



# Accelerating investments in Renewable Energy, Energy Efficiency & Smart Mobility in the Pacific Islands

Webinar Series | Agenda

## Webinar 1: Renewable Energy Investments in the Pacific Islands: Opportunities to scale up and the role of flexible blended financing instruments

[Recording here](#)

15 September 2020 | 95 minutes | 7AM (CEST), 3PM (Australia & PNG), 4PM (Solomon Islands), 5PM (Fiji, New Zealand)

Topic	Speaker	Time (min)
<b>Welcome</b>	<b>Dr. Mike Hopkins</b> , CEO, CEP NZ	5
<b>Online poll</b>	-	5
<b>Introduction</b> by the European Union and the NZ Ministry of Foreign Affairs and Trade	<ul style="list-style-type: none"> <li>- <b>Mr. Jean-Louis Ville</b>, Directorate-General for International Cooperation and Development, Acting Director, Asia, Central Asia, Middle East/Gulf and the Pacific, EU</li> <li>- <b>Mr. Jonathan Kings</b>, Deputy Secretary, Pacific and Development Group, NZ Ministry of Foreign Affairs and Trade</li> </ul>	10
<b>Remarks</b> by Chief Executive Officer of the Energy Fiji Limited	<b>Mr. Hasmukh Patel</b> , CEO, Energy Fiji Limited	5
<b>Setting the scene:</b> Private investment status and barriers per market segment (IPP, SHS, minigrids, C&I)	<b>Mr. Solomone Fifita</b> , Manager, PCREEE	10
<b>ElectriFI Pacific Window:</b> A flexible blended finance facility	<b>Mr. Dominiek Deconinck</b> , ElectriFI, Fund Manager	15
<b>Interventions from the region:</b> Private investment success stories, lessons learned and opportunities	<ul style="list-style-type: none"> <li>- <b>Mr. Fred Conning</b>, Deputy Project Manager, Tina Hydro, Solomon Islands</li> <li>- <b>Mr. Jean Ballandras</b>, CEO Asia Pacific, Akuo Energy</li> <li>- <b>Mr. Alessandro Medici</b>, CTO, Power-Blox</li> <li>- <b>Ms. Alix Burrell</b>, Principal Investment Specialist, Asian Development Bank (ADB)</li> </ul>	20
<b>Q&amp;A</b>	-	20
<b>Introducing GET.invest:</b> Coaching, advisory and private sector mobilisation	<b>Mr. Jan Cloin</b> , Deputy Team Leader, GET.invest	5
<b>Evaluation online poll</b>	-	-
<b>Conclusion</b>	<b>Mr. Solomone Fifita</b> , Manager, PCREEE	5



# Webinar Series: Accelerating Investments in Renewable Energy, Energy Efficiency and Smart Mobility in the Pacific Islands

## Webinar 1: Financing Renewable Energy

**Mr. Jean-Louis Ville**  
European Union



**Mr. Jonathan Kings**  
NZ Ministry of Foreign  
Affairs and Trade



**Mr. Hasmukh Patel**  
Energy Fiji Limited



**Mr. Solomon Fifita**  
PCREEE



**Dr. Mike Hopkins**  
CEP NZ



**Mr. Dominiek Deconinck**  
ElectriFI



**Mr. Fred Conning**  
Tina Hydro



**Mr. Jean Ballandras**  
Akuo



**Mr. Alessandro Medici**  
Power-Blox



**Ms. Alix Burrell**  
Asian Development Bank (ADB)



**Mr. Jan Cloin**  
GET.invest



# ACCELERATING INVESTMENTS IN RENEWABLE ENERGY, ENERGY EFFICIENCY & SMART MOBILITY IN PACIFIC ISLANDS

**Webinar I: Renewable Energy Investments in the Pacific islands:  
Opportunities to scale up and the role of flexible blended financing  
instruments**

**Setting the scene: Private Investment Status & Barriers  
(IPP, SHS, minigrids, C&I)**

SOLOMONE FIFITA

PACIFIC CENTRE FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY (PCREEE)

# STATUS OF PRIVATE INVESTMENTS

## Samoa

Population	197,000	
Installed Capacity	42 MW	
Access to Electricity	94%	
Annual Generation	132 GWh	
Renewables Target	100% by 2017	
Current RE Production	24% (2017)	
Additional RE to reach target	15-20MW of solar PV plus 5MW hydro	
Potential Investment	\$80 million	

### Rapid Expansion of Solar PV IPP

- Green Power Samoa – 4 MW (-2)
- Sun Pacific Energy – 3.5 MW
- Solar for Samoa – 4 MW
- Pacific Renewable Energy Ltd – hydro
- Biomass IPP?

# Tonga

Population	109,000	
Installed Capacity	17.3 MW (Tongatapu)	
Access to Electricity	96%	
Annual Generation	66 GWh	
Renewables Target	50% by 2020; 70% by 2030	
Current RE Production	9% (2017)	
Additional RE to reach target	15 MW of RE plus 20MWh storage	
Potential Investment	\$80 million	

## Grant funded PV Projects

Maama Mai Solar PV Project – 1.3MW

Vaini Solar PV Facility – 1MW

Wind – 1.3 MW

## Solar PV IPPs

Singyes IPP – 2MW

Sunergise NZ Ltd IPP – 6 MW

# Republic of Fiji

Population	870,000	 
Access to Electricity	98%	
Installed Capacity	237 MW	
Annual Generation	934 GWh	
Renewables Target	80% By 2020	
Current RE Production	56% (2017)	
Additional RE to reach target:	15-20MW of solar PV plus 100MW hydro	
Potential Investment	5240 million	

## **Biomass and Solar IPPs**

Nabou Green Biomass Project– 10 MW

Sunergise – 5MW Solar PV

Private investments in the Commercial & Industrial Sectors

# THE OPPORTUNITIES

Pacific DMC	Population ('000)	Land Area (km <sup>2</sup> )	Number of Islands/Atolls	GDP per Capita (current \$)	Electricity Access	Renewable Energy Target by Year
Papua New Guinea	8,738	452,860	approximately 600	2,651	12%	100% by 2030
Fiji	885	18,274	332	5,639	87%	100% by 2030
Solomon Islands	670	27,990	approximately 998	1,724	23%	79% by 2030
Vanuatu	297	12,274	84	2,876	33%	100% by 2030
Samoa	197	2,934	9 plus adjacent small islets	4,258	100%	100% by 2025
Kiribati	114	810	33	1,729	>65%	23%–40% by 2025
Tonga	105	750	171	4,011	89%	50% by 2020
Micronesia, Federated States of	102	702	607	3,300	65%	>30% by 2020
Marshall Islands	55	181	5 islands, 29 atolls made up of an indeterminate number of islets	3,669	87%	20% by 2020
Cook Islands	19	240	15	15,613	99%	100% by 2020
Palau	18	189	more than 300	16,261	98%	45% by 2025
Nauru	13	21	1	8,330	100%	50% by 2020
Tuvalu	10	27	9	3,545	98%	100% by 2020
Niue	1.6	261	1	15,074*	99%	80% by 2025

DMC = developing member country, GDP = gross domestic product, km<sup>2</sup> = square kilometer.

\* Data as of 2016.

Source: Asian Development Outlook database (2018) and Pacific Regional Infrastructure Facility. 2019. *Renewable Energy Costs in the Pacific*. Sydney (Table 1: Pacific Island Countries' Electricity Sector Overview).

# Estimated Households without electricity

- PNG – 1.28 million
- SI – 86,000
- Vanuatu – 33,000
- FSM – 6,000

## Access to Electricity in Fiji



Total Population: **884,887**



% Pop. without Electricity Access: **4%**



Pop. without Electricity: **35,395**



Total No. of Household without Elec: **8,848**



- Located in rural areas far away from the nearest national electricity grid; and
- Located on approximately 110 maritime islands

## Cases of Mini-Grid Project in PICTs

Classification	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8
<b>Project Type</b>	Solar PV mini grid	Solar PV mini grid with Diesel back up	Solar PV/ Diesel hybrid mini grid	Solar PV/ Wind / Diesel hybrid mini grid	Solar PV/ Diesel hybrid mini grid	Solar PV/ Diesel hybrid mini grid	Solar mini-grid	Solar PV/ Diesel hybrid mini grid OIREP <sup>29</sup>
<b>Location</b>	Kauma (Abemama), Kiribati	Kiritimati island, Kiribati	Kadavu island, Fiji	Nabouvalu, Fiji	Kadavu island, Fiji	Vava'u island, Tonga	Cook Islands	Islands of 'Eua, Ha'apai and Vava'u, Tonga
<b>Business Year</b>	2014	2014	2015	1997	2017	2013	2016	2017 (Project agreement signed)
<b>Scope and Major Composition</b>	42.525 kW <sub>p</sub> sola PV (180 x 235 W <sub>p</sub> ) + 3488.3AH C <sub>10</sub> Battery + 18 kW inverter (3 phase) with Diesel backup.	16.215 kW <sub>p</sub> solar PV + 2150AH C <sub>10</sub> battery + 12 kW inverter	249 kW <sub>p</sub> solar PV + 2 x 23 kW Hatz twinpacks, low load diesel generators	37.4 kW <sub>p</sub> solar PV + 8 x 6.7 kW Bergey wind + 50 kW battery + 2 x 100 kVA diesel generators	30 kW <sub>p</sub> solar PV + 32 kVA diesel generators -	420 kW <sub>p</sub> Solar PV+ 930 kW Diesel + 100 kW Battery	Solar Photovoltaic plants under Cook Islands Renewable Energy Sector Project(COO46 453-002) Phase 1	9 islands, Solar PV 1.25MW <sub>p</sub> in total and ESS
<b>Funding</b>	A component of EU 10 <sup>th</sup> European Development Funding (EDF)- Total 4.1 Million Euros	A component of EU 10 <sup>th</sup> European Development Funding (EDF)- Total 4.1 million Euros	UAE Pacific Partnership Fund (Total 5 million USD for 3 projects in Fiji)	MOFA, Japan (F\$ 800,000) + FDoE, Fiji F\$ 230,000	Korea Government (1.5 M USD) + Fiji Government (500, 000 FJD)	UAE partnership Fund	NZD 30M(USD 20M), ADB Loan	ADB concessional lending

# KEY BARRIERS TO INVESTMENTS IN RE IN THE PICS

- Credit worthiness of power utilities and governments
- Power Purchase Agreements
- Preparing quality bankable projects and packaging of funds
- Economy of Scale
- Comprehensive policies and plans
- Effective regulatory frameworks

# DEVELOPMENT AND PROGRESS

- Early donor supported developments are being expanded through IPPs
- Solar PV is the most common, while largest capacity is from hydro (PNG, Solomon Islands and Fiji), wind resources are mixed and large-scale biomass is limited
- Unexplored opportunities in SHS, mini-grids & C&I
- Future pipeline of more than a billion USD
- Financial guarantees remains a key challenge
- On-going legal and regulatory reforms & enhanced capacity building
- Unparalleled political commitments to RE
- The private sector involvement can only grow
- The Pacific is open for business!

# PCREEE CONTACTS



## PHONE

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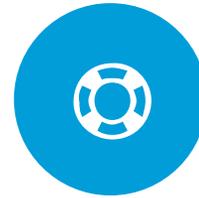
Land Line: 20100 (EXT 812)



## LOCATION

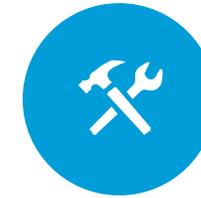
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## WEBSITE

<https://www.pcreee.org/>



# EDFI **ElectriFI**

## The EU Electrification Financing Initiative

Accelerating Investment in Renewables, Energy Efficiency & Smart Mobility  
in the Pacific Islands

Septembre 2020



# An impact investment facility

A closed-ended facility launched by the European Commission at COP21 in Paris and focused on access to energy in frontier markets



COP21 - CMP11  
**PARIS 2015**  
UN CLIMATE CHANGE CONFERENCE

ElectriFI intends to catalyse private investment by

- investing in **early stage** private companies and projects in **emerging markets**.
- focusing on **new/improved electricity connections** as well as on **generation capacity** from **sustainable energy sources**

## ElectriFI's Pillars

1

### ADDITIONALITY

Crowding In + Derisking + facilitating

2

### NEUTRALITY

No distortion + Exit strategy + Transparency

3

### IMPACT

Beneficiaries + technologies + capacity + connections + jobs + CO<sub>2</sub> emissions

4

### REIMBURSABILITY

Private sector + Equity to debt + HCY or LCY + EUR 0.5 to 10 M + Long term



# The Pacific Regional Window

- **Amount:** EUR 8 millions
- **Focus:** deal with market barriers and attract new investments in the pacific region
- **Sectors:** Off-grid & on-grid generation, Energy Efficiency projects and smart mobility



# Business models



## MINI GRID

- small-scale electric networks
- isolated (mostly rural) group of customers
- Independent from national electricity transmission networks



## SOLAR HOME SYSTEM

- Stand-alone photovoltaic systems that offer a cost-effective means of supplying power for lighting and appliances to remote off-grid households



## INDEPENDENT POWER PRODUCER

- Private facilities generating electric power for sale to utilities.
- Either energy producers, or non-energy companies selling their excess energy production



## CAPTIVE POWER PLANT

- Industrial or commercial power generation facility used and managed for own consumption.
- off-grid or on-grid



## OTHERS

- Energy efficiency
- Smart mobility
- Etc.

# How do we work ?

To achieve its targeted impact ElectriFI invests directly in **privately held enterprises** as well as indirectly, through **financial intermediaries**

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## Instruments

Equity, quasi-equity, junior/senior debt, both at corporate and project level

We invest mainly equity to catalyse other investors

## Commercial Terms

Pricing and return expectations subject to business model, stage of the company, track-record, country & technology risks, and fund targets

We invest at market terms reflecting a high risk appetite and conducive structuring

## Ticket size

From 0.5 to 10 million euros

We can fund up to 50% of the total funding

## Currency

EUR, USD or local currency financing

# Mini-grid



Former  
Kivu Green Energy

## Democratic Republic of the Congo

- USD 1,43 million
- Equity

Nuru is a company dedicated to enhancing connectivity in the DRC. It deployed Congo's first solar-based mini-grid in 2017 and is currently constructing a 1.3MW solar hybrid site in Goma, the largest off-grid mini-grid in sub-Saharan Africa.

## Targeted impact

- 560 connections
- 2800 beneficiaries
- 1,3MW ~ 1700MWh/y ~ 1360 tCO<sub>2</sub> eq/y

**Catalytic effect:** NURU is raising additional funds (between USD 7.5 m and 20 m) to finance its 7MW pipeline in new mini grid projects. closing expected late 2020 early 2021. Following on the ElectriFI investment, new investors will join this round: interest is shown by DFIs and by IFC, amongst others

ElectriFI was  
the very first  
investor in  
the company



# Solar Home Systems



LIFE CHANGING  
TECHNOLOGY

## Kenya - 2018

- USD 1,5 million
- Junior debt

Azuri International is one of the upcoming leading SHS companies with high quality systems sold through pay-as-you-go (PayGo) and offering reliable electricity connections to rural areas across East Africa

## Targeted impact

- 80 000 connections
- 400 000 beneficiaries
- 820 kW ~ 1 433 MWh/y ~ 9 742 tCO<sub>2</sub> eq/y

**Innovative structuring:** the off-balance structuring of our investment to Azuri is deemed as one of the important growth axes within the SHS business.

**Catalytic effect:** the junior debt provided by ElectriFI played a catalysing role for senior debt investors.



## NEWS ALERT – 4 June

Solar Pioneer Azuri  
Technologies Announces  
\$26 Million Equity  
Investment

# Solar Commercial & Industrial



## Ghana - 2018

- USD 2 million
- Senior debt

REDAVIA offers rental solar power for businesses and communities – with a regional focus on East and West Africa. REDAVIA's modular solar farms play a catalytic role in bringing solar PV solutions to medium-sized enterprises in Ghana. It revolutionizes the energy access and brings strong economic benefits for the off-takers.

## Targeted impact

- 26 700 connections
- 135 000 beneficiaries
- 33,4 MW ~ 47 898 MWh/y ~ 16 700 tCO<sub>2</sub> eq/y

**Catalytic effect:** ElectriFI supported a company with little track-record but with a strong product offer in a deep but untapped Ghanaian market.



## NEWS ALERT – 5 March

REDAVIA Supports Leading International Chocolate Manufacturer Barry Callebaut to Reduce Its Carbon Footprint

# Independent Power Producer - Hydro



## Sierra Leone - 2018

- USD 3,5 million
- **Senior convertible debt**

Joule is the development company of the Bumbuna II hydropower project. ElectriFI will fund the external expenses for environmental and social studies and action plans to be put in place in this post conflict country.

## Targeted impact

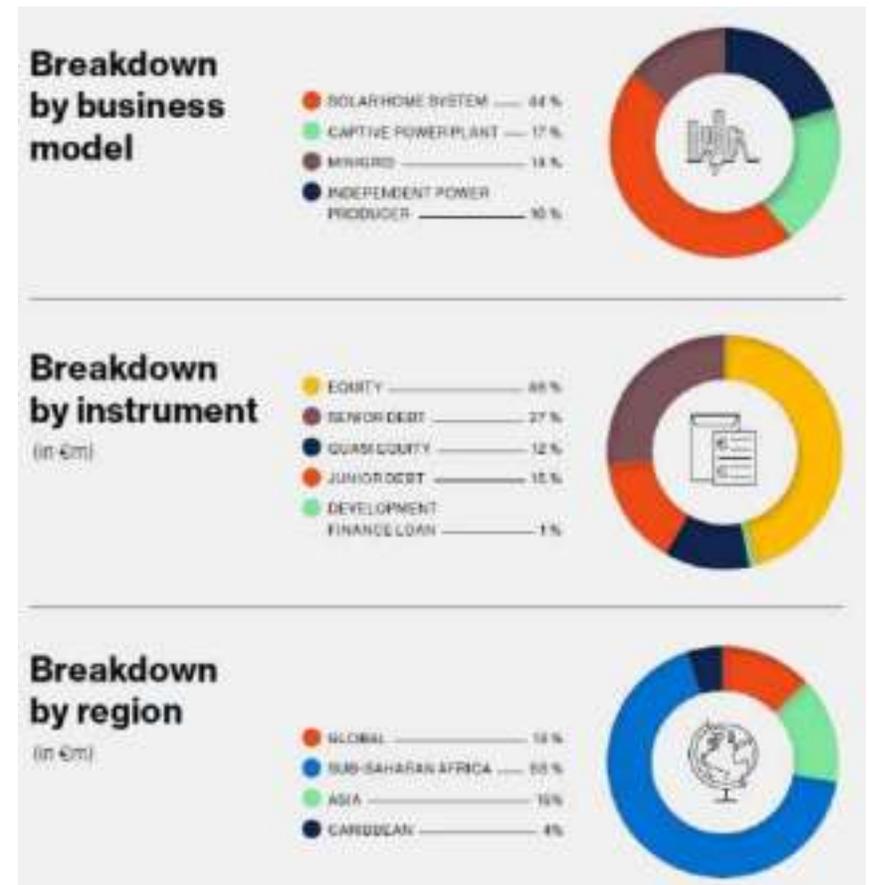
- 6,5 million beneficiaries
- 143 MW ~ 973 000 MWh/y ~ 391 000 tCO<sub>2</sub> eq/y

**Supporting governmental strategies:** the Bumbuna II hydropower is Sierra Leone's largest infrastructure project and a key part of the Government's long term Energy Plan.



# Achievements

In 2019, ElectriFI increased its total investments by more than EUR 40m reaching a total investment of EUR 53m and catalysing a further EUR 90m invested in those same companies.



## The EU Electrification Financing Initiative

Investing in **early stage** private companies and projects offering **sustainable energy** solutions in **emerging markets**

Focusing on **new or improved electricity connections** and on **generation capacity (mainly off-grid)**

### Business models



Mini-grid



Solar Home Systems



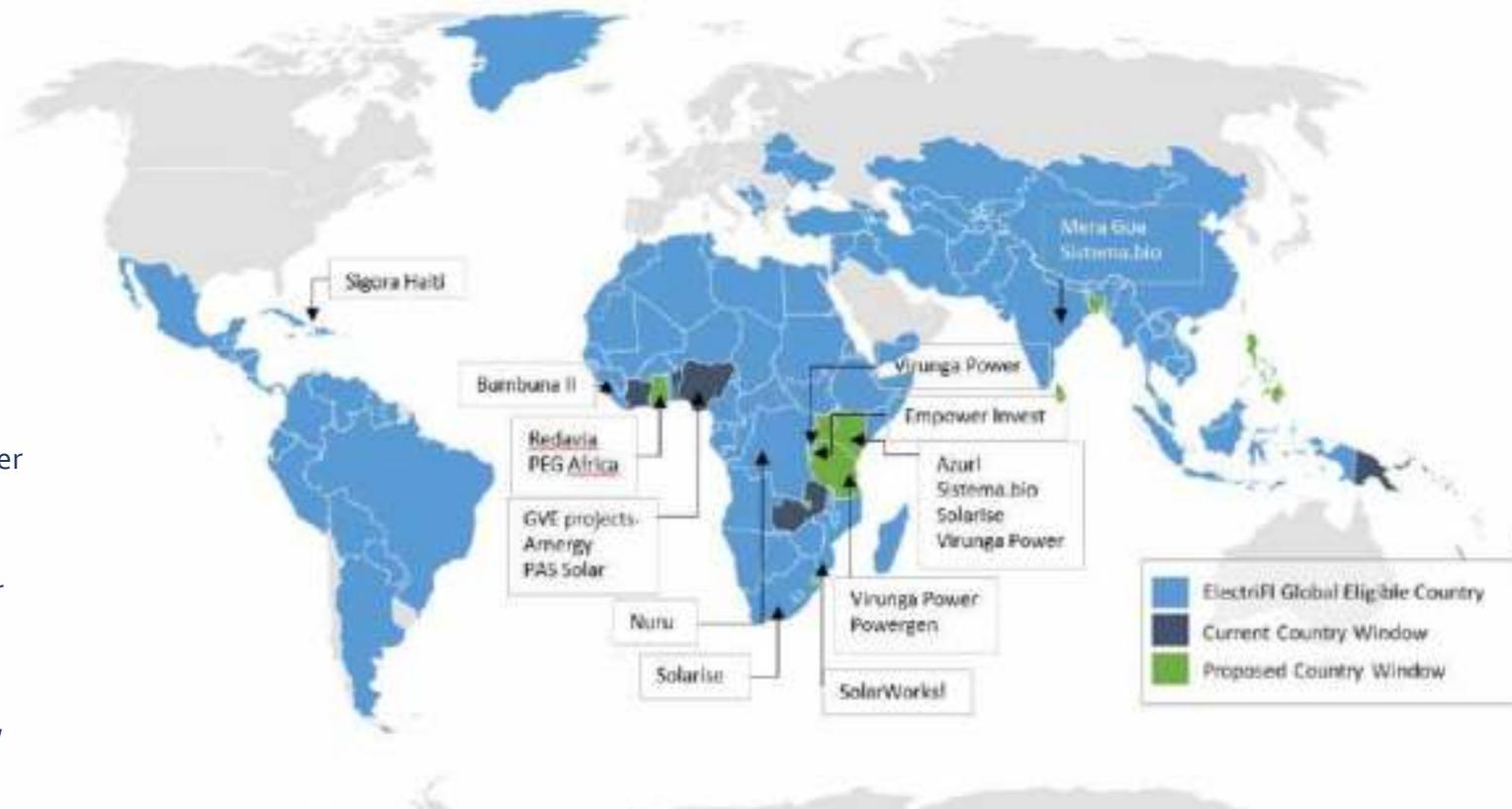
Independent Power Producer



Captive Power Plant



Others: hydro, biomass,...



### Applying & monitoring high impact standards:

- Additional installed generation capacity
- Volume of GHG emissions reduced
- Number of new or improved connections
- Number of beneficiaries
- Number of jobs created
- Business and women empowerment

**Driven by additionality:**  
investing where others can't



# Get in touch

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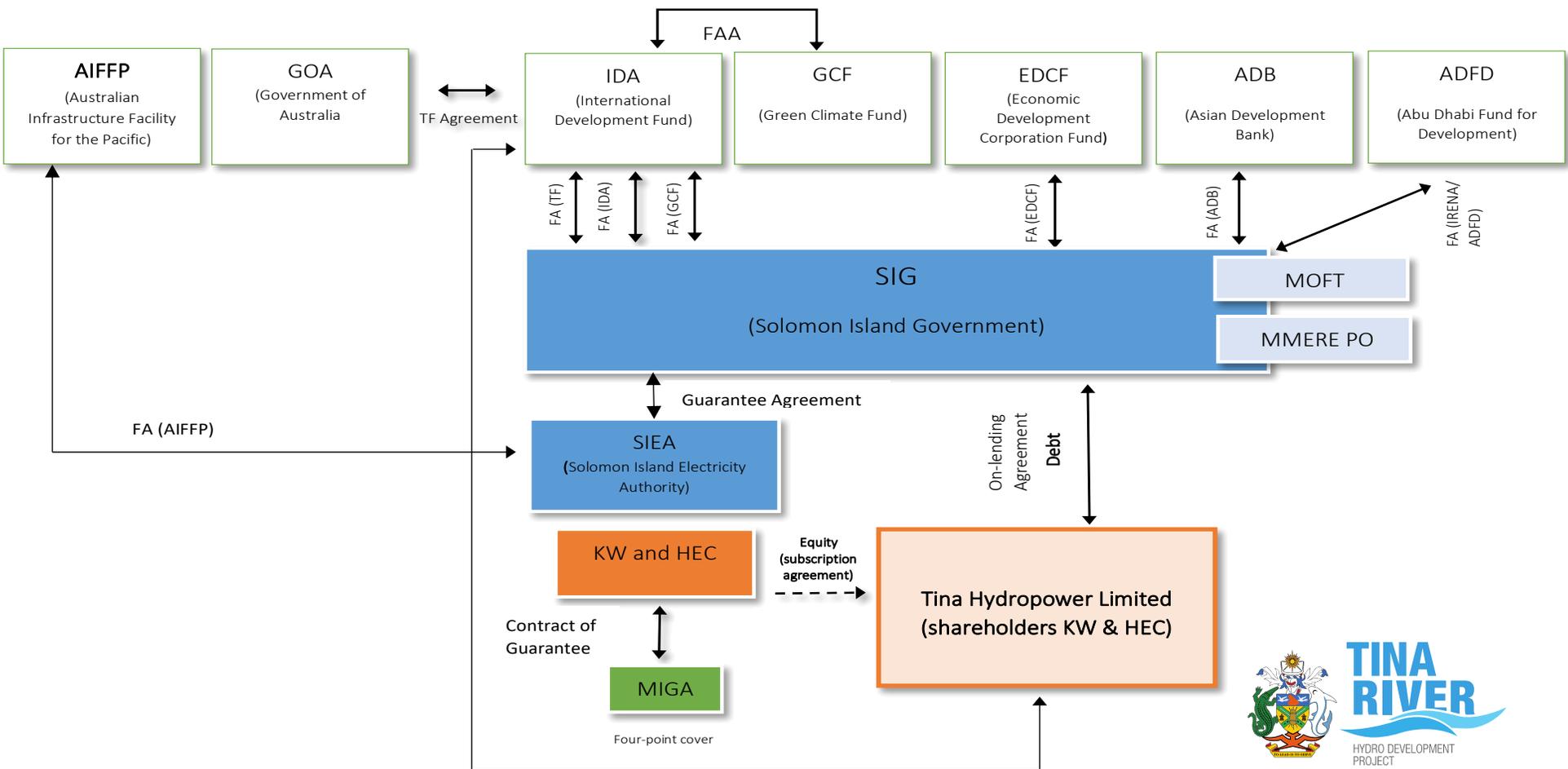
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# Financing Arrangement for Tina





## AGRINERGIE® SOLAR POWER PLANT FOCOLA



New  
Caledonia



1,7 MWp



836 homes supplied  
with electricity



Strawberries,  
cauliflowers, eggplants,  
zucchini, tomatoes,  
capsicums, melons



# Island electrification on Vanuatu

## Business model to electrify 60 islands

### Cornerstones of Power-Blox approach

- Identification of the economic potential -> productive use
- Flexible, modular and simple (frugal) technology
- Digitalization and data gathering as key
- Rapid implementation

### Business Model

- Pay as you go model with prepay metering
- Portfolio approach to do cross subsidizing between islands

### Finance Model

- Pilot project on Lelepa island based on a 100% grant from UNDP
- CAPEX for electrification of all 60 islands:
  - Mini-Grid: 17.4 Mio USD
  - Production: 15.4 Mio USD
- Blended finance approach to de-risk investments for Impact Investors
- Currently securing project investment

### Returns

- IRR Project: 12.9%
- IRR Equity: 17.8%
- Payback period: 10 years

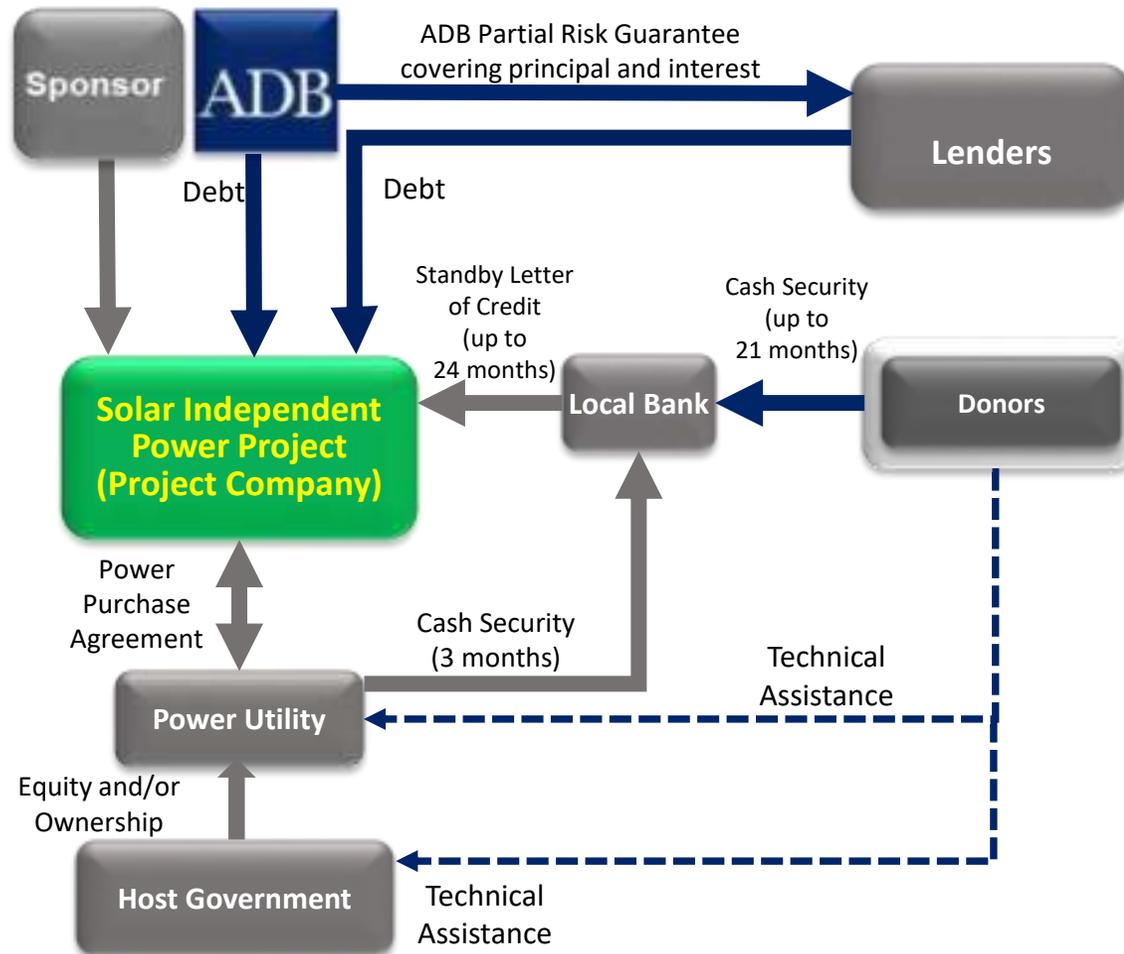
- Further projects in Angola, Mozambique, Mali, Rwanda, Guinea, Zambia, Senegal, Burkina Faso, and other countries
- Contact for interested investors: [alessandro.medici@power-blox.com](mailto:alessandro.medici@power-blox.com)





The Program encourages private sector renewable energy investment by supporting short term liquidity risk through a donor backed standby letter of credit and by supporting long term investment through a partial risk guarantee.

### Program Overview for a Potential Solar Independent Power Project



### Key Features

- 1 Up to 99% Partial Risk Guarantee (PRG)\***  
 Issued by ADB in favor of qualified lenders to the project company to guarantee against the following:
  - ▶ Denial of justice and arbitral award default
  - ▶ Transfer restriction
  - ▶ Expropriation
  - ▶ War and civil disturbance
- 2 Letter of Credit (LC)\***  
 Issued by a local bank in favor of the project company, and in an amount sufficient to cover the monthly payment obligations of the power utility under the PPA for up to 24 months
- 3 Technical Assistance (TA)\***  
 Arranged by ADB to assist the host government and/or the power utility with project preparation (e.g., tender preparation, power purchase agreement drafting)
- 4 ADB Debt Financing\***  
 ADB's private sector operations department may lend to the project company alongside commercial lenders.

\* Indicative only, subject to ADB satisfactory due diligence, internal credit and Board approvals, and final documentation relevant to each IPP and its sponsors.



**JAN CLOIN**  
Deputy Team Leader



# GET.invest

*Mobilising Investments in Decentralised Renewable Energy*

GET.invest is supported by



# What is GET.invest?

- A European programme to support investments in decentralised RE in partner countries
- Delivering on priority initiatives of the European Union and its member states, supported by the European Union, Germany, Sweden, the Netherlands and Austria.
- Hosted on the European multi-donor platform GET.pro and implemented by GIZ



# How does GET.invest deliver?



**Private sector mobilisation** → Stimulating partnerships and new investments

- Market Information
- Matchmaking Meetings
- Demand Stimulation
- Empowering Associations

**Pipeline development** → Getting existing projects ready for financing

- Expert coaching and advisory
- Develop project documents
- Capacity development of key stakeholders



# Market Information

- Country Briefs
- Market insight packages
  - Developer Guide, case studies and model business cases
- Online funding database
  - Selected search criteria to find project funding



# Matchmaking Events

- Events deliver:
  - Information
  - Mobilisation for advisory support
  - Stimulating B2B cooperation
- Ideally attached to other events for efficiency



# Highlight: GET.invest Finance Catalyst



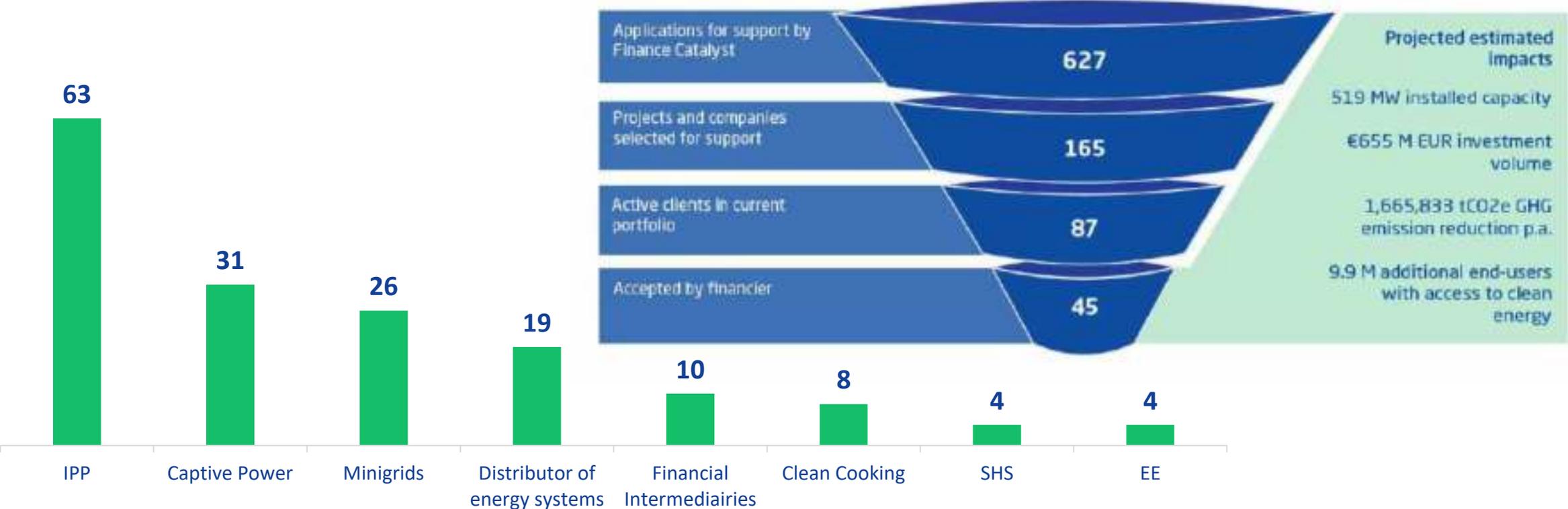
- **Honest-broker** advisory to project and business developers
- Investment strategy, structuring support, finance access support, transaction support
- Success indicator: projects are taken up by financiers
- Project information submitted is treated **confidentially**



# Results: Current Portfolio



GET.invest Finance Catalyst



# Caribbean Experience

- 8 Pipeline projects receive support from the [Finance Catalyst](#):
  - 4 Independent Power Producers
  - 2 Energy Efficiency
  - 2 Captive Power
- Organisation of Regional Events (ex. [Mobilising Renewable Energy Investments in Climate in the Caribbean](#)) in order to mobilise the market and generate leads for the Finance Catalyst.
- Partnering with [PFAN](#) to support [CCREEE](#) with the design and establishment of regional Project Preparation Facility (launch est. November 2020)

# GET.invest in the Pacific



- GET.invest has worldwide experience with promoting investment in decentral renewable energy (Finance Catalyst) and is **open for business** in Pacific
- Seeking opportunities to co-organise **investment-oriented events** with partners including (virtual) **matchmaking meetings** to increase collaboration
- Support wider dissemination of market information and **strengthen capacities** in partnership with regional actors



## Interested? Meet the Advisor!

- Contact [pacific@get-invest.eu](mailto:pacific@get-invest.eu)
- Send a brief intro about your venture/project
- Get the opportunity for an intro call with the advisors:
  - GET.invest – Finance Catalyst Advisor
  - ElectriFI – Investment Officer



# Thank You for Your Attention!



**JAN CLOIN**

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# Webinar Series: Accelerating Investments in Renewable Energy, Energy Efficiency and Smart Mobility in the Pacific Islands

## Webinar 1: Financing Renewable Energy

Thank you for joining us!

Next webinars: register [www.cep.org.nz](http://www.cep.org.nz)



22 Sept: Energy Efficiency



29 Sept: Smart Mobility



Meet the Advisor: [Pacific@GET-invest.eu](mailto:Pacific@GET-invest.eu)

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