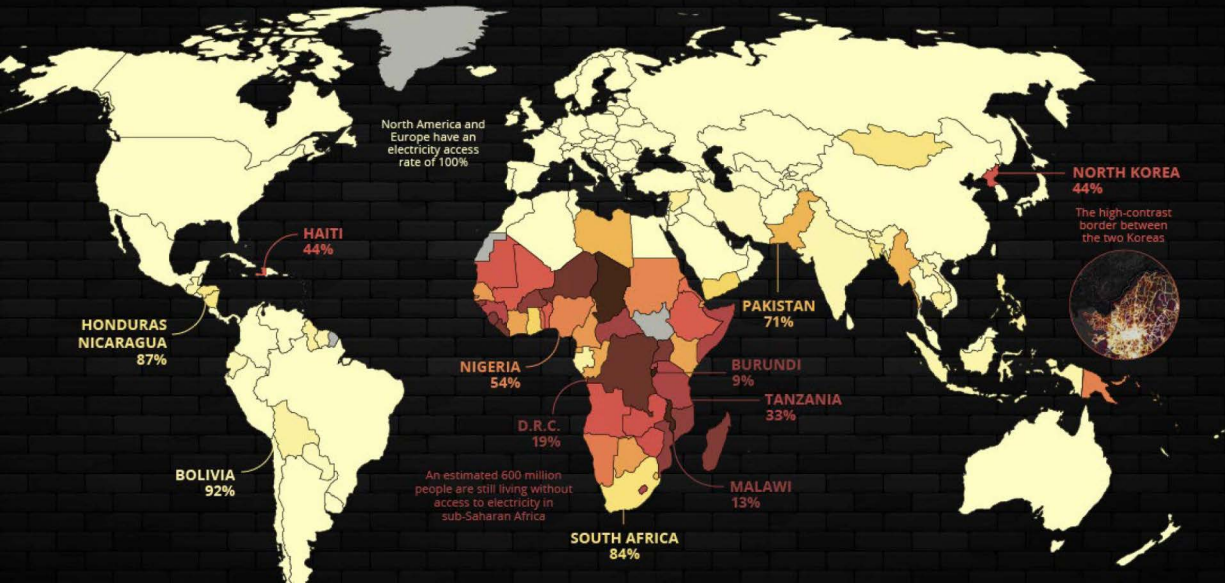
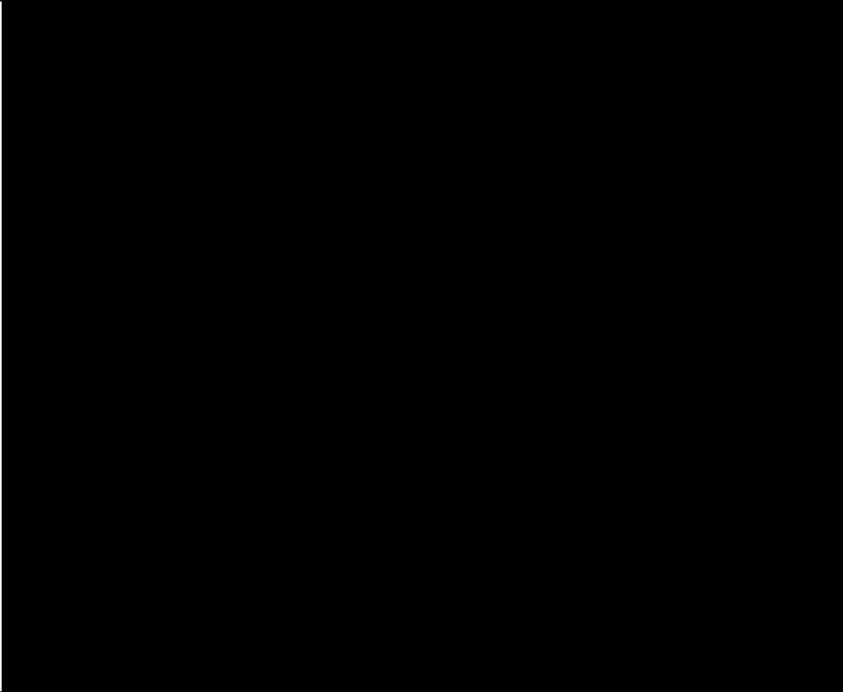
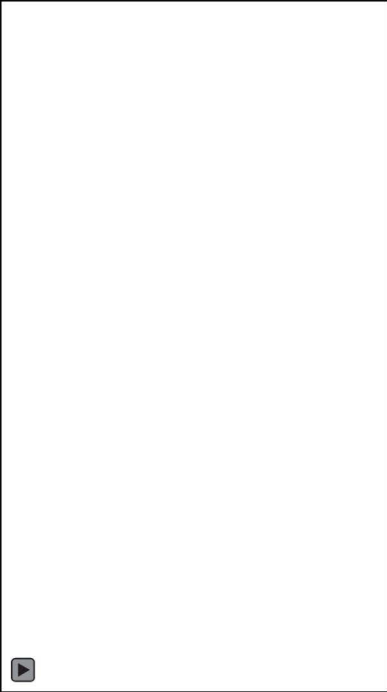




GLOBAL ACCESS TO ELECTRICITY

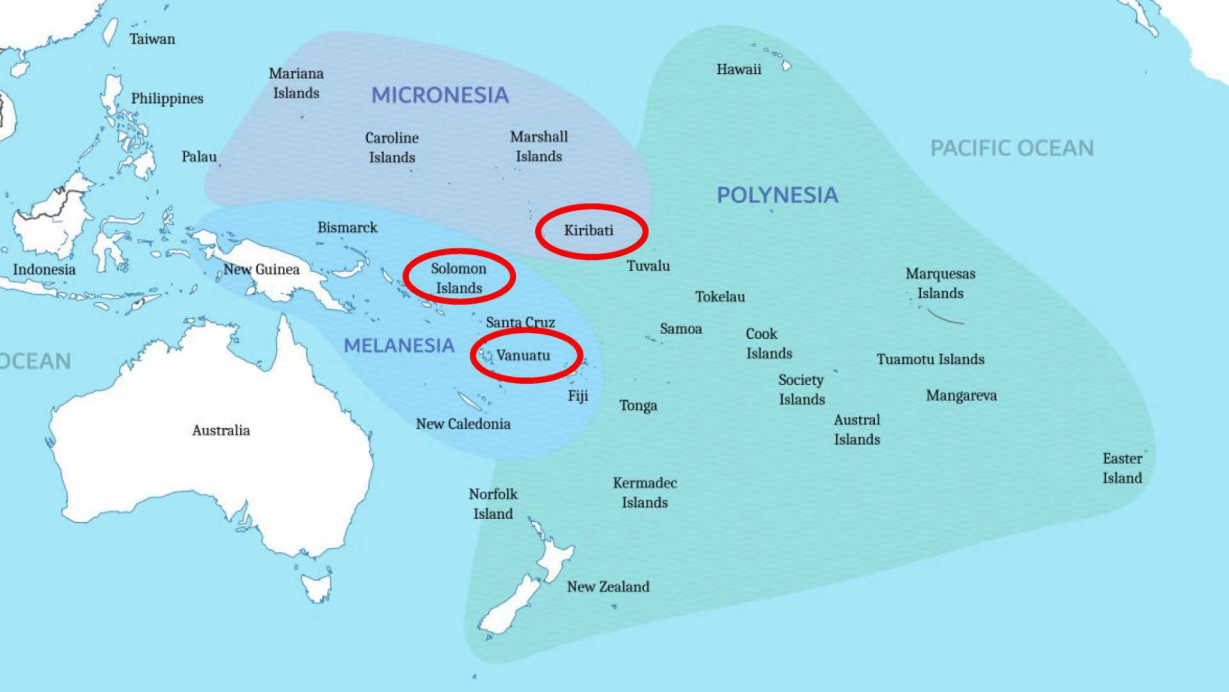












Taiwan

Philippines

Mariana Islands

Caroline Islands

Marshall Islands

Hawaii

PACIFIC OCEAN

Palau

Bismarck

New Guinea

Indonesia

Australia

MELANESIA

Solomon Islands

Santa Cruz

Vanuatu

New Caledonia

Norfolk Island

New Zealand

Kermadec Islands

Fiji

Tonga

Samoa

Tokelau

Cook Islands

Society Islands

Austral Islands

Tuamotu Islands

Marquesas Islands

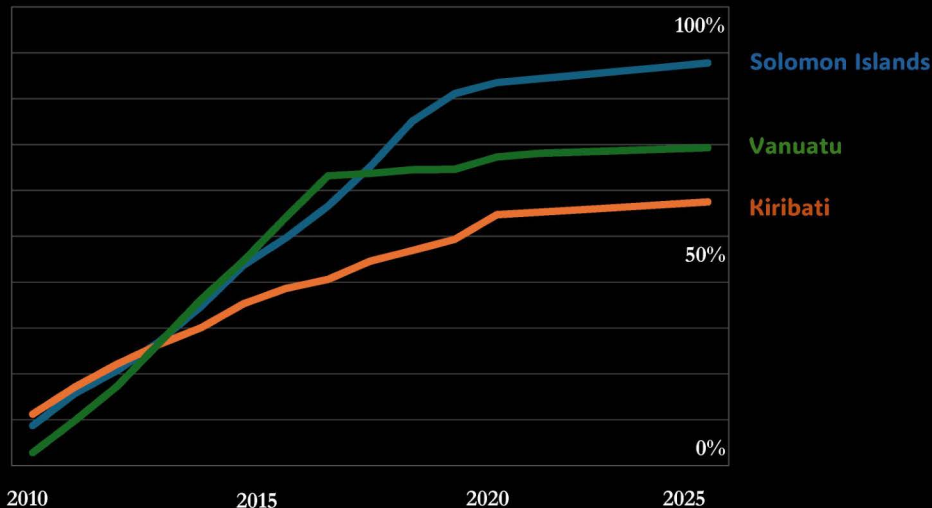
Mangareva

Easter Island

Kiribati

Tuvalu

Off-Grid Solar as Main Source of Lighting



From Census data



1

2

3

4

12

13

11

10

5

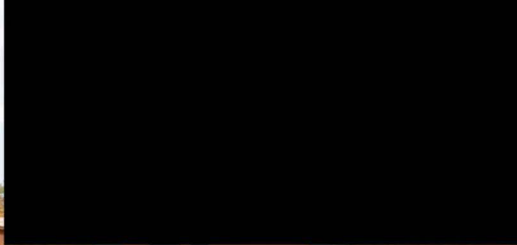
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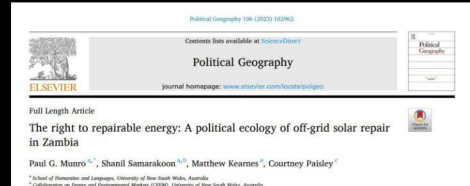
9







- Limited Access to Spare Parts and Tools
- Limited Capacity and Training
- Budget Designs
- Black-boxed Technologies.
- Replacement over Repair approaches





Australian Government

Australian Research Council



OCTOBER 2024

STATE OF REPAIR

IN THE OFF-GRID SOLAR SECTOR



OCTOBER 2023
WHITE PAPER

OFF GRID SOLAR REPAIR IN AFRICA:

FROM BURDEN TO OPPORTUNITY





Who We Are The Challenge What We Do Partners Get involved

Keeping solar working for everyone

The Off-Grid Solar Repair Lab brings the off-grid solar sector together to keep solar products working through affordable, accessible repair.

Get involved

What we do



Test repair models

Testing practical repair approaches in last-mile communities.



Build shared evidence

Building shared evidence to strengthen repair systems across the sector.



Create shared tools

Developing practical tools, frameworks and guidance for repair programmes.



Strengthen local capacity

Supporting local repair networks, training and technical capacity.



Shape enabling policy

Supporting policies and partnerships that make repair more viable at scale.

Core lab partners

The Repair Lab brings together organisations from across the off-grid solar sector to test solutions, generate evidence and strengthen repair systems.



Together, we are working to ensure solar products remain affordable to maintain, accessible to repair, and capable of delivering lasting energy access.



With support from

The Repair Lab is supported by organisations that share our commitment to strengthening solar repair, extending product lifetimes and sustaining energy access.

Acumen

Good Energies
Foundation

Aeonian Foundation

Lightrock

Cygnus Capital

Smith's Foundation

DOEN Foundation

Triple Jump



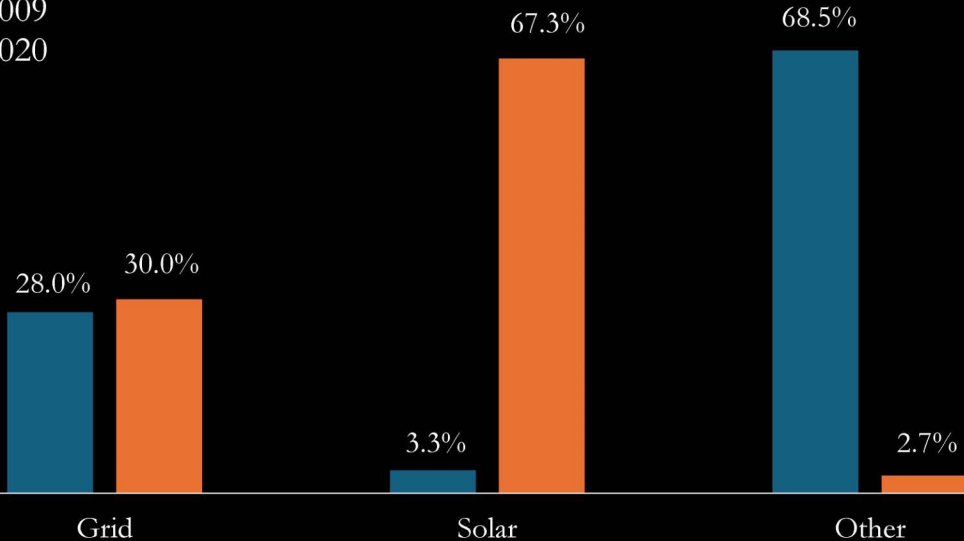
Australian Government

Department of Foreign Affairs and Trade

Vanuatu

● Grid Electricity

■ 2009
■ 2020



Vanuatu – Main Source of Light?



FIXIM SOLA



SOLA I BAGARAP?

JOHN MO NALAWAS I SAVE FIXIMI!

John mo Nalawas tufala i bin finisim wan kos blong ripaea sola, mo tufala i stap long Nanunata.

Sapos sola blong yu i nidim restem, ripaea o instolesen, John o Nalawas i save kam long yu.

Nalawas: 564 2478
John: 735 4357



WANEM YA SOLA PAWA?

SOLA PAWA UFI I TAWEN PRUW I OYOC SIRA I GO I OYOC SIKERTASITIY.

WAN SOLA PRODUCT REMI HAS GET DI-SANTING YA:

- SOLA LAMP O PAWEI
- CARBONAT PUL VIKIYIS
- REGULATER
- DATRE
- LAVETA
- LOT

PAWEN WEMESLU KO DI PAWEI MO KANUWEN WEMESLU





Andrea Loli



Laylyn Toa



Rina Paraliu



Richard Danhiwa



Aneityum, Futuna and Aniwa Islands

Off-Grid Solar Repair
Market Study



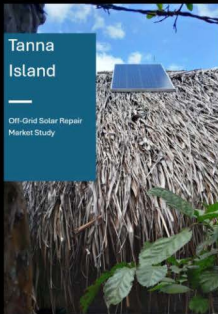
Pentecost Island

Off-Grid Solar Repair
Market Study



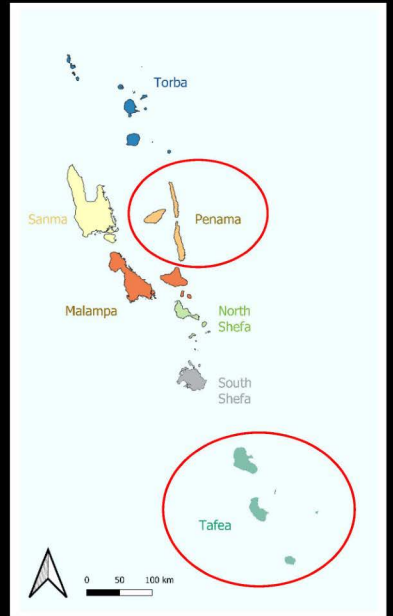
Tanna Island

Off-Grid Solar Repair
Market Study



Program	Level	Focus	Outcomes
Tier I: VIT National Hub	National	Advanced solar design, maintenance and repair; Certificate IV in Sustainable Energy; campus decentralisation	Qualified workforce; national accreditation; regional training capacity
Tier II: Vocational Centre Program	Province	Solar maintenance; advanced repair; solar appliance repair; business skills	Local technical teams; solar repair enterprises; community solar literacy
Tier III: Secondary School Program	Local / Community	Solar literacy; basic maintenance; DC repair fundamentals	Youth interest in vocational pathways; household repair capacity; community awareness







141 trainees , 42 (girls/women), 4 with a disability



152 products/systems repaired



8 installations



2 repair hubs

1. Province-Level Vocational Training



Train the Trainer Program



2 week intensive + 1-week refresher



Solar Repair Hubs



Spares and Toolkits



Market and Government linkages

Core Modules

1. How Solar Systems Work
2. Types of Solar Systems
3. Components of Solar Systems
4. Safety Protocols
5. Tool Handling
6. Wiring and Electrical Connections
7. Troubleshooting and Fault Diagnostics
8. Preventative Maintenance
9. Risk Management
10. Repair Entrepreneurship



Department of Energy
Vanuatu Institute of Technology
UNSW
SEIAPI
Solar Aid
Computer World
PCS



James Niko

Youth Centre Installation – South Tanna



National Disaster Management Office - Ambae



2. School Solar Literacy Program



1 day Teacher Training



4-day student program



Monitoring and Support



Spares and Toolkits



Micro credentials and Curriculum Integration

Core Modules

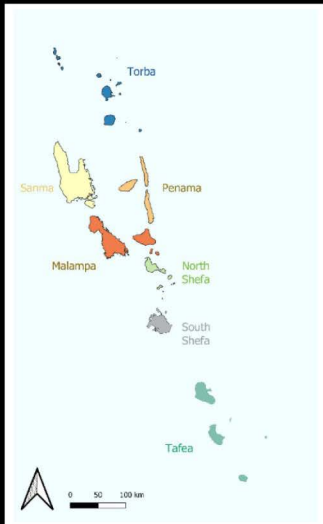
1. Intro to Solar Energy and Systems
2. Inspection and Routine Maintenance
3. Safety and Handling Tools
4. Battery Replacements
5. Community Impact and Future Pathways



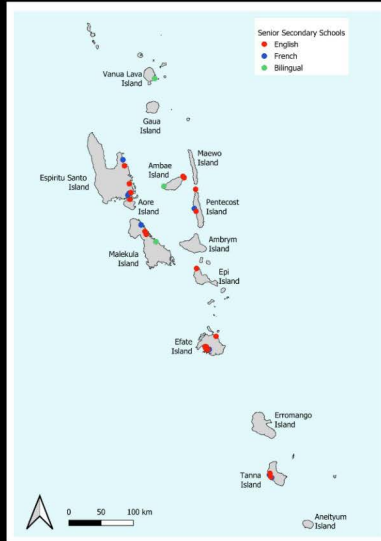
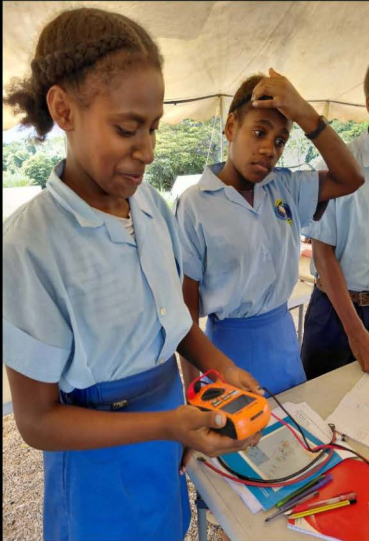
Lini Memorial College – Pentecost



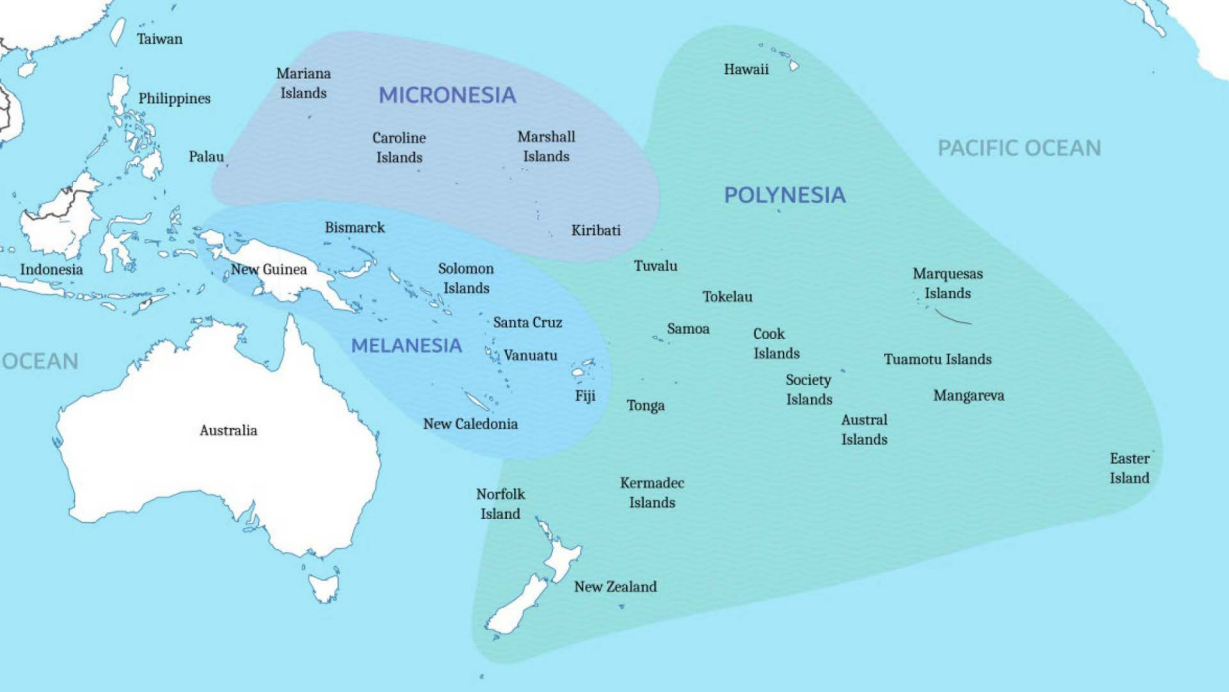
National Expansion (2026-2028)



- Ongoing support for Penama and Tafea Repair Hubs
- Phased expansion of training to *North Shefa (98%), Malampa (87%), Sanma (70%)* and *Torba (94%)*
- Support the establishment of provincial repair hubs.
- Integration into Cert IV Sustainable Energy + Microcredential



- 32 Senior Secondary Schools across 9 islands
- 3 English Streams, 2 French Streams (100 teachers)
- Microcredential development with Ministry of Education and VQA
- Curriculum Integration



Taiwan

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Islands

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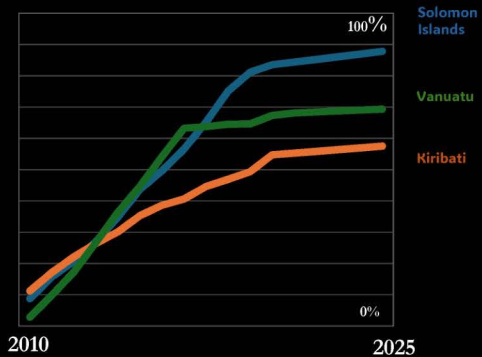
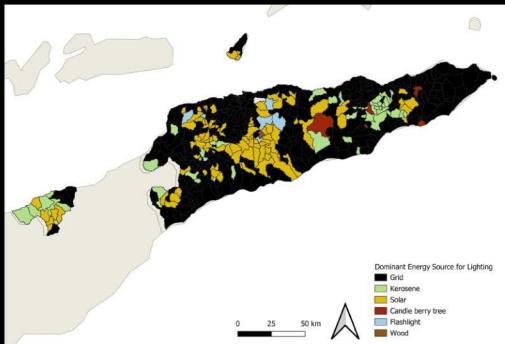
Australia

Easter
Island

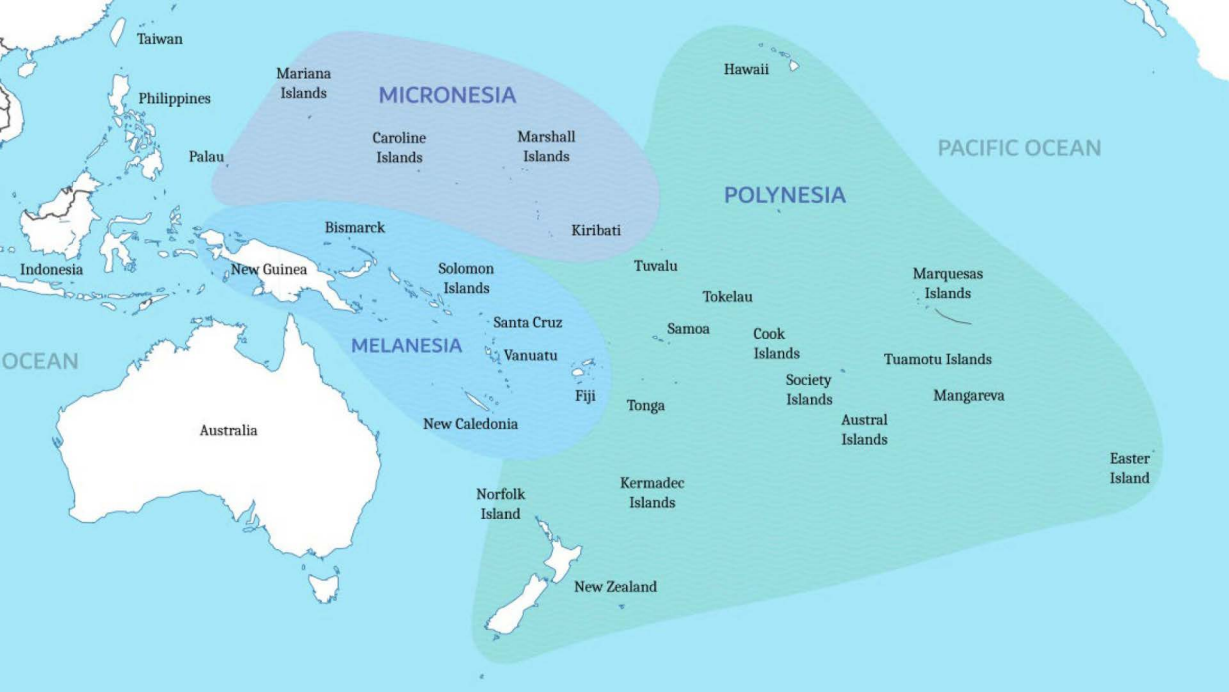
Norfolk
Island

Kermadec
Islands

New Zealand



Island	Division	Pop. 2020	HH 2020	2010	2015	2020	Chg 10-20	Chg 15-20
Makin	Northern	1,914	371	30.0%	97.7%	98.9%	+69.0	+1.2
Butaritari	Northern	3,250	618	16.3%	97.1%	77.3%	+61.0	-19.8
Marakei	Northern	2,738	575	36.8%	92.2%	79.5%	+42.7	-12.7
Abaiang	Northern	5,815	1,065	39.4%	92.5%	74.0%	+34.6	-18.5
North Tarawa	Tarawa	7,018	1,310	12.6%	69.8%	63.3%	+50.7	-6.5
South Tarawa	Tarawa	63,072	6,825	1.0%	16.0%	24.5%	+23.5	+8.4
Betio	Tarawa	incl. above	2,619	0.5%	14.4%	21.9%	+21.4	+7.5
Banaba	Banaba	333	85	94.7%	96.1%	98.8%	+4.1	+2.7
Maiana	Central	2,345	449	33.2%	91.0%	92.0%	+58.8	+1.0
Abemama	Central	3,255	674	25.6%	85.4%	83.7%	+58.1	-1.7
Kuria	Central	1,190	250	36.8%	94.5%	89.6%	+52.8	-4.9
Aranuka	Central	1,221	259	39.7%	91.6%	83.8%	+44.1	-7.8
Nonouti	Southern	2,749	611	31.7%	94.4%	75.1%	+43.4	-19.2
North Tabiteuea	Southern	4,181	753	26.7%	84.0%	83.7%	+57.0	-0.3
South Tabiteuea	Southern	1,356	279	30.9%	95.3%	96.8%	+65.9	+1.5
Beru	Southern	2,214	533	19.4%	88.9%	97.4%	+78.0	+8.5
Nikunau	Southern	2,055	423	39.2%	93.3%	89.1%	+49.9	-4.1
Onotoa	Southern	1,417	326	25.9%	91.6%	97.5%	+71.6	+5.9
Tamana	Southern	1,028	192	42.1%	92.5%	99.5%	+57.4	+7.0
Arorae	Southern	994	210	33.2%	97.7%	100.0%	+66.8	+2.3
Kanton	Phoenix	41	9	83.3%	100.0%	100.0%	+16.7	0.0
Kiritimati	Line	7,369	1,208	3.6%	13.2%	52.6%	+48.9	+39.4
Tabuaeran	Line	1,990	398	59.8%	91.4%	100.0%	+40.2	+8.6
Teeraina	Line	1,893	312	62.9%	95.2%	80.8%	+17.8	-14.4
Kiribati (national)		119,438	20,354	17.1%	52.2%	53.7%	+36.6	+1.5



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Tankiu Tumas

