSW
SYDNEY

JANENDRA PRASAD

Researcher PhD Candidate



Janendra (Jay) is a Chartered Professional Electrical Engineer with 25 years' experience leading the delivery of innovative, technically sound, cost-effective, and safe engineering solutions for electrical infrastructure. He has held in senior engineering, management and capacity building roles in power system design and operations, asset strategy and project development in Australia and Pacific Islands.

Jay's research interest is in integration and optimisation of high penetration of renewable energy and sustainable energy solutions.

Presentation Topic:

Facilitation of High Penetration of Variable Renewable Energy in Pacific Island Country Utility Grids

Energy transition planning frameworks



UNSW
SYDNEY

Edoardo Santagata

PhD Student



Edoardo is a PhD student at UNSW researching the broad themes of energy security and resilience in Pacific Island countries and territories. The main aim of this research is to develop a framework to integrate energy resilience into modelling energy futures and developing sound energy policies which can help achieve the Pacific's energy targets. Some topics he has explored for the application of this framework include the decarbonisation of energy supply chains, transport, shipping and navigation, as well as novel financing approaches.

Edoardo's consultancy experience includes assessment of clean shipping technologies, bioethanol production, and fuel efficiency policies in various Pacific locations. His previous work also includes innovative energy access models for remote communities using nature-based designs that rely on geothermal energy.

Presentation Topics:

Decarbonising the Pacific: a national policy and sectoral target review

Open source tools for modelling energy transition



UNSW
SYDNEY

Associate Professor Anna Bruce UNSW Sydney



Dr Anna Bruce is an Associate Professor in the School of Photovoltaic and Renewable Energy Engineering and Research Coordinator (Engineering) at the Collaboration on Energy and Environmental Markets at UNSW Sydney, Australia. She leads CEEM's research theme in Distributed energy systems, including 'smart grids' and 'smart' homes, distributed generation and demand-side participation. Her research focuses on modelling, analysis and integration of renewable energy and distributed energy resources into electricity industries; energy access in developing countries; and energy policy and regulation.

Presentation Topic:

Tariff design and Distributed Energy Resources



UNSW
SYDNEY

Dr Maria Balabat

Senior Lecturer- UNSW



Dr Maria Balabat is a Senior Lecturer at the Business School and a Founding Member of the CEEM at UNSW Sydney. Her research interests include integration of environmental, social and governance (ESG) dimensions in investment decision making including, disclosure of climate change information. She is a recipient of several ARC grants with projects that examine the capital market implications of Integrated Reporting and use of environmental and social indicators to develop a valuation methodology for investment decisions. She is a Director at the Australasian Reporting Awards (ARA), Fellow at CPA Australia, and a member of the Chartered Accountants in Australia and New Zealand (CA ANZ). Maria has a PhD in Economics at the University of Sydney

Presentation Topics:

Sustainable Governance in the Utilities Sector

Trends in Sustainable Business Reporting

Associate Professor Atul Raturi
PhD, SMIEEE
The University of the South Pacific



Atul has worked in India, Kenya, and the Pacific. He is engaged in teaching and researching materials/devices/policies for solar energy development in the island countries with special interest in community engagement. He is also an adjunct AP at SPREE, UNSW, Australia.

He has been a consultant to SEFP (WB), IUCN, ADB and UNEP among others. Atul is a member of Pacific Energy Technical Working Group, Expert Group on Energy's Interlinkages with Other SDGs (UNDESA) and ESCAP-APNETT.

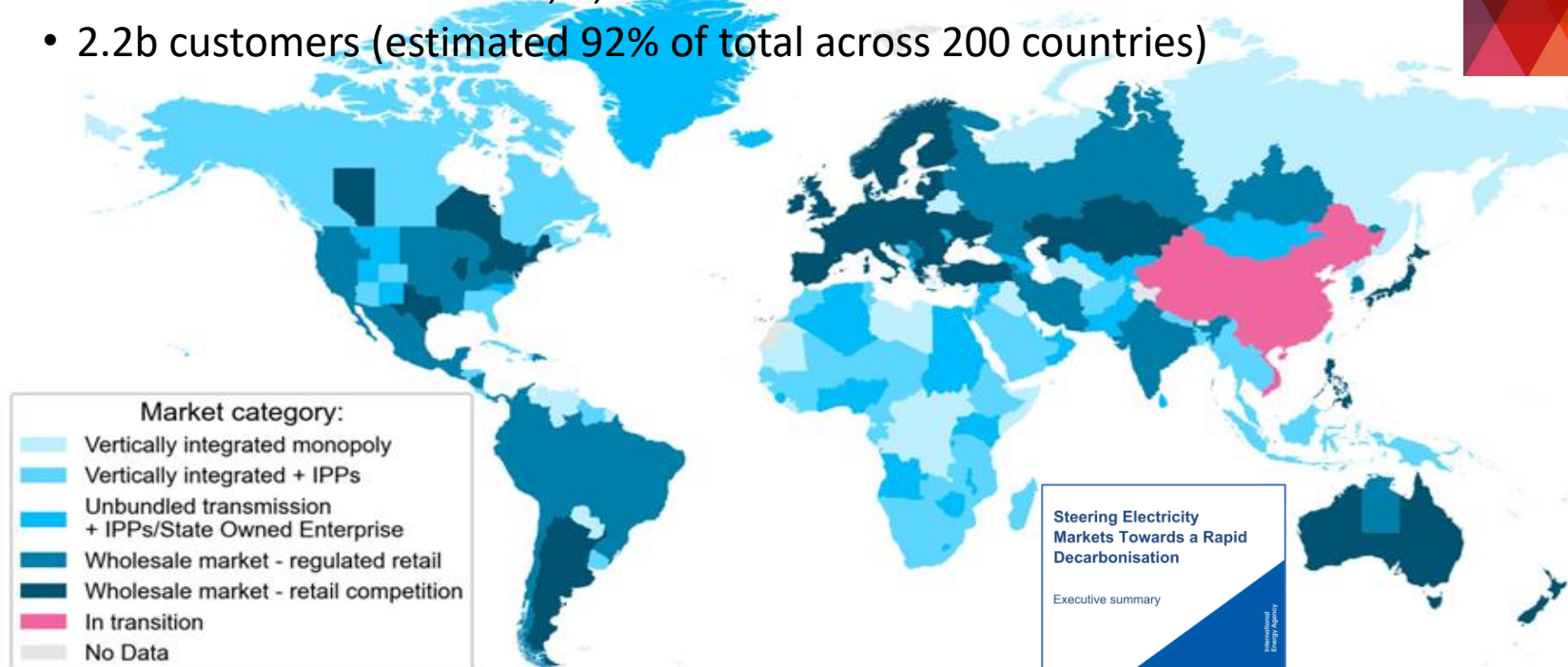
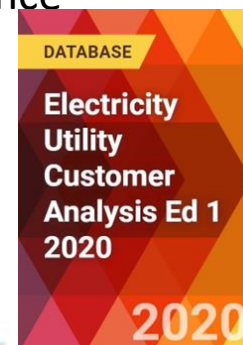
Presentation Topic:

SDGs, NDCs and the role of electricity sector in achieving them



Electricity utilities around the world

- Near universal electricity industry arrangement for more than 100 years
 - Provision of essential services/infrastructure, contribution to social and economic welfare, natural 'wires' monopoly, economies of scale in engineering, finance
 - More market based arrangements over past 30 years in some jurisdictions
- Estimated 900 electricity tx utilities, 7200 dx utilities globally
 - 38 utilities > 10m customers, 41 with 5-10m customers, 237 with 1-5m customers, 6,865 < 1m customers
 - 2.2b customers (estimated 92% of total across 200 countries)

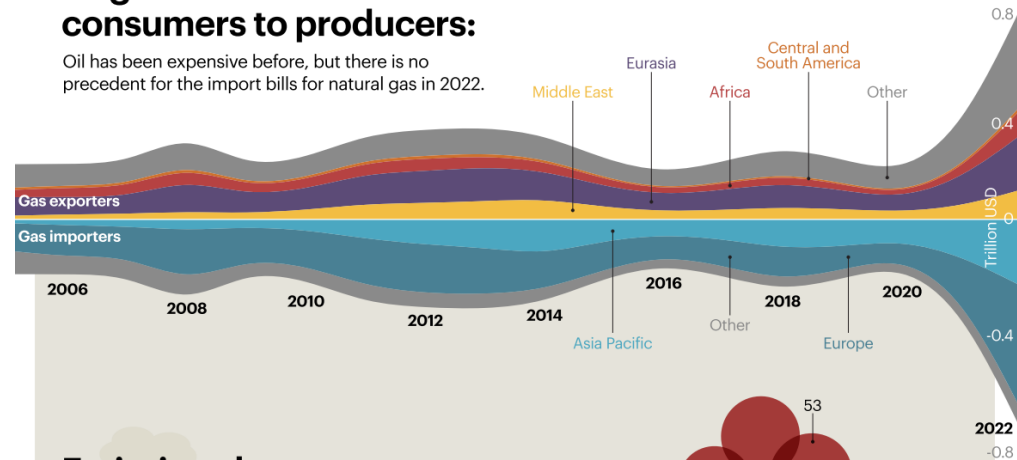


Three global energy crises to navigate

- Recent unprecedented gas + coal prices, high + volatile oil prices
- Enormous wealth transfers, adverse impacts on societal progress in developing + emerging economies, recession risks in industrialised nations
- Growing climate change impacts, inadequate efforts to date avoid dangerous warming

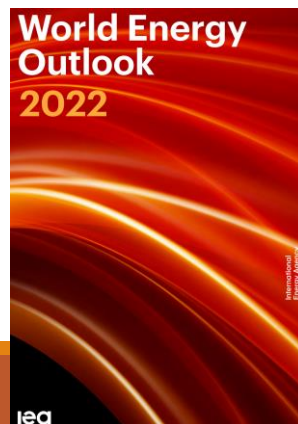
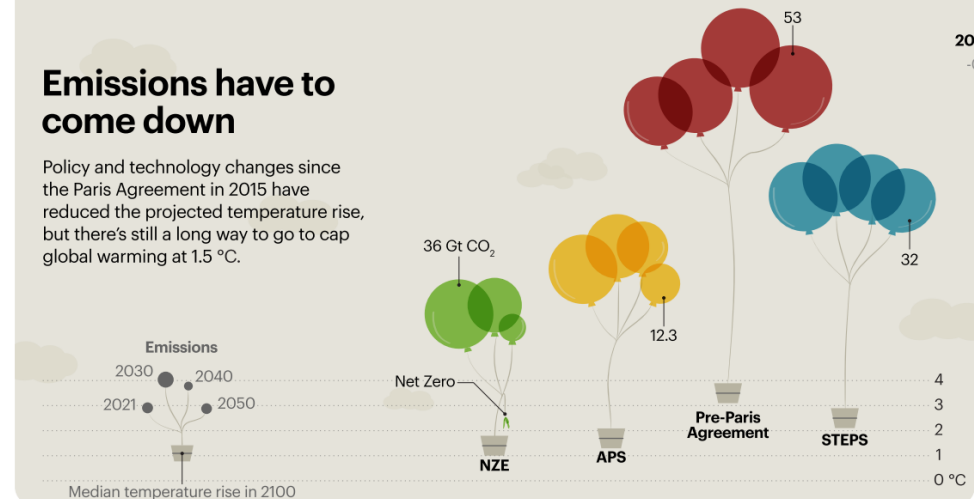
Huge transfers from consumers to producers:

Oil has been expensive before, but there is no precedent for the import bills for natural gas in 2022.



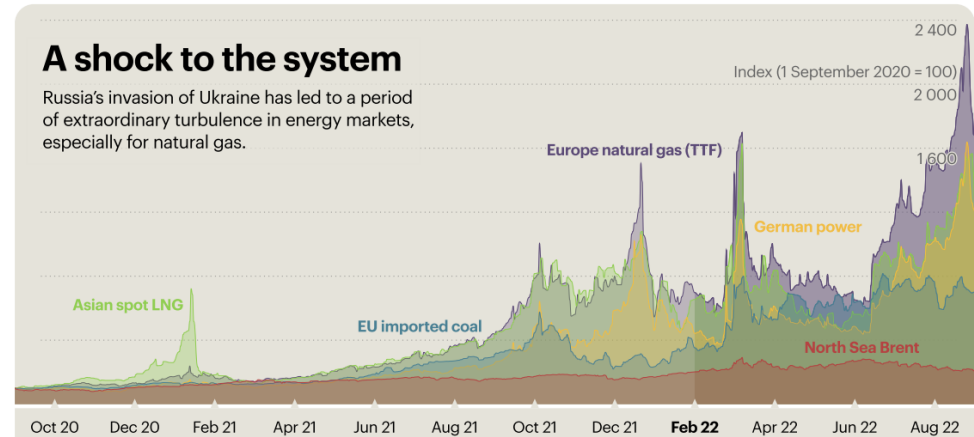
Emissions have to come down

Policy and technology changes since the Paris Agreement in 2015 have reduced the projected temperature rise, but there's still a long way to go to cap global warming at 1.5 °C.



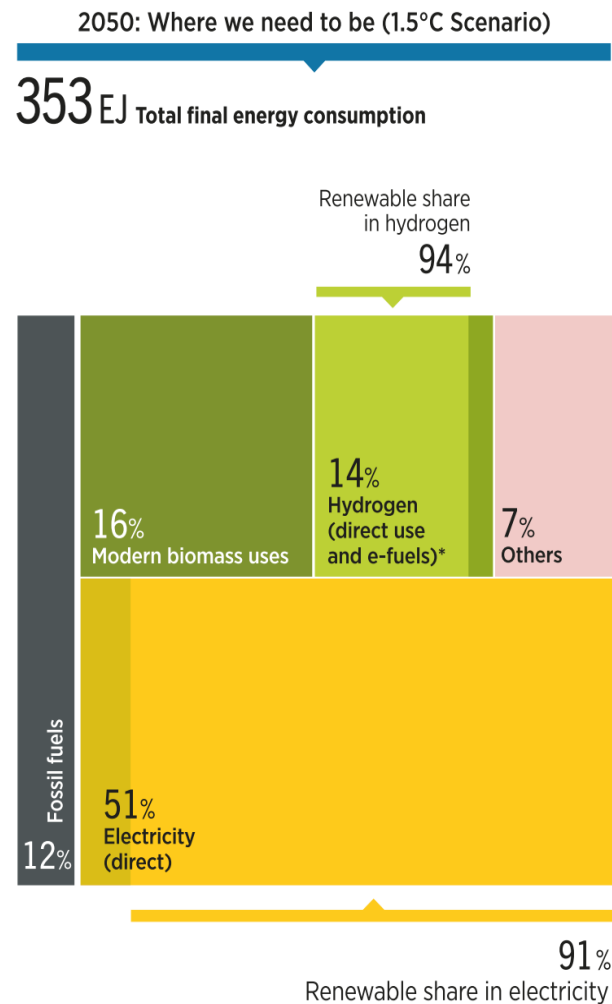
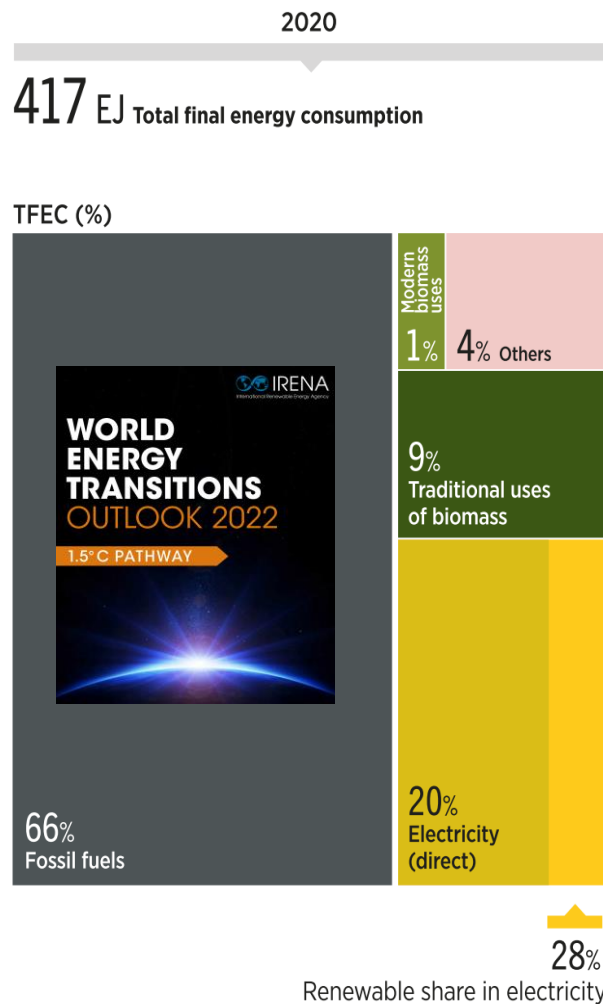
A shock to the system

Russia's invasion of Ukraine has led to a period of extraordinary turbulence in energy markets, especially for natural gas.



General agreement on desirable global energy pathways but also uncertainties

- Electrification of current non-energy sectors
- Greatly expanded, mostly renewables electricity sectors
- Key uncertainties – what role for fossil fuels, biomass, hydrogen



What role must electricity utilities play in achieving our clean energy and climate goals?

Deploy and integrate renewable energy

expand electricity provision to supply a growing range of economic sectors currently not supplied through electricity sector, including transport

Do this quickly and wisely, ensuring affordability, security as well as environmental outcomes



Pacific Country/ Territory	Utility
ASPA	American Samoa
CPUC	Fed. Staes of Micronesia (FSM)
CUC	Commonwealth of Northern Marianas
EDT	French Polynesia
EEC	New Caladonia
EEWF	Wallis & Futuna
ENERCA	New Caladonia
EPC	Samoa
EFL	Fiji
GPA	Guam
KAJUR	Marshall Islands (RMI)
KUA	Fed. States of Micronesia (FSM)
MEC	Marshall Islands (RMI)
NPC	Niue
NUC	Nauru
PPL	Papua New Guinea (PNG)
PPUC	Palau
PUB	Kiribati
PUC	Fed. States of Micronesia (FSM)
SCE	Santa Catalina Island
SP	Solomon Islands
TAU	Cook Islands
TEC	Tuvalu
TPL	Tonga
UNELCO	Vanuatu
YEPSC	Fed. States of Micronesia (FSM)

Pacific Island Countries and Territories electricity utilities

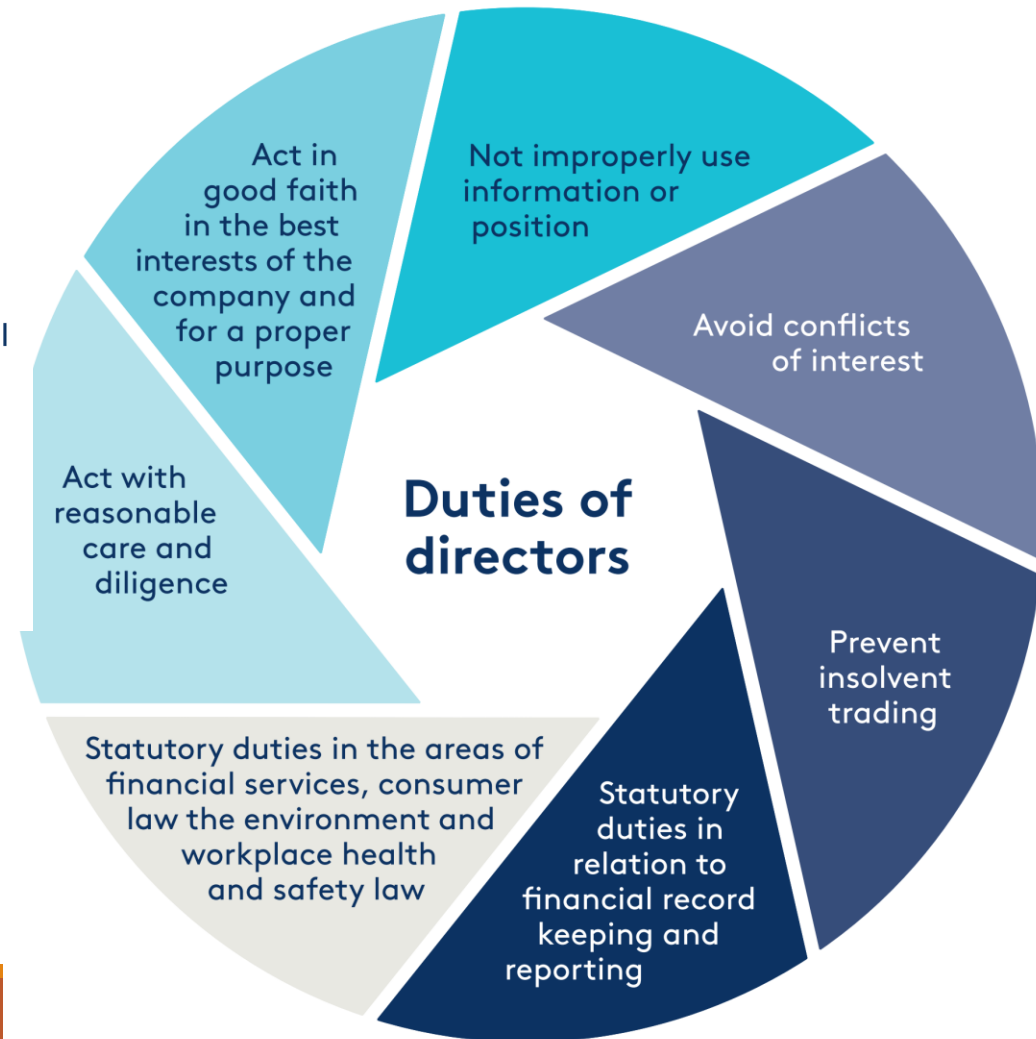
Utilities	Peak Demand (for largest Grid)	Size Category	Smaller Grids Serviced	Total Annual Energy Produced (MWH)	Renewable Energy Contribution (%)
ASPA	25.00	medium	Yes	173,582	2.3%
CPUC	2.97	small	Yes	16,894	5.1%
EEC	86.49	large	Yes	490,011	12.0%
EPC	29.99	medium	Yes	192,410	44.4%
EFL	180.22	Large	Yes	977,150	64.2%
GPA	247.00	large	Yes	1,686,618	3.0%
KUA	1.29	small	No	6,927	3.2%
MEC	9.40	medium	Yes	65,141	0.8%
NUC	5.75	medium	No	39,151	7.7%
PPL	131.40	large	Yes	1,500,704	44.7%
PPUC	11.50	medium	Yes	86,239	2.0%
PUB	5.60	medium	No	32,993	6.8%
PUC	6.15	medium	No	37,482	4.1%
SCE	5.60	medium	Yes	27,418	0.0%
SP	15.91	medium	Yes	98,950	1.7%
TAU	5.53	medium	No	31,207	13.7%
TEC	1.42	small	Yes	9,649	15.7%
TPL	11.49	medium	Yes	76,016	11.8%
UNELCO	13.20	medium	Yes	59,736	14.7%
YEPSC	1.90	small	Yes	10,646	19.5%
Total				5,618,924	17.10%

Board directors

Boards of directors are responsible for the overall governance and strategic direction of an organisation. They provide “overall superintendence”¹ of a company, overseeing both performance and compliance in accordance with the organisation’s purpose and objectives.

In practice, the duty requires each director to:

- become familiar (and maintain familiarity) with the fundamentals of the business or businesses of the organisation;
- stay informed and make appropriate inquiries about the organisation’s activities;
- monitor, generally, the organisation’s affairs and policies;
- maintain familiarity with the organisation’s financial status by appropriate means, including review of its financial statements and board papers and make further inquiries into matters revealed by those documents where appropriate;⁴ and
- have an informed opinion of the organisation’s financial capacity and solvency.



Electricity utility objectives – *legislated, organisational Board requirements*



About Us

[Meet the Board](#) | [Executive Management](#) | [Acts & Regulation](#) | [Annual Reports](#) | [Partner Agencies](#) | [Overview of the Company](#)

Meet the Board

- [Role of the Board](#)
- [Directors' Duties](#)
- [Statutory Duties of the Board](#)
- [Here is the Current Board of Directors](#)

Role of the Board

As required by Section 6 (4) of the State Owned Enterprises Act 2007, the Board is responsible for charting the Company's strategic direction, for the setting of objectives, policy guidelines, goals management, and for monitoring the achievement of these matters.

The Board is also responsible for reviewing the Business Plan, Corporate Plan and Statement of Corporate Intent, and approves Operating and Capital Budgets each year. The Board also reviews matters of a major or unusual nature, which are not in the ordinary course of business.

Directors' Duties

The role and duties of the Directors are defined in regulations 17 to 27 of the SOE Regulations, 2010. A key responsibility of the Directors is to achieve the principal objective of the Authority, as stated in Section 5 of the SOE Act: The principal objective of every State Owned Enterprise shall be to operate as a successful business and to this end, to be

- As profitable and efficient as comparable businesses that are not owned by the Crown or established as statutory bodies by an Act of Parliament,
- A good employer, and
- An organization that exhibits a sense of social responsibility by having regard to the interests of the community in which it operates.

Statutory Duties of the Board

In addition to the above duties, the Board of Directors of SIEA collectively and individually have agreed on the fulfillment of the following duties toward the company:

- When exercising powers or performing duties, Directors must act in good faith and in what the Director believes to be the best interests of the State Owned Enterprise.
- A Director of a State Owned Enterprise, when exercising a power as Director, must exercise that power for a proper purpose.
- A Director of a SOE must not:
 - Agree to the business of the SOE being carried out on or in a manner likely to create a substantial risk of serious loss to the SOE creditors or,
 - Cause or allow the business of a SOE to be carried out on or in a manner likely to create substantial risk of loss to the SOE creditors.
- A Director must not agree to the SOE incurring an obligation unless the Director believes at the time, on reasonable grounds, that the SOE will be able to perform the obligation when it is required to do so.
- A Director of a SOE, when exercising powers or performing duties, must exercise the care, diligence, and skills that a reasonable Director would exercise in the same circumstances.
- Another controlling measure imposed on Directors is the requirement to enter any conflict of interest in an interests register.

Cook Islands

ABOUT US

Our Vision

“EMPOWERING THE COMMUNITY THROUGH SUSTAINABLE AND INNOVATIVE ENERGY SOLUTIONS”

Our Mission

“TO GUARD AND PROTECT THE ENERGY SECURITY THE COMMUNITY HAS ENJOYED FOR MORE THAN THREE DECADES,

We are, and will remain, grid-focused, providing stability and reliability for both producers and consumers of energy, both in good times and in bad. We will do this by continuing to strengthen our operations and improve our resourcing.

WHILE WORKING TO EMBRACE NEW TECHNOLOGIES THAT DELIVER COST SAVINGS AND BENEFITS TO OUR CONSUMERS AND, IN DOING SO,

We will continue to seek innovative solutions to the evolving energy needs. We will do this by drawing on experience and knowledge from around the world. However, as a state-owned entity, answerable to the people, we will consult with our customers to make sure our solutions are responsive and are appropriate for the circumstances and conditions. We recognise that the country's economy depends heavily on economic activity on the island of Rarotonga. We take seriously our role in securing present and ongoing energy security regarding reliability and affordability.

HELP THE COOK ISLANDS MEET ITS INTERNATIONAL COMMITMENTS TO ACHIEVE NET ZERO EMISSIONS”

We understand that as a state-owned entity, we are answerable to Government in terms of alignment with its national and international priorities and commitments, towards reducing our carbon footprint as well as supporting Government initiatives.

Note: This was revised and approved as of 8 March 2023

Palau



Palau Public Utilities Corporation

Today's Conservation is Tomorrow's Prosperity

DID YOU KNOW

Household leaks not only drive up your water bill, but also causes damage to property and impacts public water supplies.

[Click here for more information](#)

PPUC is pleased to introduce E-Billing. Please sign up now by completing the [Application/Agreement](#).

About Us

The Palau Public Utilities Corporation (PPUC) is a public corporation established to manage and operate the electrical power and the water and wastewater systems of the Republic of Palau.

Comprised of seven board members appointed by the President with the advice and consent of Senate, the board of directors leads the affairs and exercises the corporate powers of PPUC.

The board of directors appoints a Chief Executive Officer with proven ability and skills in the operation of finances, personnel, and management of a utility company. The CEO is responsible to take charge of and control the operation and maintenance of the daily affairs and facilities of PPUC.

As the sole energy and water provider for the Republic of Palau, the Palau Public Utilities Corporation (PPUC) embraces a new era for our islands.

Less than a decade ago, the villages in Babeldaob and the outer states of the Republic had limited hours of electricity and water. As the integration of technology into Palauan society increased the demand for the electricity and water, PPUC invested millions into the utilities infrastructure, providing access to electricity and water and 24-hour service to Palauan communities from Kayangel State all the way to Angaur State. As the local population continues to spread throughout Babeldaob, PPUC must continue to increase the utilities infrastructure to accommodate the demand. As continued reliability of service to our customers remains a priority, quick response to emergencies lessens the inconvenience of power and water outages.

Moreover, PPUC recognizes the importance of conservation. As Palau is an island nation whose economic and social well-being is reliant on a sustainable way of life, we encourage our customers to conserve energy and water whenever possible. Innovation today, for a cleaner tomorrow, PPUC will soon begin to research and implement alternative renewable and cost efficient energy sources, such as solar and hydro power, and thereby reflecting the savings back to our customers. Additionally, PPUC has begun researching on ways to provide cost effective clean water for all its customers.

Adhering to our open door policy, we welcome your comments, suggestions and feedback, so that we may better serve you as Palau's utilities provider.

Pohnpei Utilities Corporation (PUC) is established as a public corporation or an autonomous state enterprise. It was originally created on February 14, 1991, by Pohnpei State Law 2L-179-91. The original law granted the Corporation with functions and responsibilities to promote the development and improvement of the power (energy) facility and services to the State of Pohnpei. The law was further amended in 1993 with the functions and responsibility to include in the mandate of the Corporation to own, operate and maintain the Pohnpei State Central (Kolonja) Water Supply System and Sewerage System.

The affairs of the Corporation are managed by a seven-member Board, appointed by the Governor to four-year terms. Daily operations of the Corporation are delegated to a General Manager/CEO, who is selected by the Board of Directors. During its 27-years existence, the Pohnpei Utilities Corporation has made a major contribution to the economic development of Pohnpei State, through the power, water, and wastewater services. The utility services of the PUC play a crucial role in the economic development of the state of Pohnpei. The PUC is in need to provide an analysis of its utilities operating environment, its internal strengths and weaknesses and, in the context of these analysis, to formulate a plan of action to enable the Corporation to be more effective in coping with the increasing challenges of being a self-financing corporation while continuing to fulfill its main function of improving and providing the utility services for Pohnpei.

Vision: Dedicate to Provide Efficient, Reliable, Accessible and Cost Effective Utility Services to Improve and Sustain the Quality of Life in Pohnpei

Mission: PUC will maximize renewable energies for power generation and lower our CO2 emissions, clean water and an environmental steward through our wastewater system to improve the quality of lives and the economy of Pohnpei State.

Goal: Within the next five (5) years, the following will be achieved:

1. Reduces the financial losses to zero by 2022.
2. The Nahnpolmal Power plant is fully functional with 10MW of diesel generators;
3. Five (5) MW of renewable energy to be installed being providing 50% of Pohnpei's installed diesel capacity;
4. PUC waterlines are extended to add 200 more water customers;
5. 3000 pre-paid cash water meters are installed;
6. Increased internal savings in the amount of \$200,000.00 annually.
7. Appraise the tariff for power and water and created tariff for Wastewater to pay for it's the sewer loan, O&M and to extend the water & sewer services in Pohnpei
8. Minimum 10% fuel reduction.





About CUC

Commonwealth Utilities Corporation

The Commonwealth Utilities Corporation (CUC) is a state government corporation that operates the electric power, water and wastewater services on the three main islands of the Commonwealth of the Northern Mariana Islands (CNMI) --- Saipan, Tinian, and Rota. The CNMI is one of five U.S. territories (which include Puerto Rico, U.S. Virgin Islands, Guam, and American Samoa). CUC is an autonomous agency of the CNMI government. As an autonomous agency, the CUC has an independent Board of Directors, who are appointed by the Governor, whose members serve a concurrent four-year term.

Through a transition period between U.S. Trust Territory management and after the ratification of the CNMI Covenant, in 1975, the CNMI enacted legislation creating CUC. Due to a number of delays in actual implementation, the CUC did not take over operations until October 1987, which up to that time operated under the Department of Public Works. In the Special Representatives Agreement negotiated between the governments of the CNMI and the United States in July 1985, the CNMI government agreed that utility systems would operate on a full cost recovery basis within three years after passage of the enabling legislation. To date, CUC has yet to achieve full cost recovery.



Locales of Responsibility

There are 14 islands within the CNMI. CUC is responsible for providing power, water and sewer services to the three main islands of Saipan, Tinian, and Rota. Presently, Saipan is the only island where CUC provides wastewater treatment services.

Vision

The Commonwealth Utilities Corporation's vision is to be the preeminent, trusted power, water, and wastewater utility.

Through team and continuous quality improvement:

- To improve the customer's quality of service experience for all three utilities.
 - Provide efficient, reliable power that incorporates both new diesel and alternative power supply sources.
 - For customers to experience safe and palatable drinking water at the tap once we achieve 30% Non-Revenue Water.
 - Protect water quality of Saipan's shores with rebuilt, well-maintained wastewater treatment and reuse facilities, which will include new collection and treatment systems in Rota and Tinian.
- Provide excellent customer service.
- Provide high-value services at affordable rates for all utilities.
- Protect and enhance the environment.
- Deliver value to all our stakeholders.

Mission Statement

The Commonwealth Utilities Corporation is dedicated to excellent customer service and providing reliable, environmentally sensitive and effective Power, Water and Wastewater services for the people of the CNMI at the lowest reasonable cost while ensuring the safety of our employees and the community.

Values

Core values that are tied to work performance, commitment to professionalism, practiced daily, promoted without compromise and communicated through action:

- **Safety:** Assuring every employee is trained, has the tools to perform, understands their role
- **Respect:** Treating everyone fairly, honorably, and non-judgmentally
- **Teamwork:** Sharing a common vision, looking out for each other, operating transparently and working together as one team toward common goals
- **Excellence:** Striving to provide quality services to our customers by producing a high value product and consistently meeting our production targets
- **Accountability:** Being a responsible steward of critical services, long-lived infrastructure, and protector of a well-meaning and well-trained pool of professional employees
- **Integrity:** Accountable for our actions, ethical and transparent, honest in everything we do
- **Communication:** Open and transparent communication at all levels of the organization that is constructive and distributed out to our customers, Board, business partners and the community at large

Electricity utility objectives – reflecting *government priorities*

1. Noted the severe impacts of the COVID-19 pandemic on the planning and delivery of national energy initiatives and the eventual achievement of national energy targets.
2. Recognised the slow progress of implementation of NDC initiatives in the PICTs. Donors and development partners are urged to support the implementation of NDC commitments.
3. Noted with concern the current high prices of fossil fuel and its impacts on the power tariff and the flow-on effects to the fragile island economies.
4. Concerned about the current high prices of fossil fuel and re-emphasised the need for regional back-up assistance for petroleum services. Reaffirming the Ministers' decision in 2019 in recognising the need to strengthen the regional petroleum advisory service at SPC. In response to the high fuel price, some countries are requesting for power tariff review.
5. Acknowledged the progress made by PICTs in developing, finalising and implementing their climate change mitigation and energy-related roadmaps, strategies, policies and legislations. The meeting recognised the development partners who assisted the countries in this regard.
6. Noted the request by PICTs for development partners to support relevant capacity development initiatives for national energy offices, regulators, power utilities and the private sector.
7. Noted the progress made by the countries, in collaboration with partners, in installing additional renewable energy capacities and the increasing role of IPPs in accelerating this development.
8. Noted the current emphasis to decarbonise the power sector and the priorities highlighted by the countries to urgently decarbonise the transport sector, in particular land and maritime transport.
9. Acknowledged the need for innovative financing mechanisms and to strengthen and incentivise Private-Public-Partnerships to accelerate the energy transition in the region.
10. Emphasised the need to implement gender mainstreaming initiatives in the energy sector, including clean cooking.
11. Recognised the financial and technical issues relating to the sustainability of rural electrification (e.g. solar home systems, solar freezers and mini grids) and called for the necessary steps to rectify these issues.

2022 PACIFIC ENERGY OFFICIALS MEETING

5-7 July 2022

Virtual Meeting

Meeting Outcomes

The 2022 Pacific Energy Officials Meeting was held virtually on 5-7 July 2022 and hosted by the Government of Vanuatu. The opening address was delivered by Mr Abraham Nasak, Acting Director General of the Ministry of Climate Change in Vanuatu.

12. Recognised green hydrogen as a potential energy option for the future in the Pacific and the need for PICTs to learn from development partners that are leading the research and development on green hydrogen.
13. Recalled the 2019 Ministers outcome statement urging PICTs and development partners to develop other renewable energy sources such as floating solar and ocean energy.
14. Proposed the use of robust design and internationally recognised renewable energy and energy efficiency standards (hardware and software) in the region, subject to verification by relevant national agencies.
15. Noted the potential for solar rooftop in increasing renewable power generation in the PICTs, particularly for atoll nations. Power utilities and development partners are urged to look into this matter.
16. Supported the need to embrace and accelerate the uptake of clean cooking technologies such as solar cook stove and domestic biogas system, in rural communities.
17. Noted the severity of natural disasters affecting the energy systems that cause significant economic damages and losses and called for concerted actions to strengthen disaster risk management and climate change adaptation of the energy systems of the member countries.

Electricity utility objectives – *Sustainable development goals (SDGs)*

United Nations | Department of Economic and Social Affairs
Sustainable Development

Home | SDG Knowledge | Intergovernmental Processes | HLPF | SDS | Partnerships | Engage | News | About

THE 17 GOALS

169 Targets 3528 Events 1327 Publications 6618 Actions

1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

SUSTAINABLE DEVELOPMENT GOALS
See all

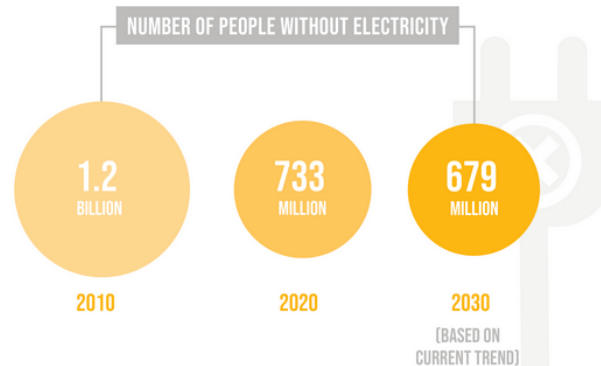


Causes for concern

IMPRESSIVE PROGRESS IN ELECTRIFICATION

HAS SLOWED

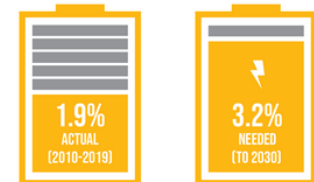
DUE TO THE CHALLENGE OF REACHING
THOSE HARDEST TO REACH



PROGRESS IN ENERGY EFFICIENCY

NEEDS TO SPEED UP
TO ACHIEVE GLOBAL CLIMATE GOALS

ANNUAL ENERGY-INTENSITY IMPROVEMENT RATE

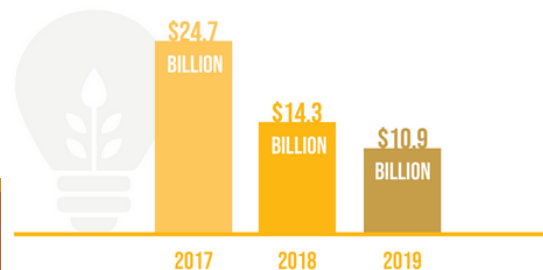


2.4 BILLION PEOPLE



STILL USE INEFFICIENT AND
POLLUTING COOKING SYSTEMS
(2020)

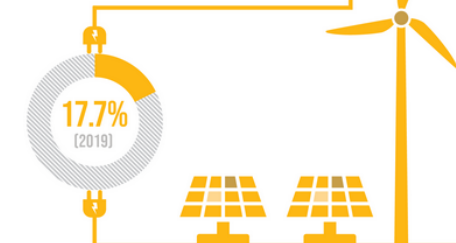
INTERNATIONAL FINANCIAL FLOWS TO
DEVELOPING COUNTRIES FOR RENEWABLES
DECLINED FOR A SECOND YEAR IN A ROW



TOTAL **RENEWABLE ENERGY**
CONSUMPTION INCREASED BY
A QUARTER BETWEEN 2010 AND 2019,



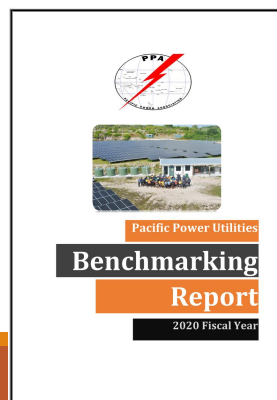
BUT THE SHARE OF RENEWABLES IN TOTAL
FINAL ENERGY CONSUMPTION IS ONLY



Possible measures of governance

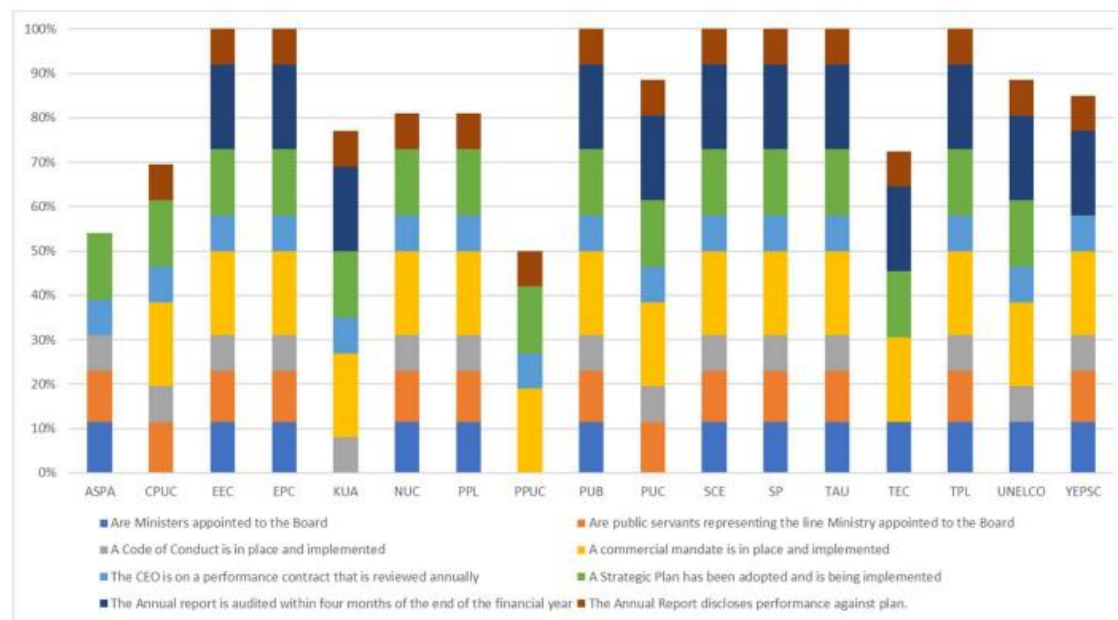
Utilities	Power Quality Standards	Self-Regulated or Externally regulated	Public or Private Ownership
ASPA	Self	Self	Public
CPUC	US	Self	Public
CUC	US	External	Public
EDT	concession contract	External	Private
EEC	EN50160	External	Private
EPC	AUS/NZ	External	Public
EFL	AUS/NZ	External	Public
KAJUR	self	Self	Public
KUA	KUA	Self	Public
MEC	MEC	Self	Public
NUC	AUS/NZ	Self	Public
PPL	AUS/NZ	External	Public
PPUC	JIS, NEC	Self	Public
PUB	Self	Self	Public
PUC	Self	Self	Public
SCE	US	External	Private
SP	Self	Self	Public
TAU	AUS/NZ	External	Public
TEC	AUS/NZ	Self	Public
TPL	Self	External	Public
UNELCO	Concession contract	External	Private
YEPSC	NEC	Self	Public

Workforce Gender Make-up	
Total Employees	5,126
% Male employees	80.3%
% Female employees	19.7%
Total Technical Employees	2,630
% Technical Male employees	95.0%
% technical Female employees	5.0%
Total Management Staff	141
% Management Staff - Male	73.8%
% Management Staff - Female	26.2%



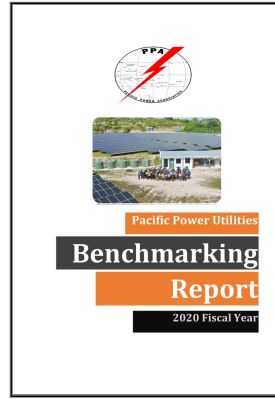
Governance Indicator	Good Governance	Poor Governance	Score
Are Ministers appointed to the Board?	No	Yes	12%
Are Ministers/ public servants representing line/ sector Ministry appointed to the Board?	No	Yes	12%
Is a Code of Conduct in place and implemented?	Yes	No	8%
Is a commercial mandate in place and implemented?	Yes	No	19%
Is the CEO on a performance contract with annual reviews?	Yes	No	8%
Has a Strategic Plan (at least 3 years forecasts) been adopted and implemented?	Yes	No	15%
Is the Annual Report (audited) completed within four months of the end of the reporting year?	Yes	No	19%
Does the Annual Report disclose performance against Plan?	Yes	No	8%
Total Score			100%

Figure 2.1: Composite Governance Score for 2020 FY



Possible measures of utility performance

Conference Theme: *“Supporting Utilities towards Environmental Stewardship, Operational Performance and Financial Stability”.*



5. KPI Results	12
5.1 Introduction	12
5.2 Generation	13
5.2.1 Load Factor	13
5.2.2 Capacity Factor	13
5.2.3 Availability Factor	14
5.2.4 Generation Labour Productivity	15
5.2.5 Specific Fuel Consumption (kwh/Litre)	16
5.2.6 Specific Fuel Consumption (kWh/kg)	17
5.2.7 Specific Lubricating Oil Consumption	17
5.2.8 Forced Outage	18
5.2.9 Planned Outage	19
5.2.10 Generation Operations and Maintenance (O&M) Costs	19
5.2.11 Power Station Usage / Station Auxiliaries	19
5.2.12 IPP Generation	20
5.2.13 Renewable Energy to Grid	20
5.3 Transmission Indicators	22
5.3.1 Transmission (General)	22
5.4 Distribution Indicators	23
5.4.1 Network Delivery Losses	23
5.4.2 Distribution Transformer Utilization	23
5.4.3 Distribution Reliability	24
5.4.4 Customers per Distribution Employee	25
5.4.5 Distribution O & M Expenses	25
5.5 SAIDI and SAIFI	26
5.5.1 System Average Interruption Duration Index (SAIDI)	26
5.5.2 System Average Interruption Frequency Index (SAIFI)	26
5.7.1 Tariff Impact	28
5.7 Financial Indicators	28
Conducting tariff analysis of Pacific utilities is highly complex due to the different tariff schedules and structures. This section therefore compares the impact of the tariff schedule applied to customers of various categories.	28
5.7.4 Utility Cost Breakdown	29
5.7.5 Debt to Equity Ratio	30
5.7.6 Return on Assets	30
5.7.7 Return on Equity	31
5.7.8 Current Ratio	31
5.7.9 Operating Ratio	31
5.7.10 Debtor Days	32
5.8 Human Resources & Safety Indicators	33
5.8.1 Lost Time Injury Duration Rate	33
5.8.2 Lost Time Injury Frequency Rate	33
5.8.3 Overall Labour Productivity	34
5.9 Overall Composite Indicator	34



Introductions

- What keeps you **busy** at work?
- What **challenges** keep you up at night?
- What is a key **question** do you have for regional Utility Board Director colleagues?
- What **advice** do you have for regional Utility Board Director colleagues?