

**Pacific High-level Policy Dialogue on
“The Role of Macroeconomic Policy and Energy Security in supporting
Sustainable Development in the Pacific”**

8-9 October 2012, Nadi, Fiji

**Jointly organized by
UN ESCAP and Sustainable Development Working Group of the Council of Regional
Organizations in the Pacific (CROP)**

Session 2 – Enhancing Energy Security for Sustainable Development

Presentation

Energy Security Situation of Forum Island Countries

by
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October 2012



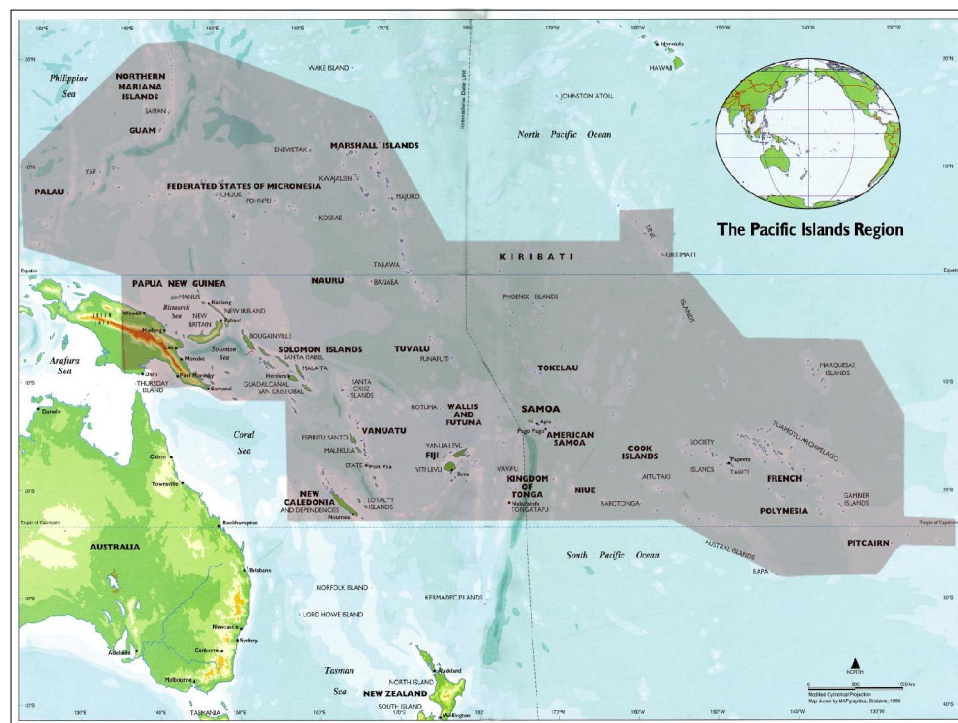
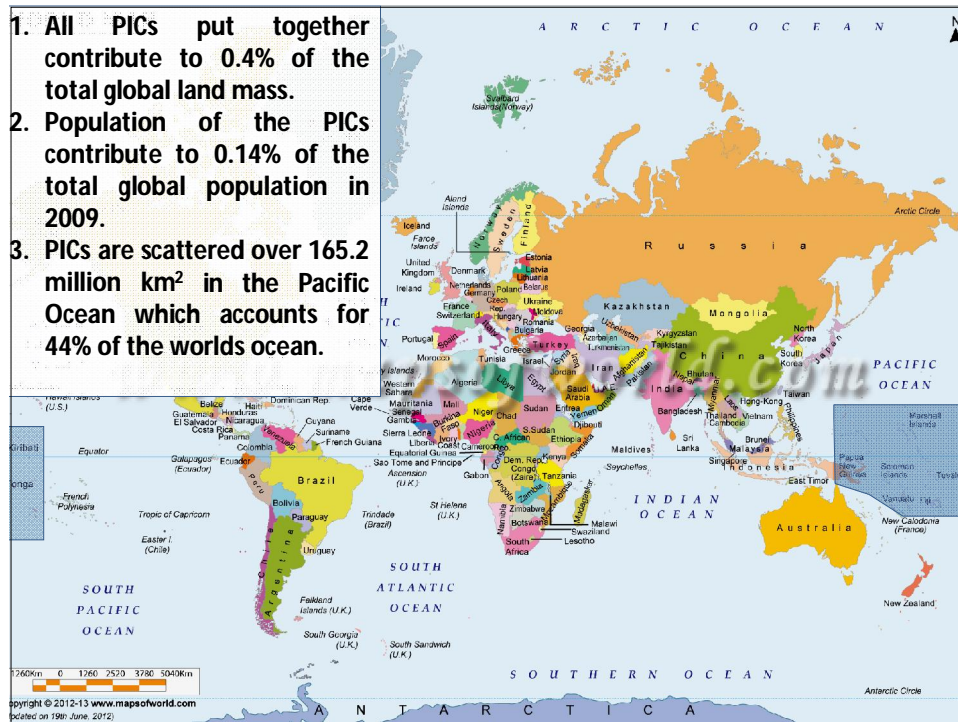
Energy Security Situation of Forum Island Countries

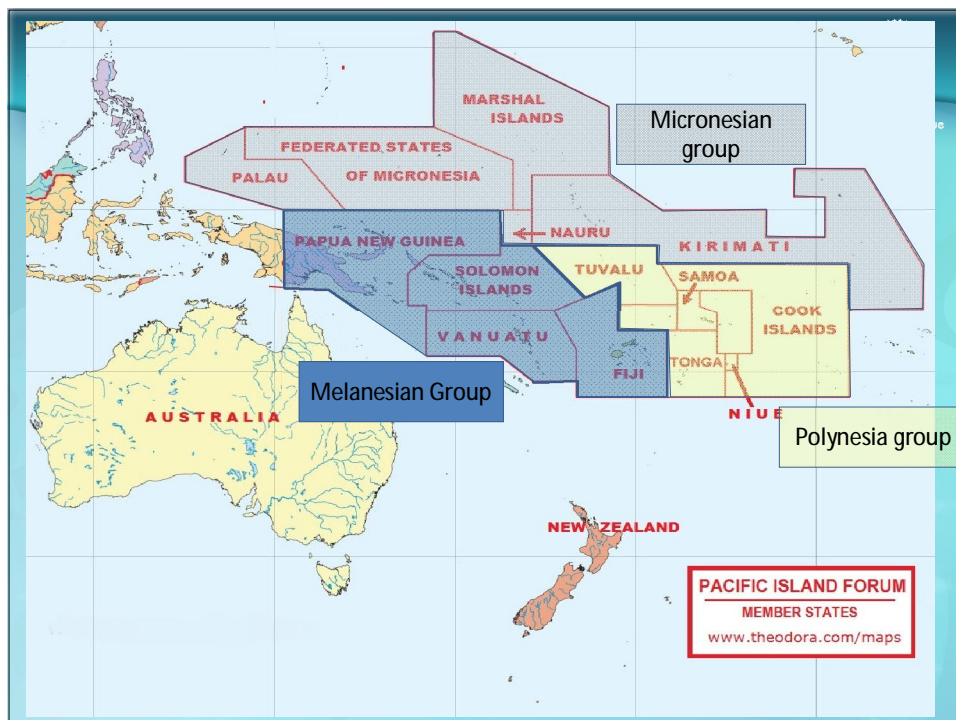
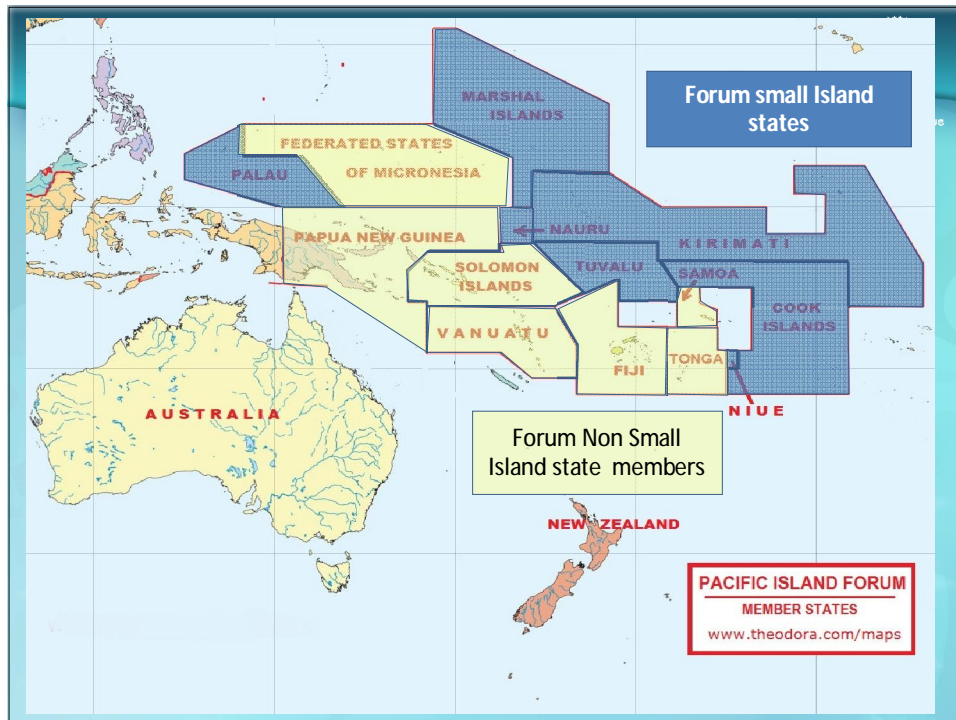
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Outline of Presentation

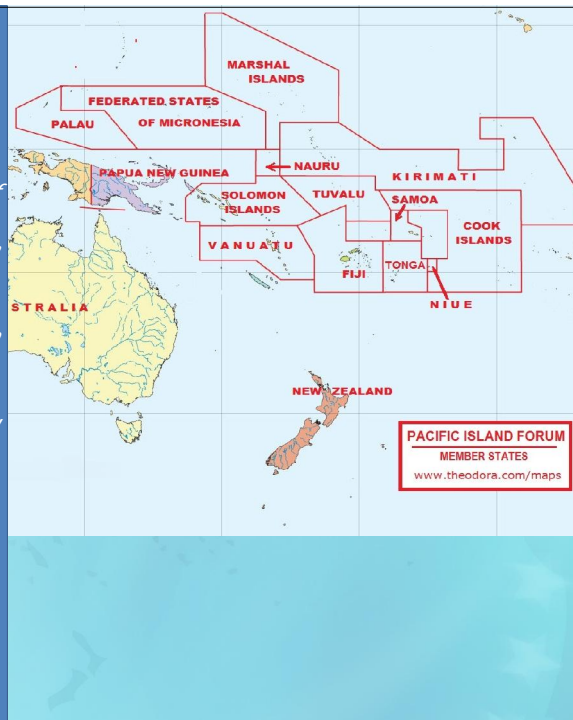
- q Background
- q Framework for Action on Energy Security in the Pacific (FAESP)
- q Energy Security Indicator Development
- q Data collection and analysis



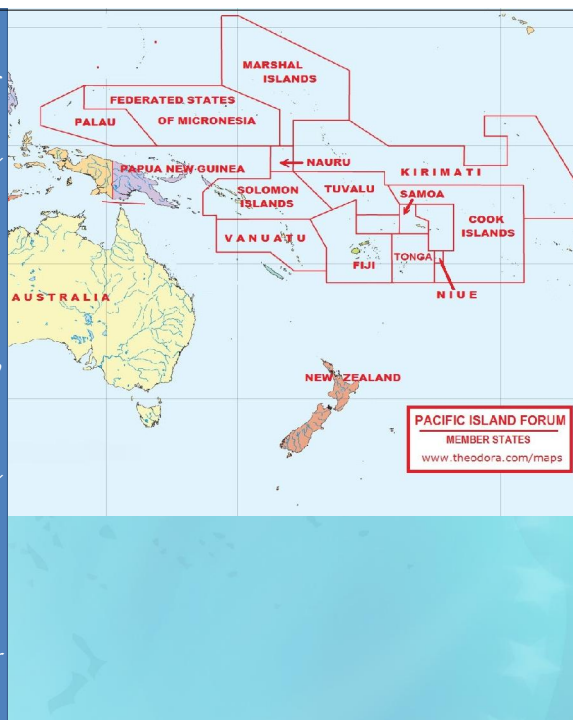


14 Forum Island countries:

- Made up of over 3000 islands of which around 21% is inhabited.
 - Solomon Islands - around a 1000 islands
 - Nauru & Niue – 1 Island
- Temperature ranges from 23°C to 29°C.
- Max Height above sea level - 4697m in PNG to around 3m Tuvalu and RMI.
- Tot compiled GDP = \$13.4 billion
 - PNG - \$7.9 billion (highest)
 - Niue – 16.2 million (lowest)

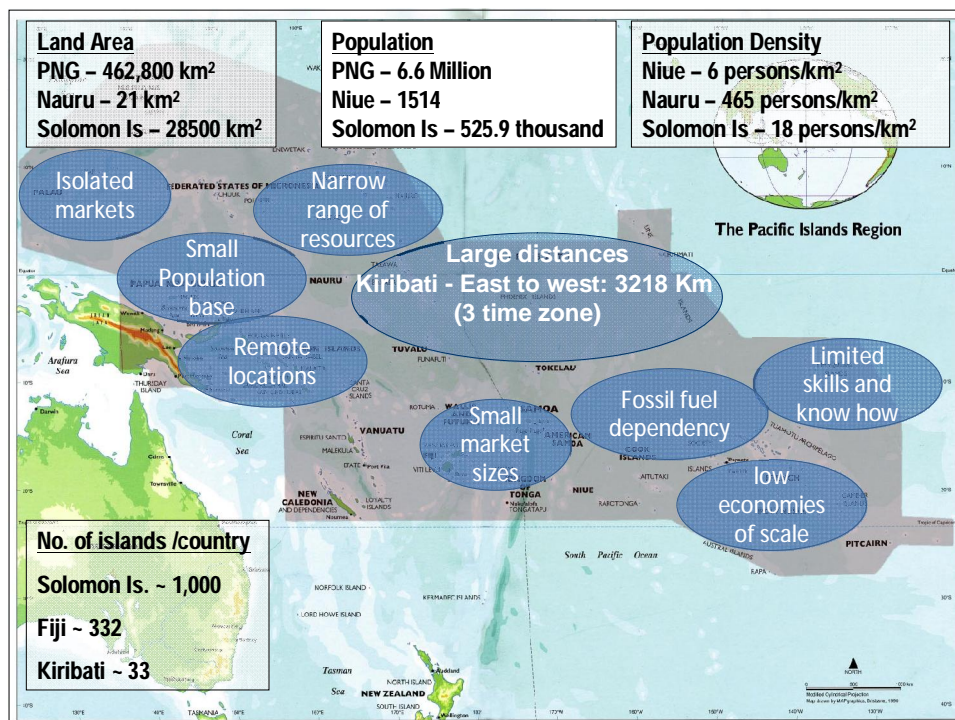


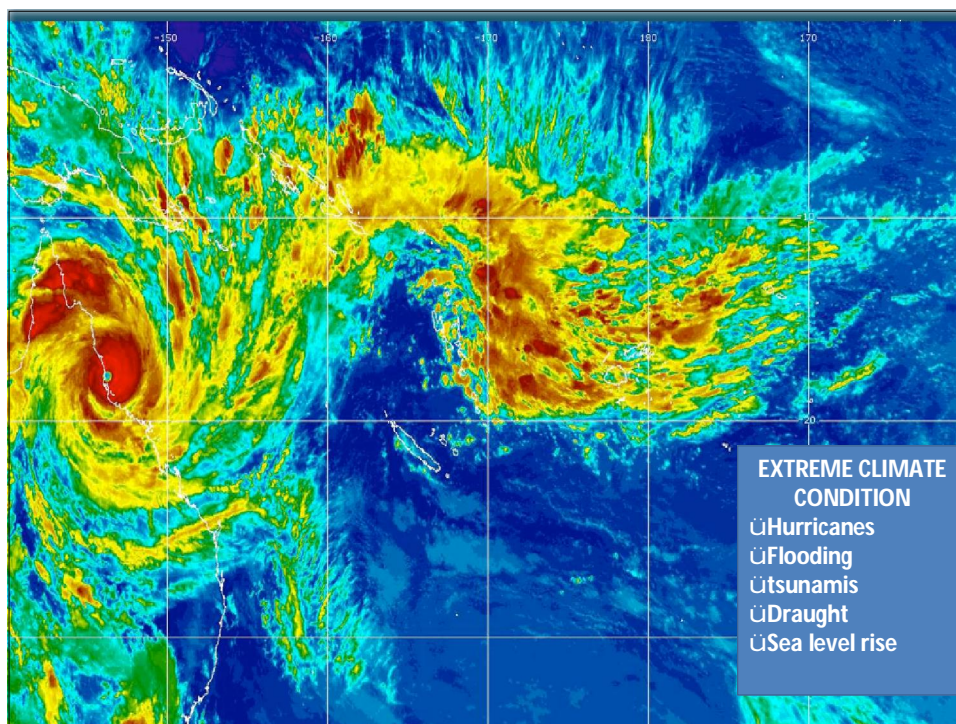
- Tot Pop in 2009 = 8.8 million
 - 91% of the tot PICs Population.
 - 51% male
 - Melanesian countries – 93% (PNG accounting for 75%)
 - Polynesian countries - 4%
 - Micronesian countries – 3%
- Tot H/hold – 1.73 million
 - Average H/hold size = 5
 - Average Urban h/hold share roughly = 16.7%
- Tot Land Area = 528,092 km²
 - Melanesian countries – 98.8% (PNG accounting for 88%)
 - Polynesian countries - 0.8%
 - Micronesian countries – 0.4%
- EEZ = 20.3 million km²
 - PICs land mass account for 2.6% of total EEZ Area





THE CHALLENGES WE FACE IN THE REGION





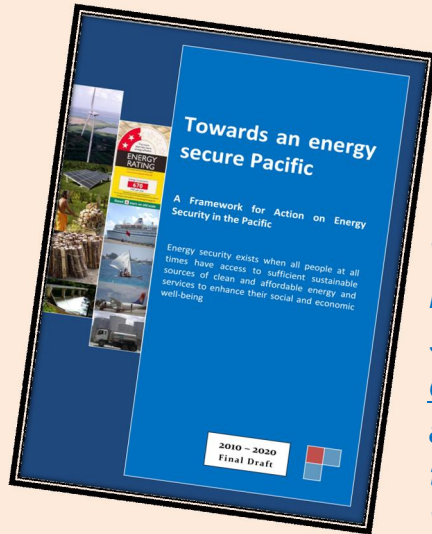
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SPC REGIONAL ENERGY PROGRAMME
Economic Development Division

GUIDING DOCUMENT

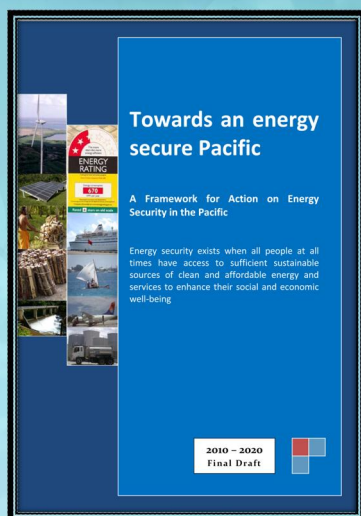
Framework for Action on Energy Security in the Pacific



“Energy security exists when all people at all times have access to sufficient sustainable sources of clean and affordable energy and services to enhance their social and economic well-being”



- The Framework is designed to **provide guidance** to PICTs to enhance their national efforts to achieve energy security and, in line with the principles of the Pacific Plan, **to clarify** how regional services can assist countries to develop and implement their national plans.

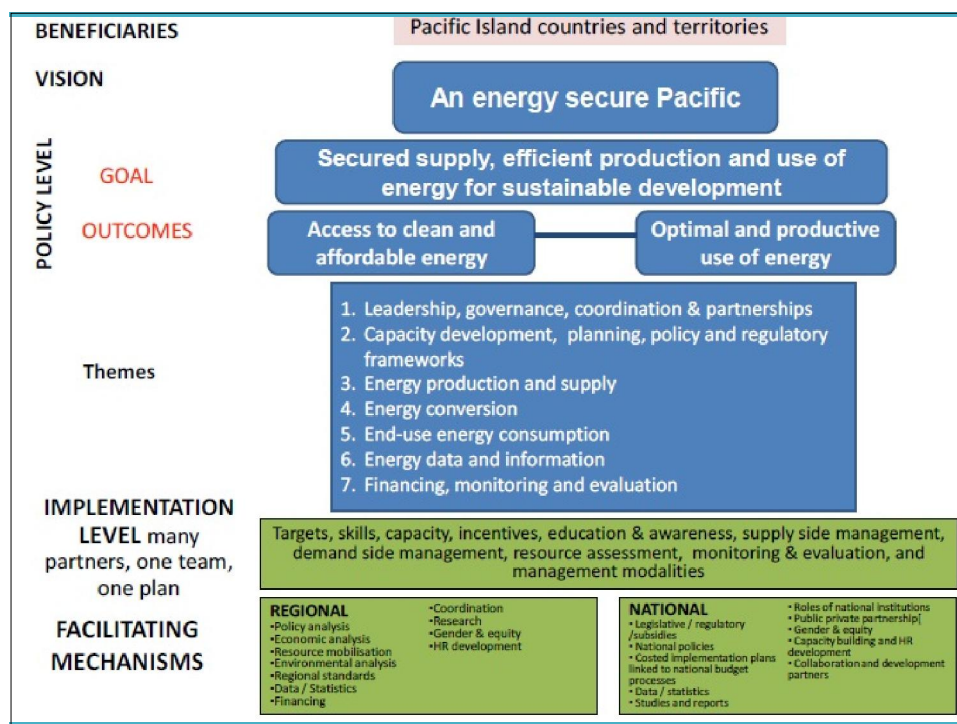


Key elements of energy Security

1. Accessibility
2. Affordability
3. Efficiency and productivity
4. Environmental Quality



MODEL FOR ENERGY SECURITY IN THE PACIFIC



Baseline indicators must be developed

Pacific Island countries and territories

An energy secure Pacific

Secured supply, efficient production and use of energy for sustainable development

Access to clean and affordable energy

Optimal and productive use of energy

1. Leadership, governance, coordination & partnerships
2. Capacity development, planning, policy and regulatory frameworks
3. Energy production and supply
4. Energy conversion
5. End-use energy consumption
6. Energy data and information
7. Financing, monitoring and evaluation

Macro Economic Indicators:

1. Access / Reliability
2. Cost effective / Affordability
3. Quality / Cleanliness
4. Productive Use / Efficiency & Value

Macro Indicator

1. Leadership, governance, coordination and partnerships
2. Capacity development, planning, policy and regulatory frameworks

6. Energy data and information
7. Financing, monitoring and evaluation

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Application of FAESP

IPESP Implementation Plan 2010 - 2015

IPESP Implementation Plan 2010 - 2015									
Key Results	Targeted Activities	Indicators	2010	2011	2012	2013	2014	2015	Total
Regional energy security	Develop and implement a regional energy security plan	Regional energy security index							
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FAESP Baseline Security Indicators

KIRIBATI ENERGY SECURITY INDICATORS 2009 (DRAFT)					
No	Indicator	Unit	Description	Data Source	Formula
1	Access to Energy	47% access	Ratio of total population with access to electricity	2009 Census Report	$\frac{\text{Population with access to electricity}}{\text{Total Population}} \times 100$
2	Access to Modern Energy	42%	Ratio of total population with access to modern energy	2009 Census Report	$\frac{\text{Population with access to modern energy}}{\text{Total Population}} \times 100$
3	Access to Modern Energy	42%	Ratio of total population with access to modern energy	2009 Census Report	$\frac{\text{Population with access to modern energy}}{\text{Total Population}} \times 100$
4	Access to Modern Energy	42%	Ratio of total population with access to modern energy	2009 Census Report	$\frac{\text{Population with access to modern energy}}{\text{Total Population}} \times 100$



WHERE WE STAND TODAY IN TERMS OF ENERGY SECURITY

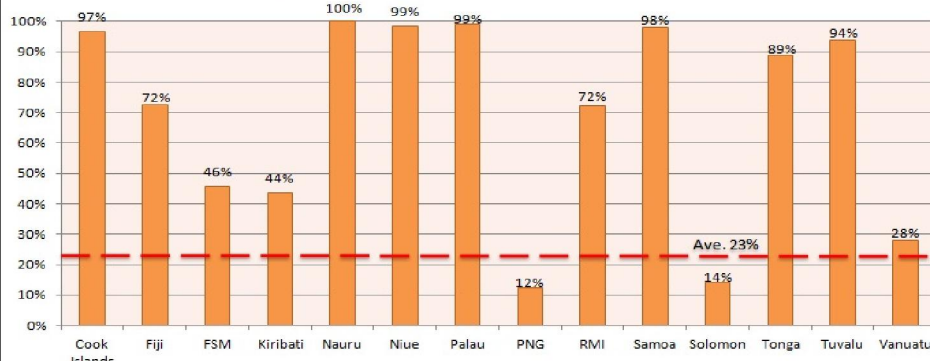
Base Year 2009



01 : ACCESS TO ENERGY

Households connected to power utility grid

Electrification Rate 2009 - Grid connected

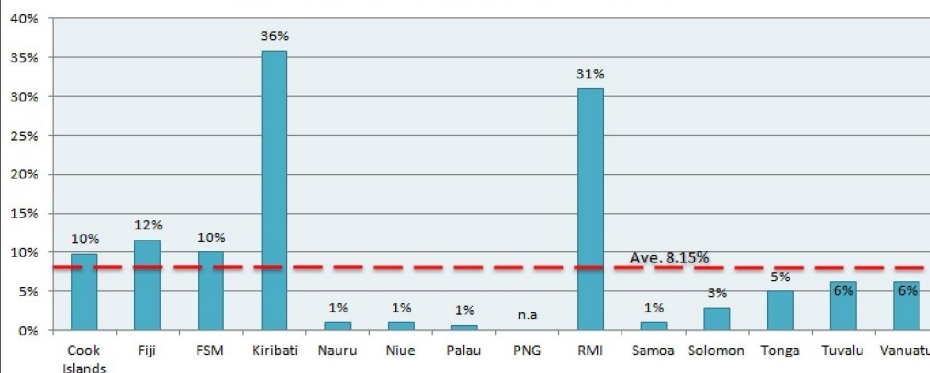


- Ø FIC - approx. 1 in every 4 HH
- Ø Forum SIS – approx 2 in every 3 HH
- Ø Forum Non SIS members – approx. 1 in 5 HH
- Ø Melanesian – approx. 1 in 5 HH
- Ø Polynesia – 94%; Micronesia 57%

- PNG having the lowest access in the region – approx. 1 in every 8 HH with access to electricity.

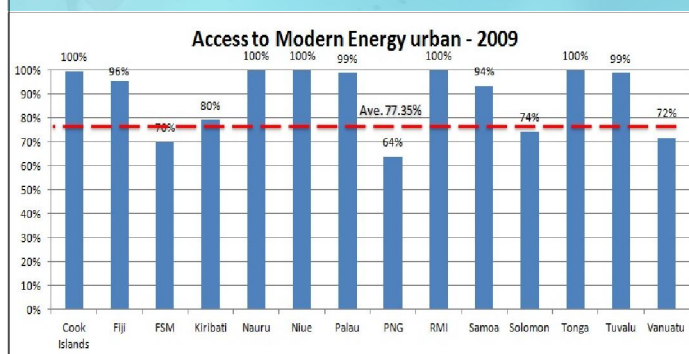
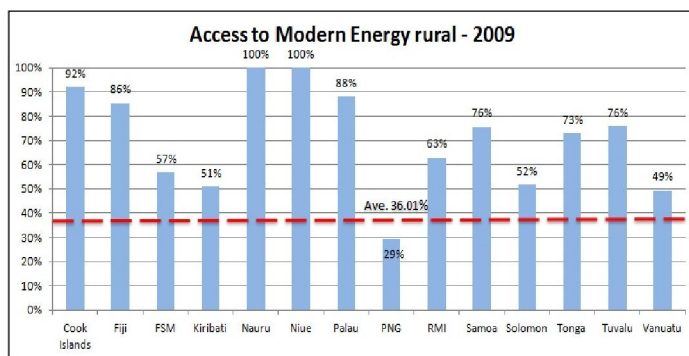
Rural households access to basic electrification

Access to Small Scale Power rural - 2009



21,134 HH (8%) have access to some form of small scale power.

Greater access or coverage are in the SIS (24%), in particular the Micronesian countries (18% Access)



Access to modern forms of cooking and lighting.

Access to modern cooking include cooking with LPG, kerosene, electricity and other forms of cooking such as biogas.

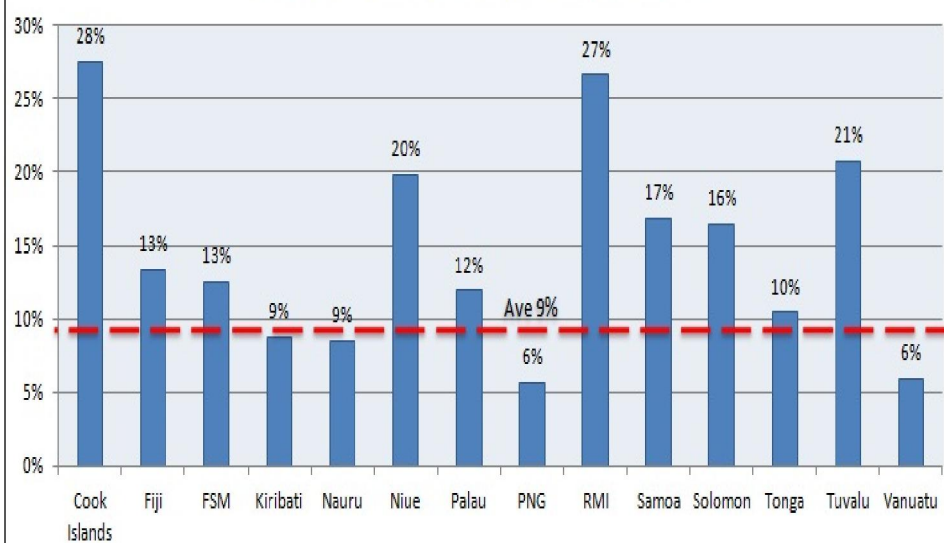
Access to other forms of lighting apart from traditional use of biomass.



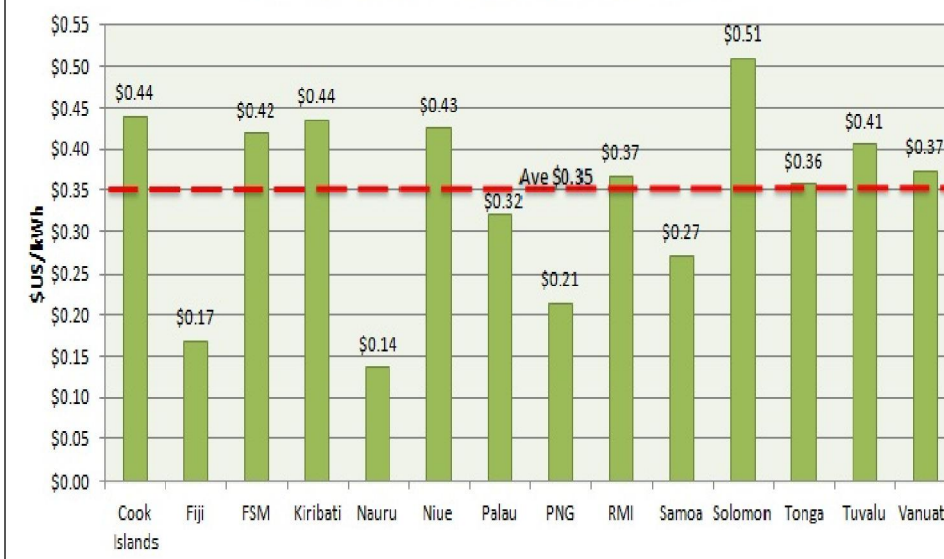
O2 : AFFORDABILITY



Macro-Economic Affordability - 2009

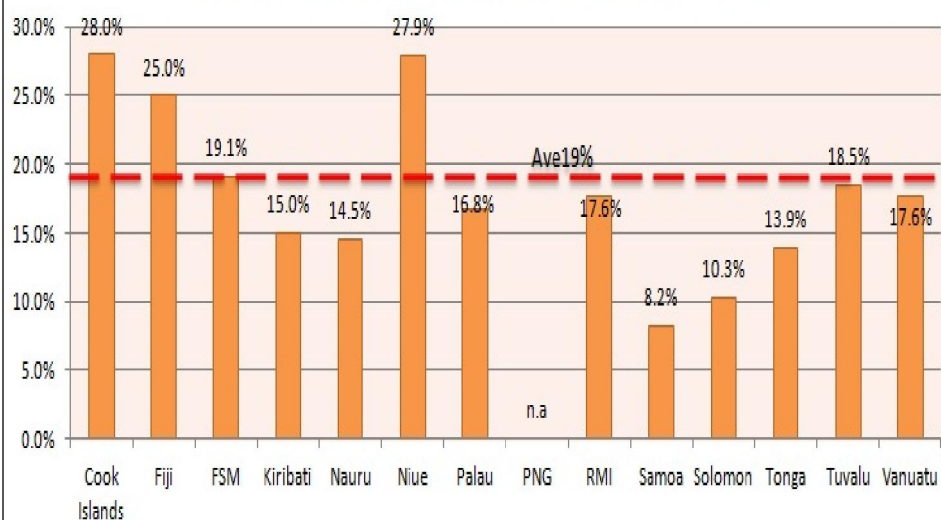


Average Electricity Tariff in PICs - 2009

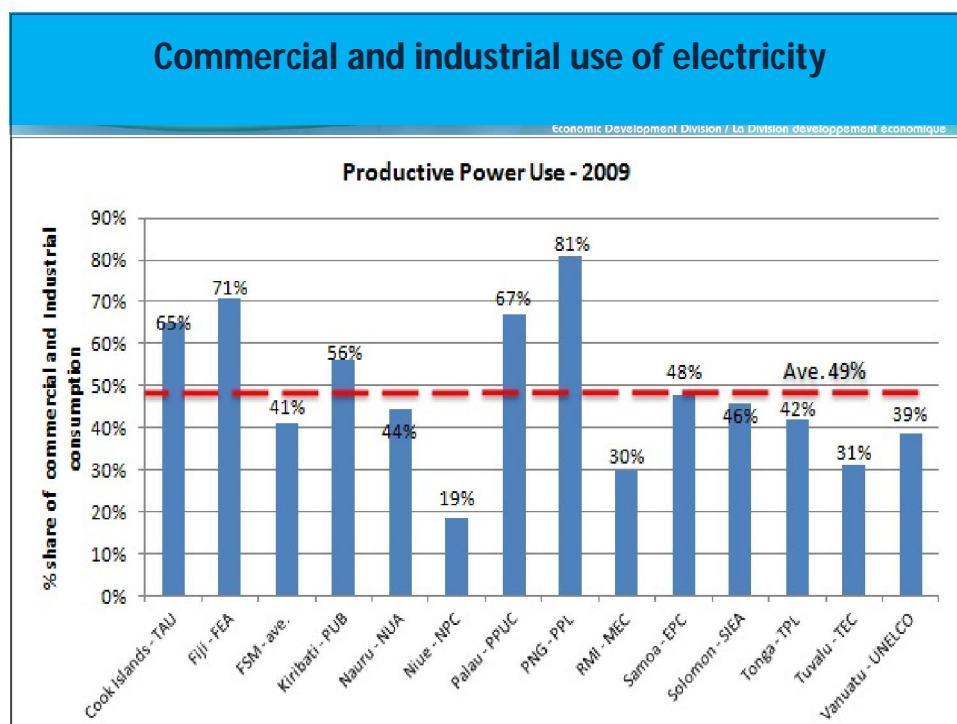
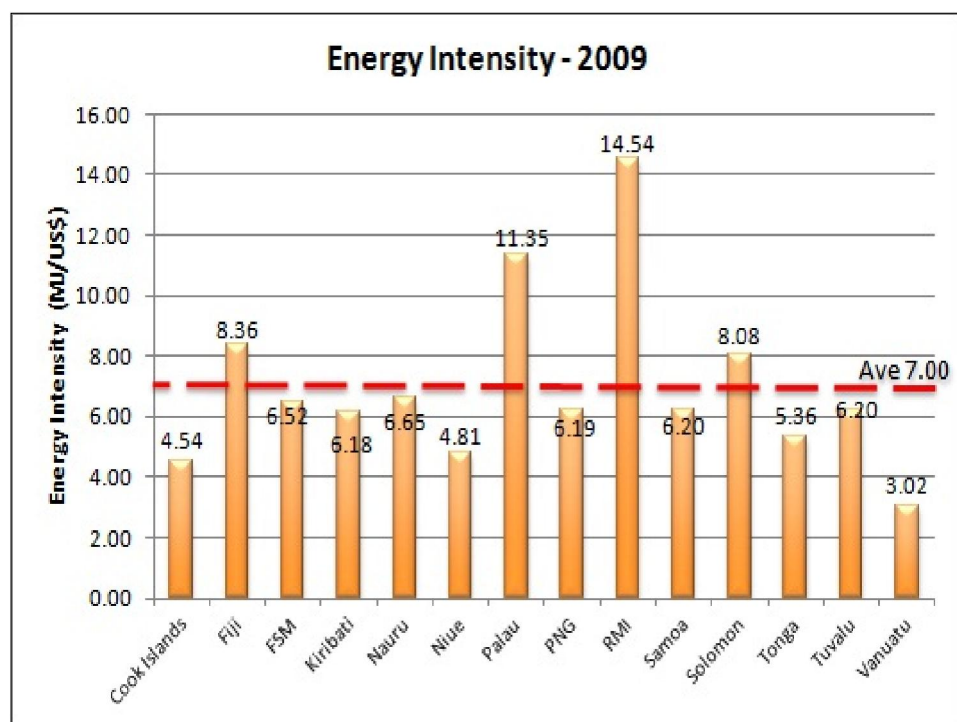




Household Energy Expenditure Load (%) - 2009



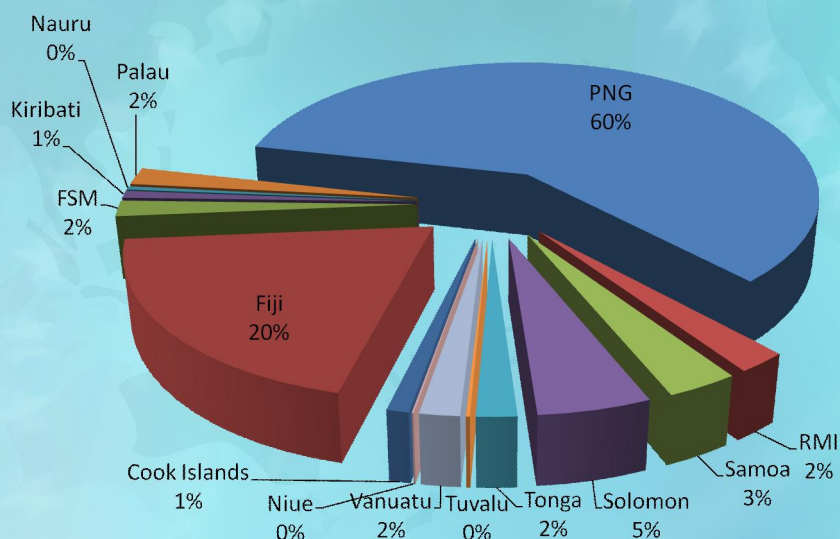
O3: EFFICIENCY AND PRODUCTIVITY

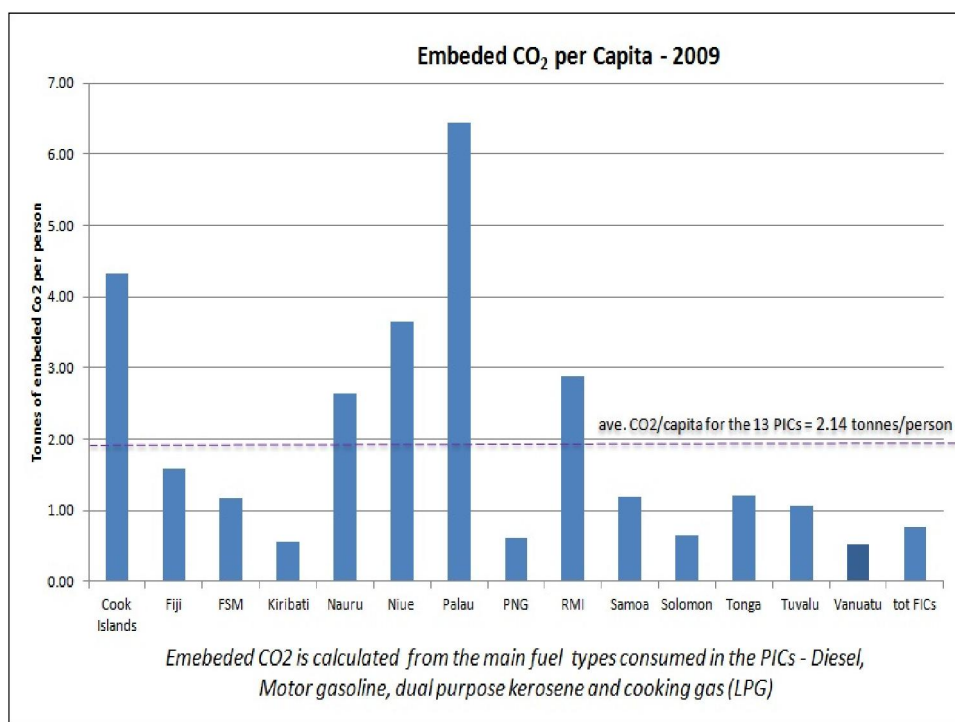




O4: ENVIRONMENTAL QUALITY

Carbon Footprint generated from consumption of diesel, gasoline, kerosene and LPG fuels (6702.44 kilo tonnes of CO₂)

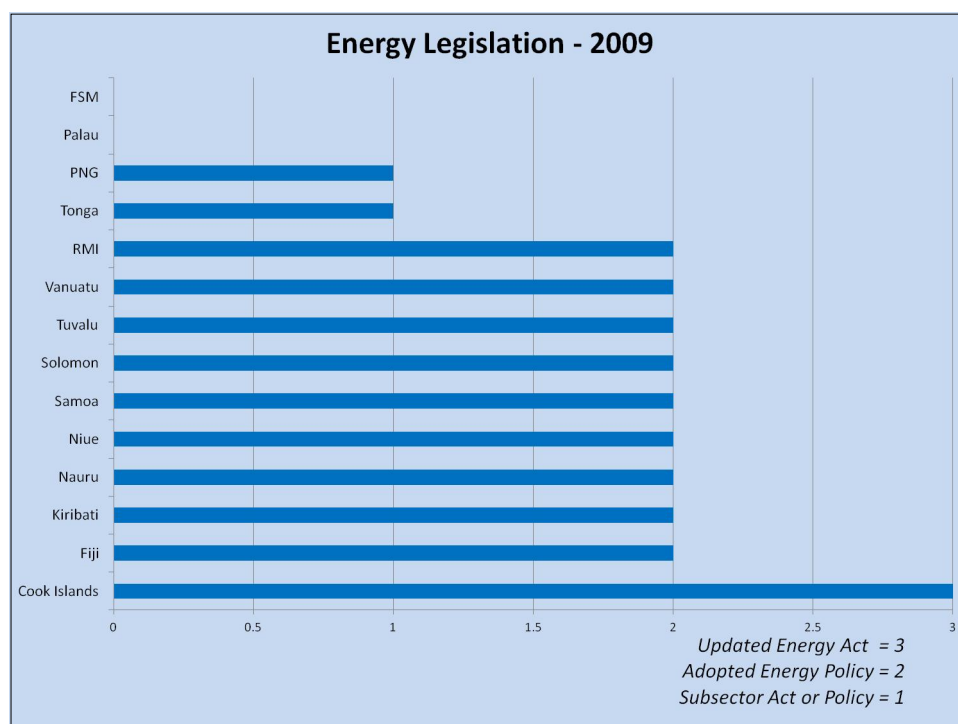
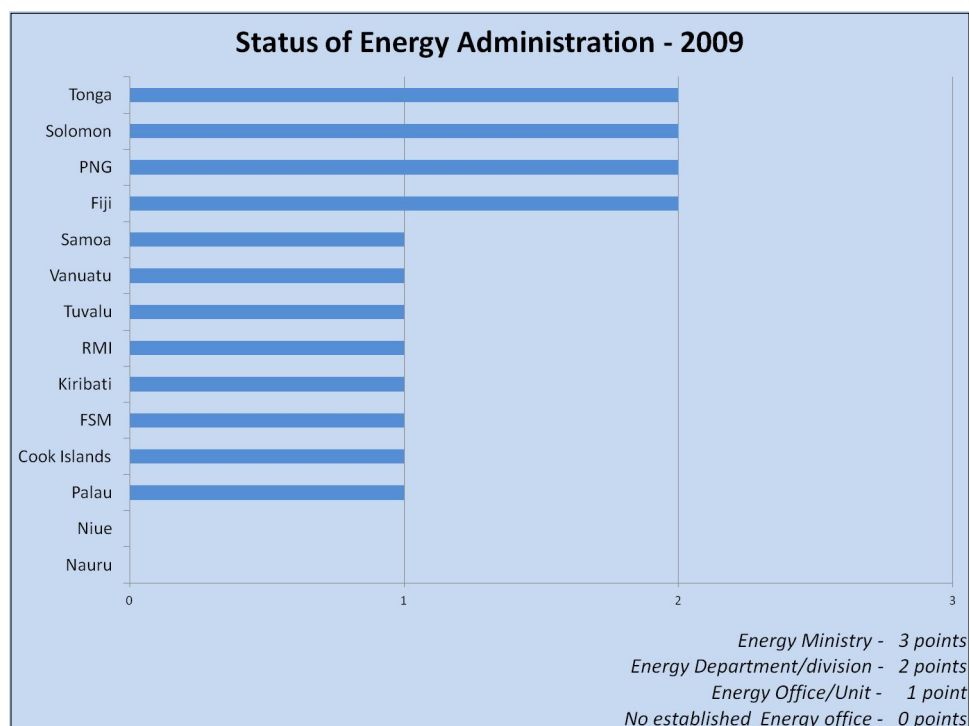




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**T1: Leadership, governance,
coordination and partnership**

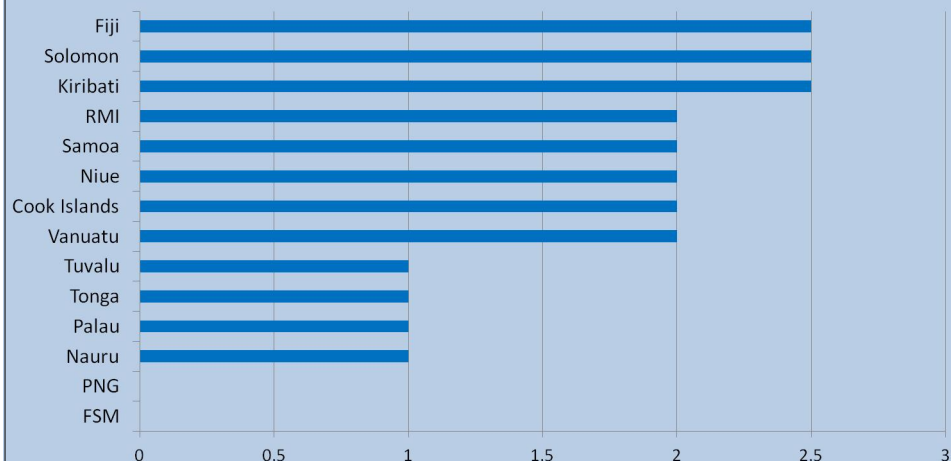




T2: Capacity development, planning, policy and regulatory frameworks



Energy Planning Status - 2009



Whole of Energy Sector Plan/Roadmap operational with M&E framework = 3

Whole of Energy sector Plan/road map with some form of M&E = 2.5

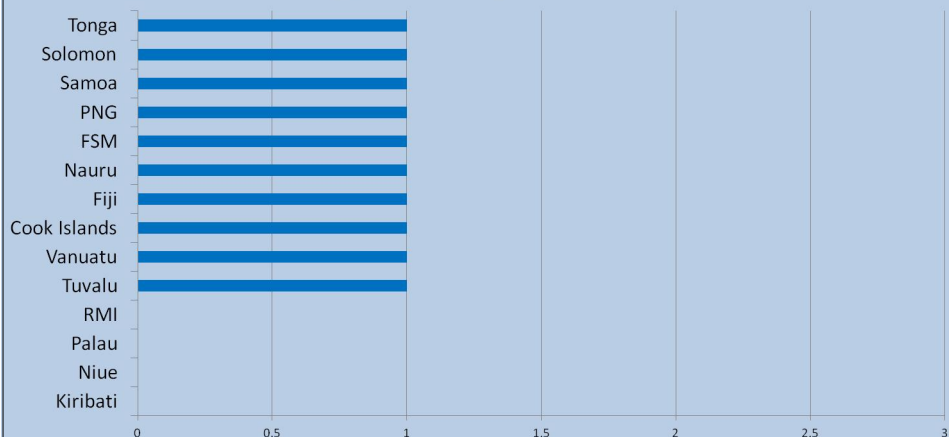
Subsector Plan operational with M&E framework = 2

Energy Sector Plans under preparation = 1

Nothing endorsed in place



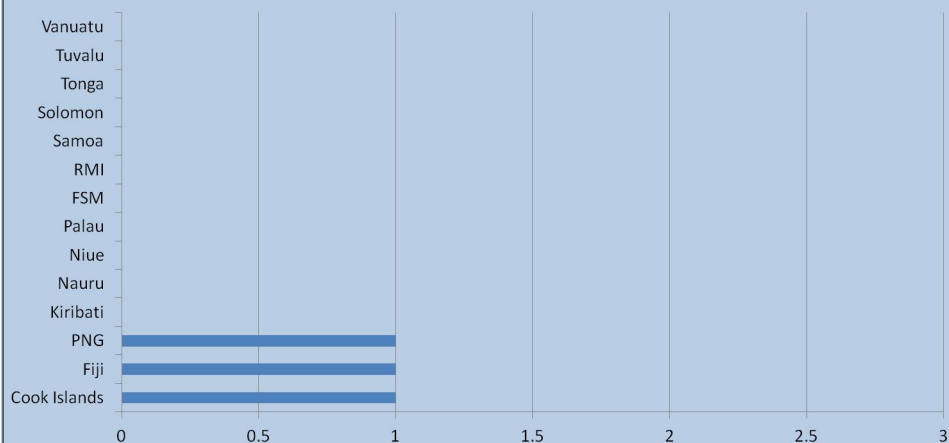
Energy Sector Regulation - 2009



Independent Whole of Energy Sector Regulator established = 3;
 Whole of Energy Sector Regulator established = 2;
 Subsector Regulator established = 1



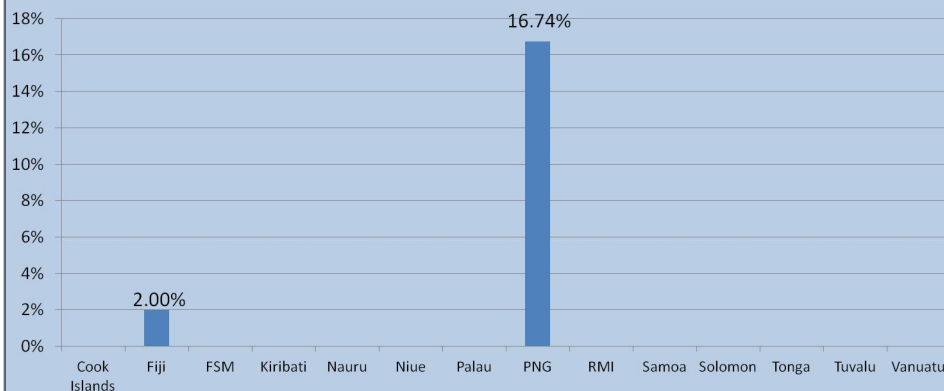
Enabling Framework for Private Sector Participation (2009)



Standard Power Purchase and Petroleum Supply Agreements operational = 3
 Standard Agreements for subsector operational = 2
 Standard Agreements under preparation = 1



Private Sector Contribution (%) - 2009



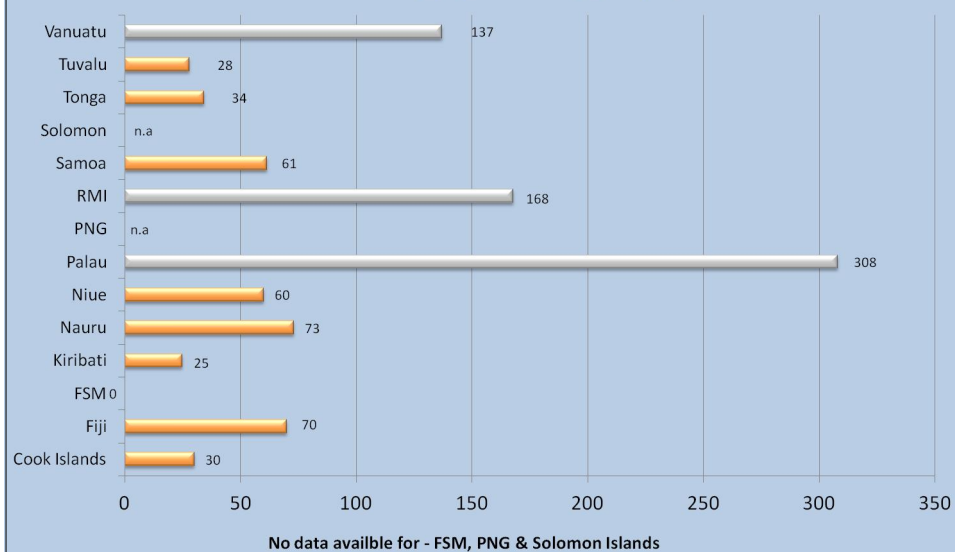
159.3 GWh – contributions from IPPS from Fiji & PNG



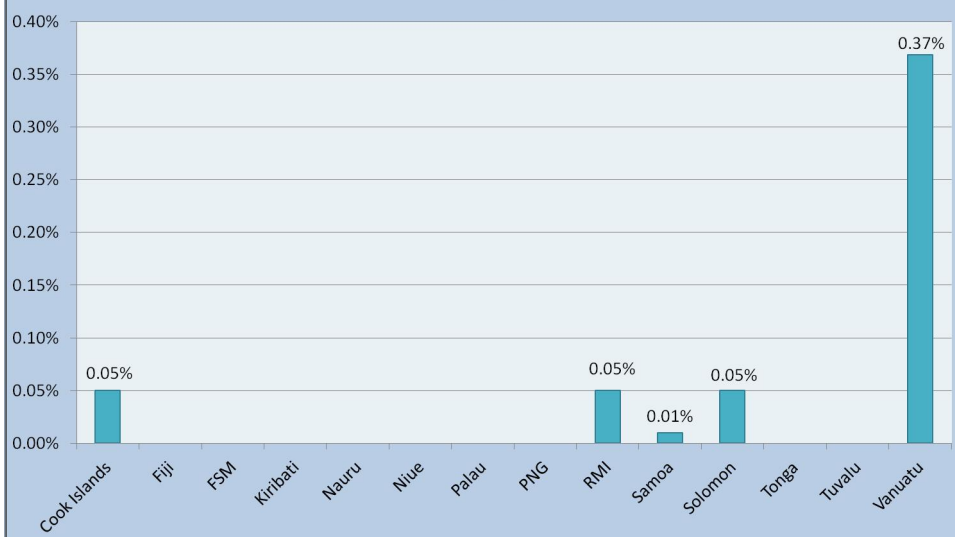
T3: Energy production and supply



Fuel Supply Security (Days)

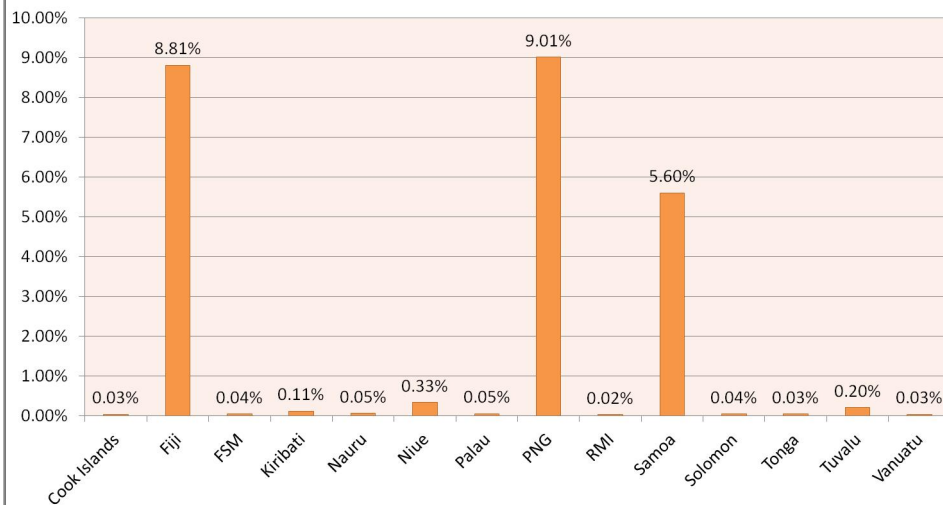


Fuel Supply Diversity (2009) - contributions from bio-fuels





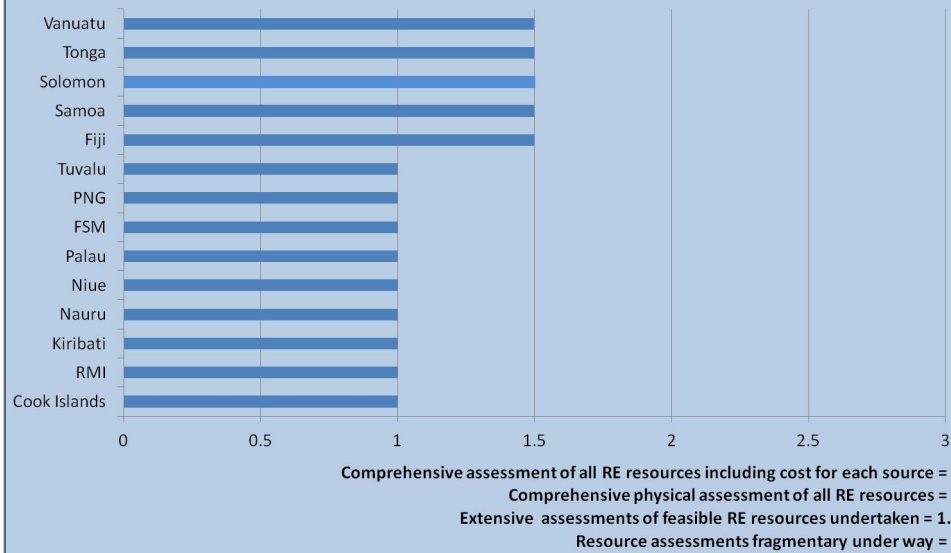
2009 Renewable energy share to total supply



Contribution from traditional use of biomass such as household cooking is excluded in analysis

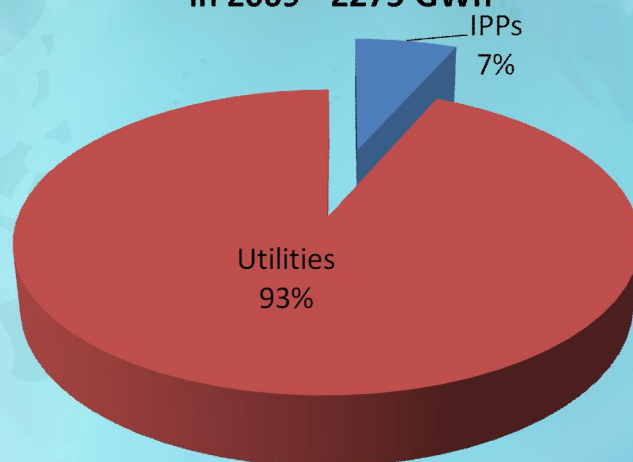


Renewable Resource Potential Knowledge (2009)





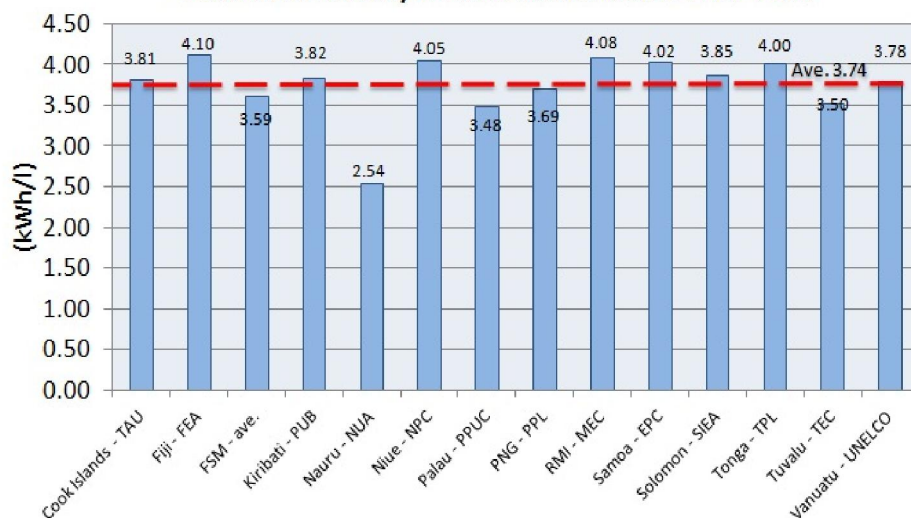
Share of total electricity generated by the 14 FICs in 2009 - 2275 GWh



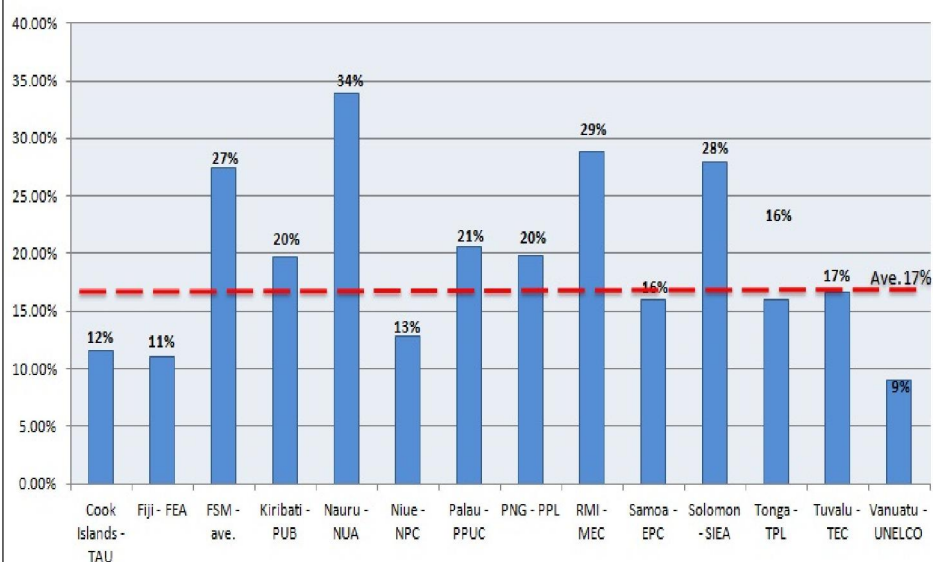
T4: Energy Conversion

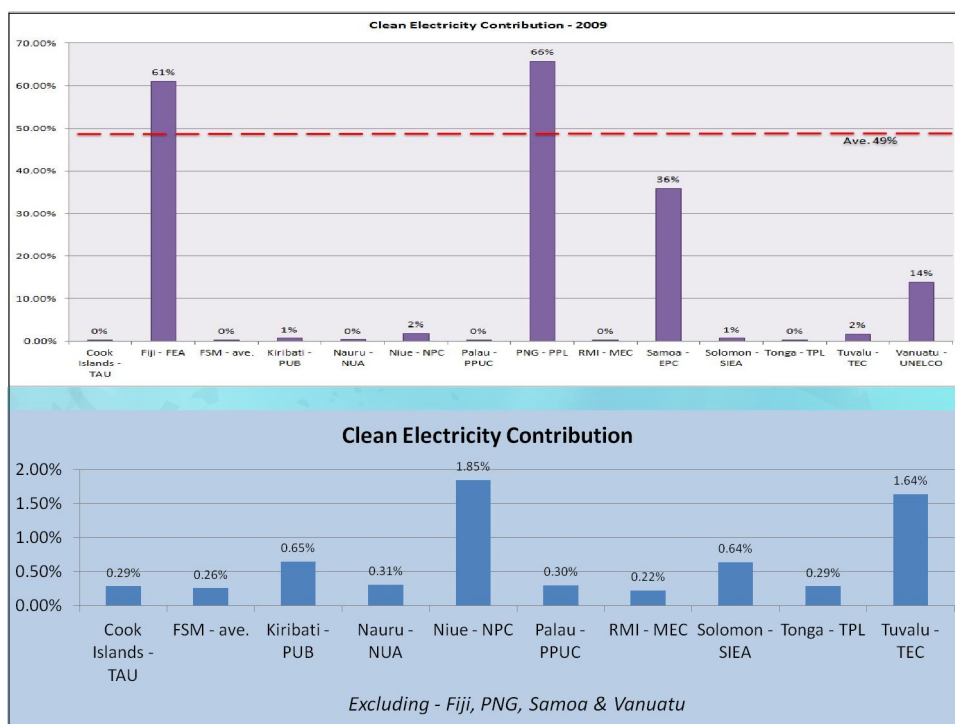


Generation Efficiency of Power utilities in the 14 FICs - 2009



Power Distribution Losses of Power Utilities in the 14 FICs - 2009

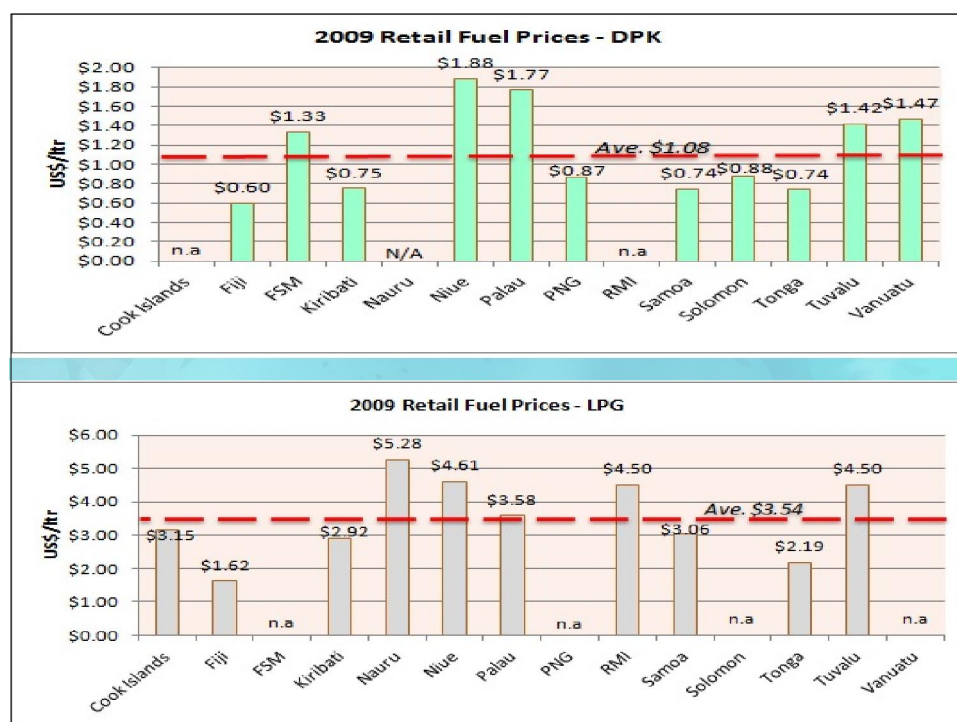
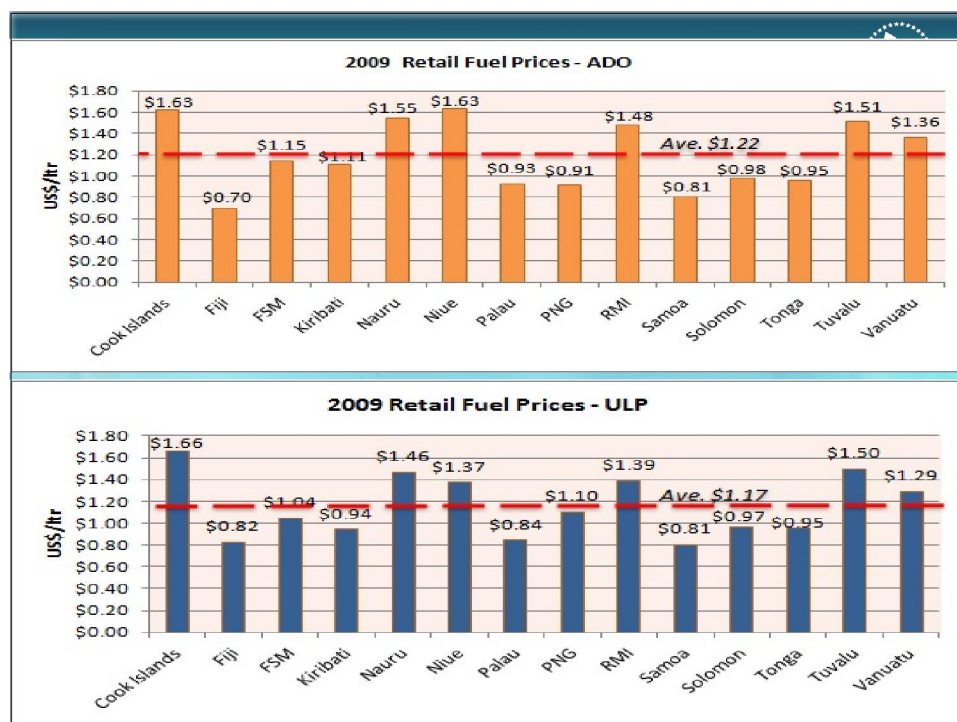


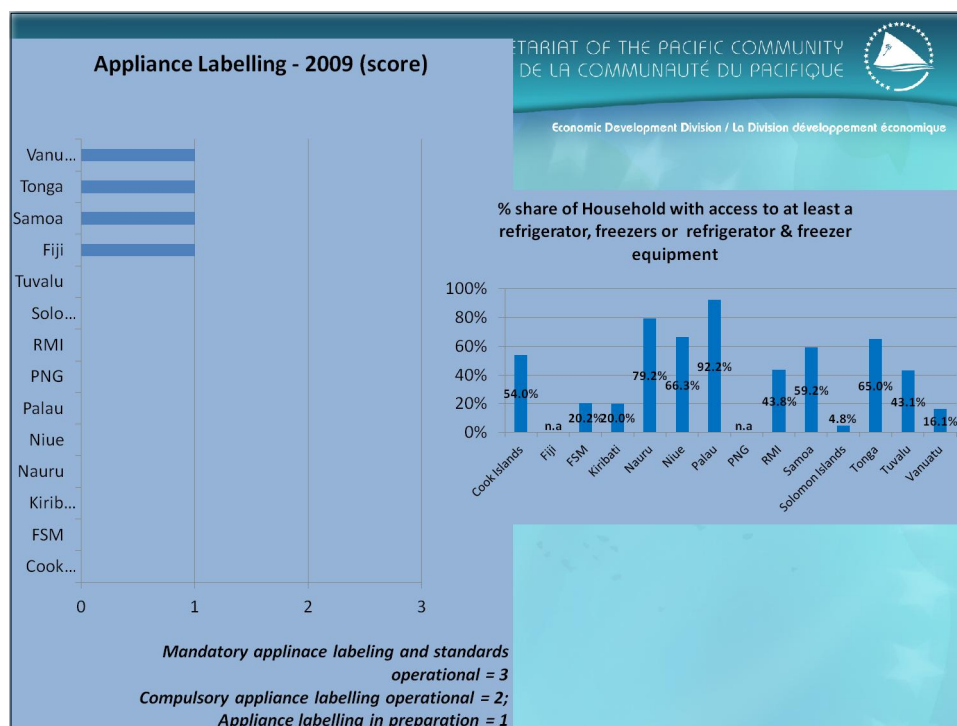


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T5: End-use energy consumption





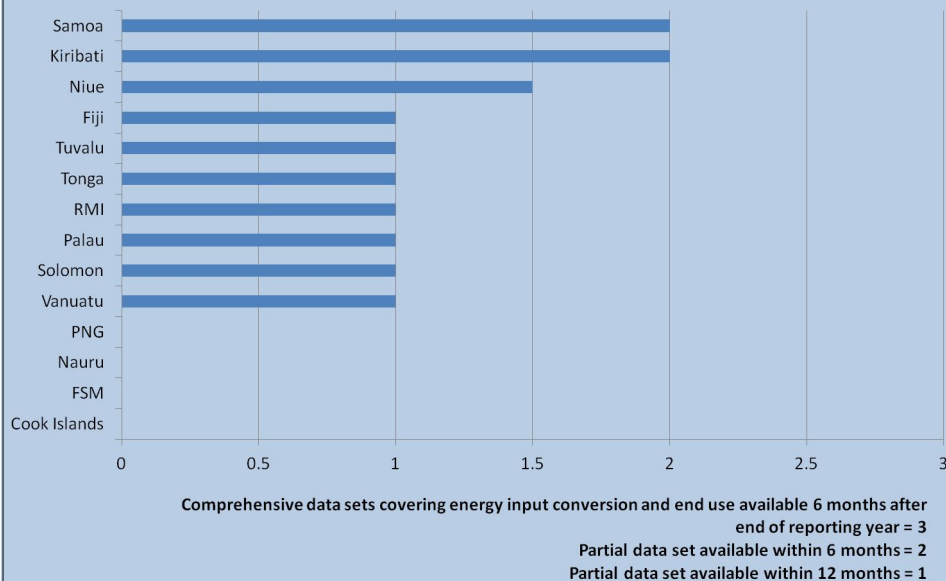
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T6 : Energy data and information



Availability of National Energy Balance - 2009)



Beyond Baseline data

- Collection and collation of annual data – 2010/2011 energy data to be collected
- Refinement of energy indicators
- Data analysis and evaluation to determine trends and progress (national/sub-regional/regional) towards an energy secure Pacific



Thank You

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