



PRIF Community of Practice Event  
Financing Households to Buy Solar  
Rooftop Panels and Energy Efficient  
Appliances – What Works in the Pacific?

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# Clean Energy Financing Study

## Objective

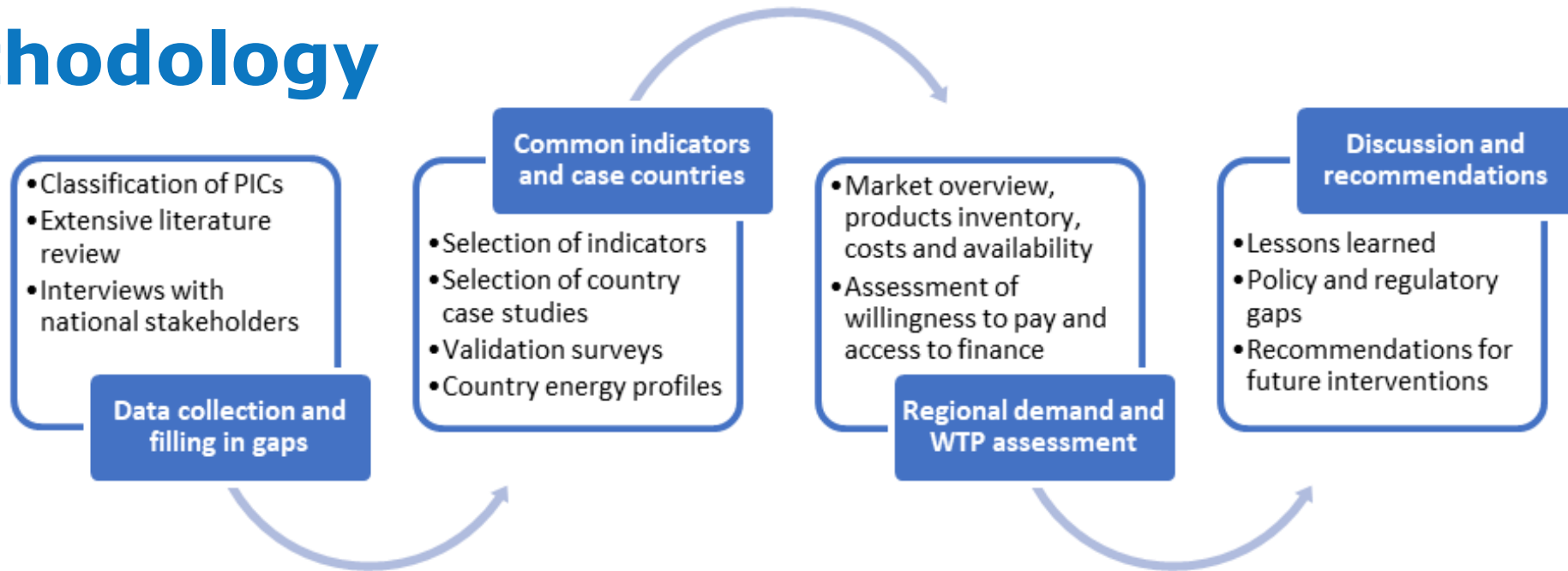
Shed light on the market potential for distributed energy equipment and energy efficient appliances in 14 Pacific Island Countries.

- Take stock of the energy landscape and market potential in households primarily.
- Assess prospects and challenges for clean energy retail lending through NDBs.
- Special attention to prospects targeting poor and female-headed households.

## Recommendations for Governments, National Development Banks and Aoperation Agencies

1. To develop a more enabling environment for investments.
2. To remove bottlenecks for households trying to access finance products.
3. To realize opportunities for job creation through local services
4. To design and plan more impactful future interventions on clean energy financing.

# Methodology



	GDP per capita 2019 < \$5,000		GDP per capita 2019 > \$5,000	
	Low	Medium Low	Medium High	High
<b>Micronesia</b>	Kiribati	Federated States of Micronesia (FSM), Republic of Marshall Islands (RMI)		
<b>Melanesia</b>	Papua New Guinea, Solomon Islands	Vanuatu	Fiji	Nauru, Palau
<b>Polynesia</b>		Samoa, Tuvalu	Tonga	Cook Islands, Niue

Classification of 14 PICs according to basic economic indicators characterizing the purchasing capacity of their population

# Main findings market assessment

	Rural		Urban	
	Lower income	Higher income	Lower income	Higher income
Energy poverty	High	High	High	Medium
Current stock	Solar lights	Solar lights	TVs, fans, fridge	TVs, fans, fridge, washers
Product wish list	Better solar lights, 150 W kits, pumps/freezers	Better lighting, up to 1000 W systems, pumps/freezers	Freezers, fridge, TV, washer	Freezers, fridge, TV, washer
Savings	Low	Low	Low	Medium
Willingness to pay	Low	Low	Medium (slight majority in group 31 to 50 years old)	Medium to high (majority in group 20 to 40 years old)
Eligibility to financing	Low	Low to medium	Medium	High

# Appliances use in urban areas (lower income)

Appliance	Low GDP PC			Medium Low GDP PC				
	KIR	PNG	SOL	FSM	RMI	SAM	TUV	VAN
Fans	82%	89%	82%	NA	NA	90%	91%	80%
Refrigerator	<b>36%</b>	<b>68%</b>	<b>78%</b>	<b>NA</b>	<b>NA</b>	<b>76%</b>	<b>45%</b>	<b>80%</b>
Freezer	<b>68%</b>	35%	28%	NA	NA	36%	<b>53%</b>	55%
Air conditioner	<b>48%</b>	<b>62%</b>	<b>23%</b>	<b>NA</b>	<b>NA</b>	<b>65%</b>	<b>67%</b>	<b>51%</b>
TV	<b>7%</b>	35%	<b>11%</b>	NA	NA	<b>68%</b>	<b>3%</b>	31%
Desktop/laptop	<b>56%</b>	<b>82%</b>	<b>67%</b>	<b>NA</b>	<b>NA</b>	<b>94%</b>	<b>44%</b>	<b>80%</b>
Desktop/laptop	41%	NA	NA	NA	NA	NA	NA	NA
Solar water heater	2%	NA	13%	NA	NA	NA	NA	NA
Solar water pump	NA	NA	NA	NA	NA	NA	NA	NA

# Community awareness

- Moderate to high. Awareness of energy labels grows with GDP per capita.
- In lower income countries, up to 30% of population think that more stars mean more energy consumption. Exception: Vanuatu (thanks Energy Efficiency Act).
- Awareness declines with age.

## Next purchase of efficient appliances

1. Two-thirds of all major appliances in urban areas were purchased during the past 5 years.
2. Strong sentiment against replacing appliances until they can no longer be fixed.
3. 20%-40% states their desire to purchase within the next 6 months.
4. And 15%-30% within the next year.
5. Willingness to pay more is high only in urban areas (up to 73%).
6. One third of young people in upper income countries would pay 10% more for efficient appliances, and one fifth would pay 5% more.

# Availability and access to finance

- Prices differ widely between countries and between retailers within a country. Lower prices found in better organised markets: Fiji, Vanuatu.
- Low willingness to take out loans in rural areas.
- Main eligibility criterion: formal full-time employment. Rate of formal employment in rural areas is one-third of that in urban areas..
- Many development banks require repayment to be done directly from the customer's paychecks or Provident Fund retirement account.
- Loan applications require collateral ranging from 90% to 150% of the loan value.
- **Restricted lending to women.** Credit from formal finance institutions is a major challenge for potential women entrepreneurs.
- Situation worsens in lower-income countries, with half level of formal employment compared to upper-income countries.

# Enabling regulatory & institutional environment

- 1. Integrate utilities into program design.** Utilities are necessary partners in the preparation of training and technical courses. They can act as advisors to NDBs. They are potential financial partners in energy-efficiency programs.
- 2. Establish clear and enabling guidelines for the grid connection.** Discretionary permits should be avoided. Fair and clear compensation mechanisms to consumers connecting PV systems to the grid and watching financial health of utilities.
- 3. Adopt energy performance standards and registration systems.** Fiji and Vanuatu have mandatory standards and registration systems in place to avoid that inefficient appliances are allowed to enter the market. Good practice: Pacific Appliances Database .
- 4. Strengthen consumers' education in energy efficiency and energy labels.**
- 5. Consider reduction of import tariffs.**



# Overcoming challenges in accessing finance

- 1. Support the design of flexible and inclusive eligibility conditions.** More flexible and inclusive loan eligibility conditions. Alternatives include: (i) less rigidity when validating sources of income (proofs of income from self-employment, earnings from small-scale productive and trading activities, and/or remittances from abroad; (ii) accept as loan guarantors family members, community associations and island councils (as in Kiribati); and (iii) facilitating loans through cooperative arrangements.
- 2. Design tailor-made lending terms and conditions** for groups at risk of exclusion, particularly women. For example, promote synergies with direct aid programs.
- 3. Development partners and National Development Banks to strengthen the preparation and early phase of project implementation.** Systematically include: (i) financing for preparatory activities (i.e., technical studies, social surveys, etc.); (ii) the provision of long term international technical assistance; and (iii) strengthened monitoring tools, reporting, and verification.
- 4. Accept financed energy equipment as collateral.**

# Opportunities for job creation

- 1. Promote and support technical training in all programs and facilities.** Involve community colleges, national universities, and technical institutes to create suitable educational and vocational programs in electrical and mechanical engineering, project management, and related disciplines.
- 2. Support the establishment of local service businesses.** Skilled young entrepreneurs should receive loans to help them set up service businesses such as repair shops with quotas for female entrepreneurs;.
- 3. Lending terms should focus on local women-led projects that generate income and create jobs.** Key performance indicators and specific targets in terms of number of loans and borrowed amounts of money should also measure the finance access of vulnerable groups.

# Thanks for your attention

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