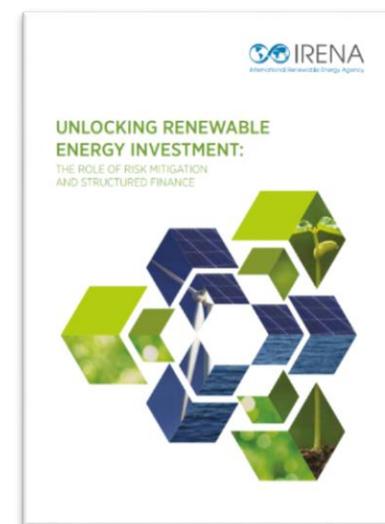


Access to Finance for Renewable Energy in Developing Countries

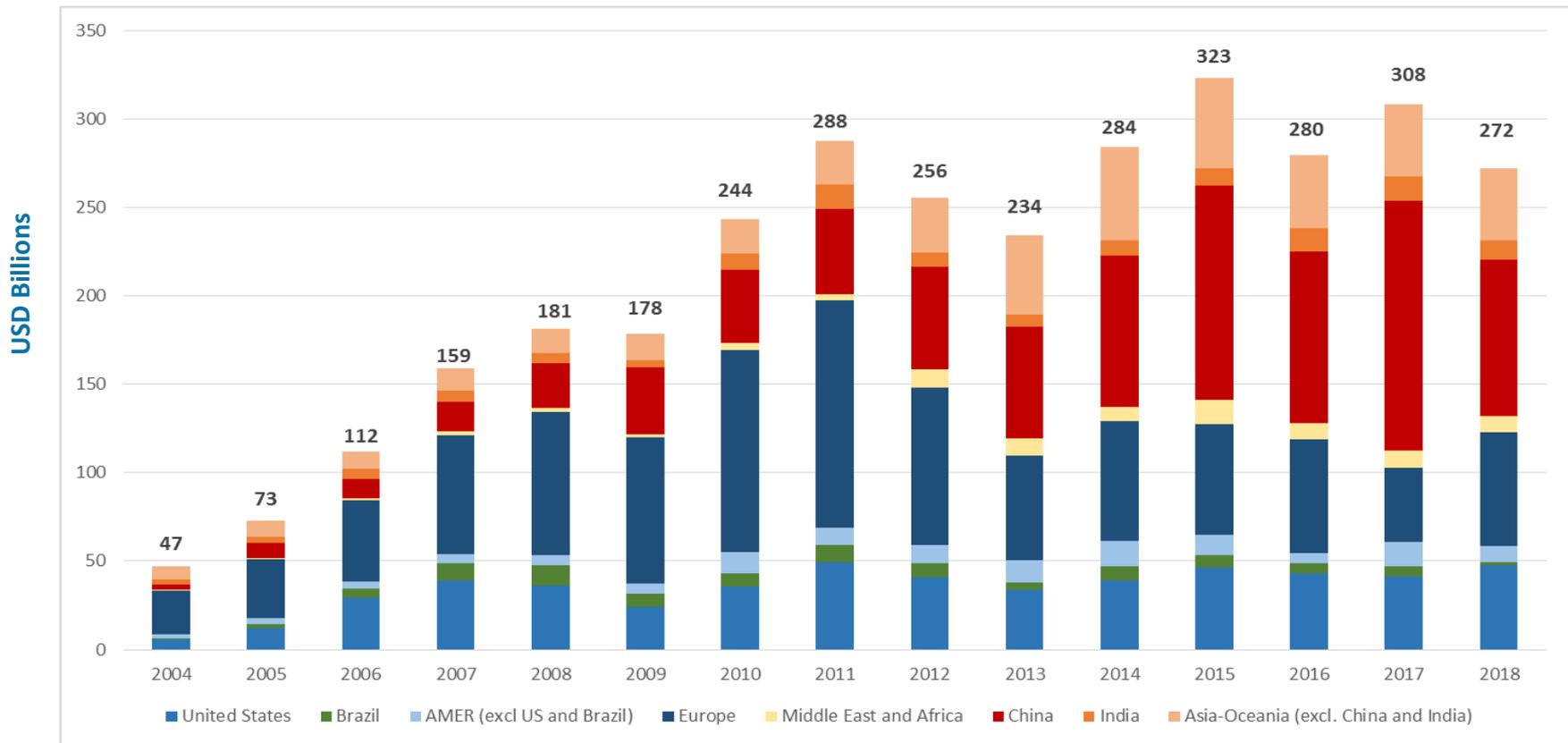


- **Global Landscape of Renewable Energy (RE) Finance**
- **Sources of RE Finance**
- **Barriers to Financing RE Transitions**
- **Unlocking Renewable Energy Investments**
- **Project Facilitation – Tools and Platforms**
- **Project Facilitation – Capacity Building**



Global Landscape of Renewable Energy Finance

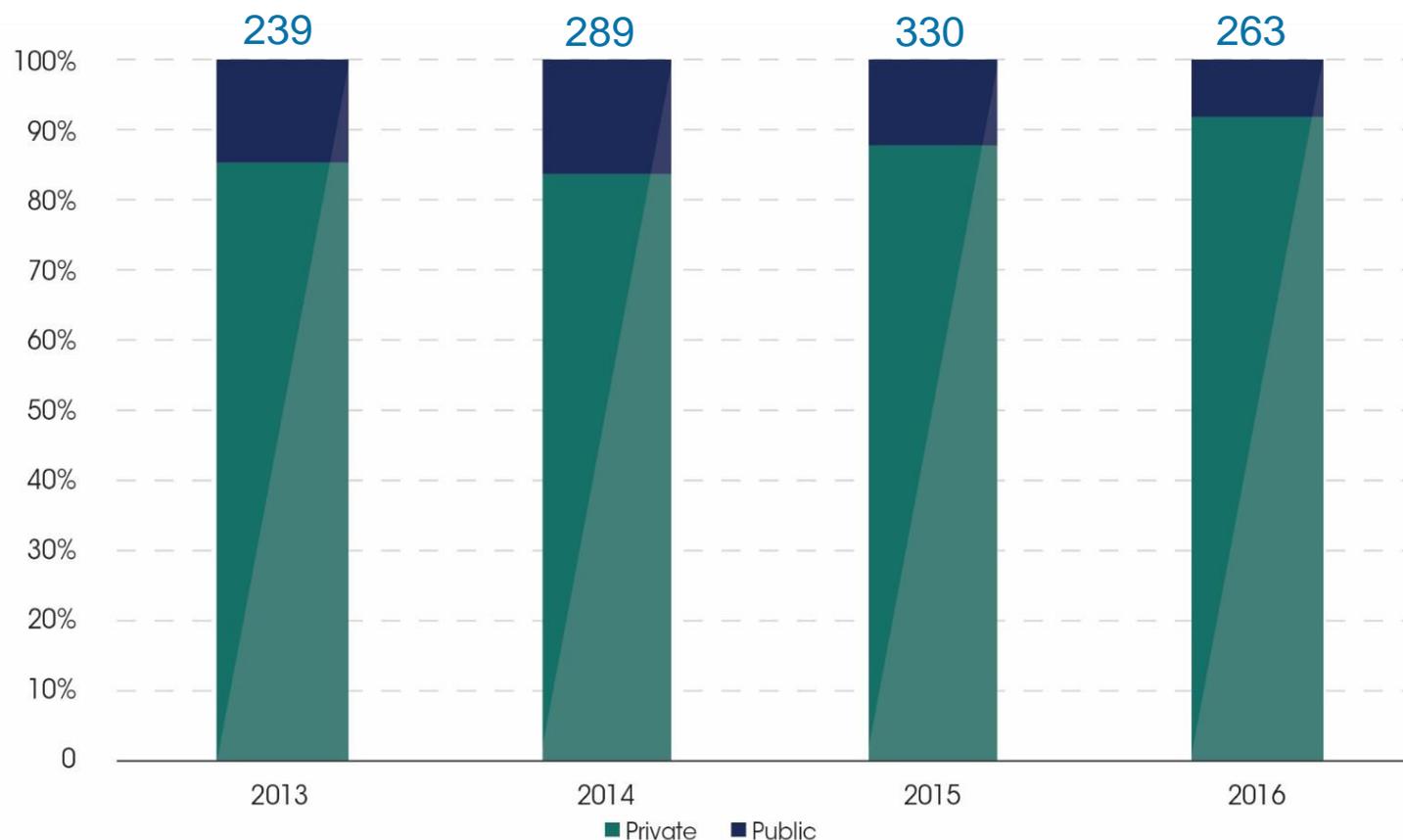
Investments by region Growing share in emerging markets in recent years



Source: BNEF 2019

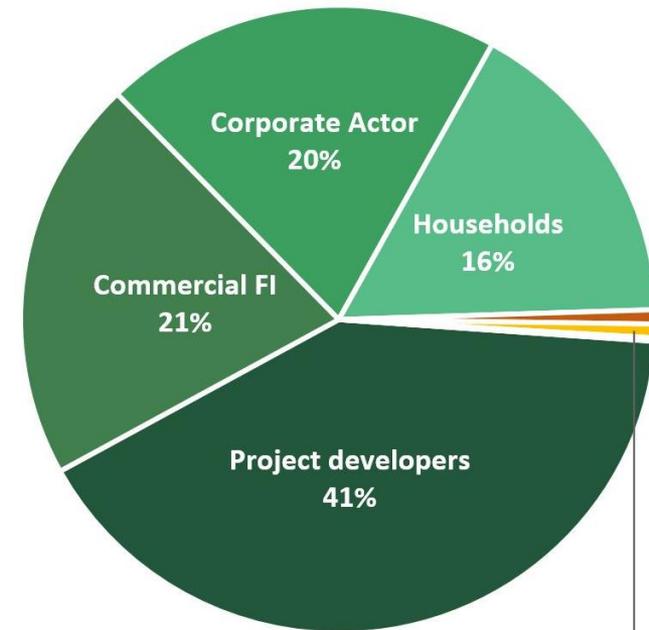
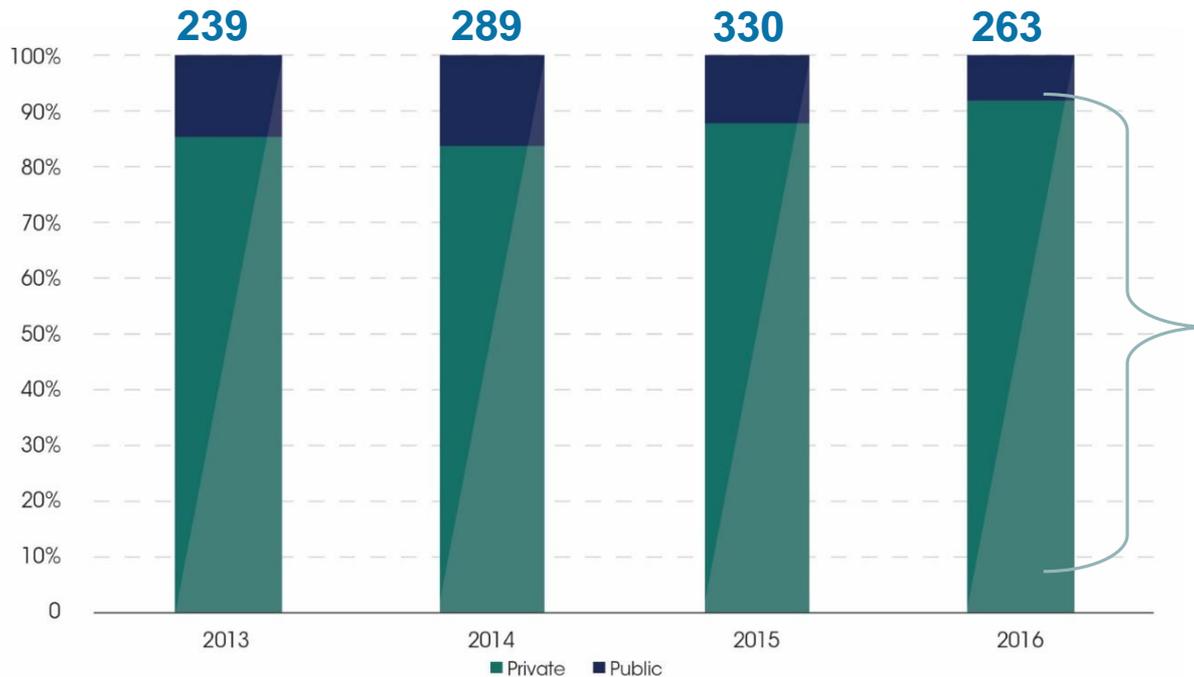
Sources of Renewable Energy Finance

Private sources provide the bulk of direct investments in renewables – averaging 87% through 2013-2016.



Sources of Renewable Energy Finance - Private

Project developers account for the largest portion of private capital.

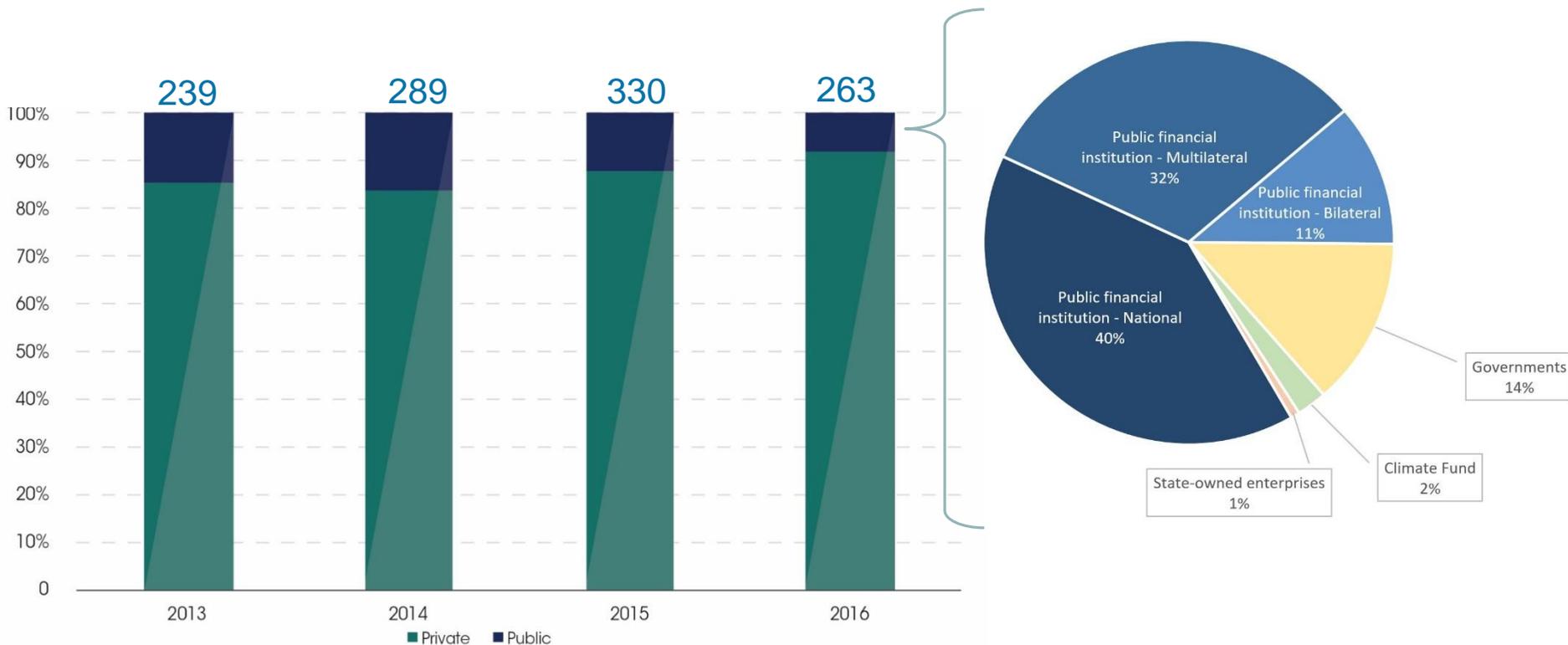


Source: IRENA and CPI (2018)

Institutional investors, PE/VC, Infrastructure funds, other
2%

Sources of Renewable Energy Finance - Public

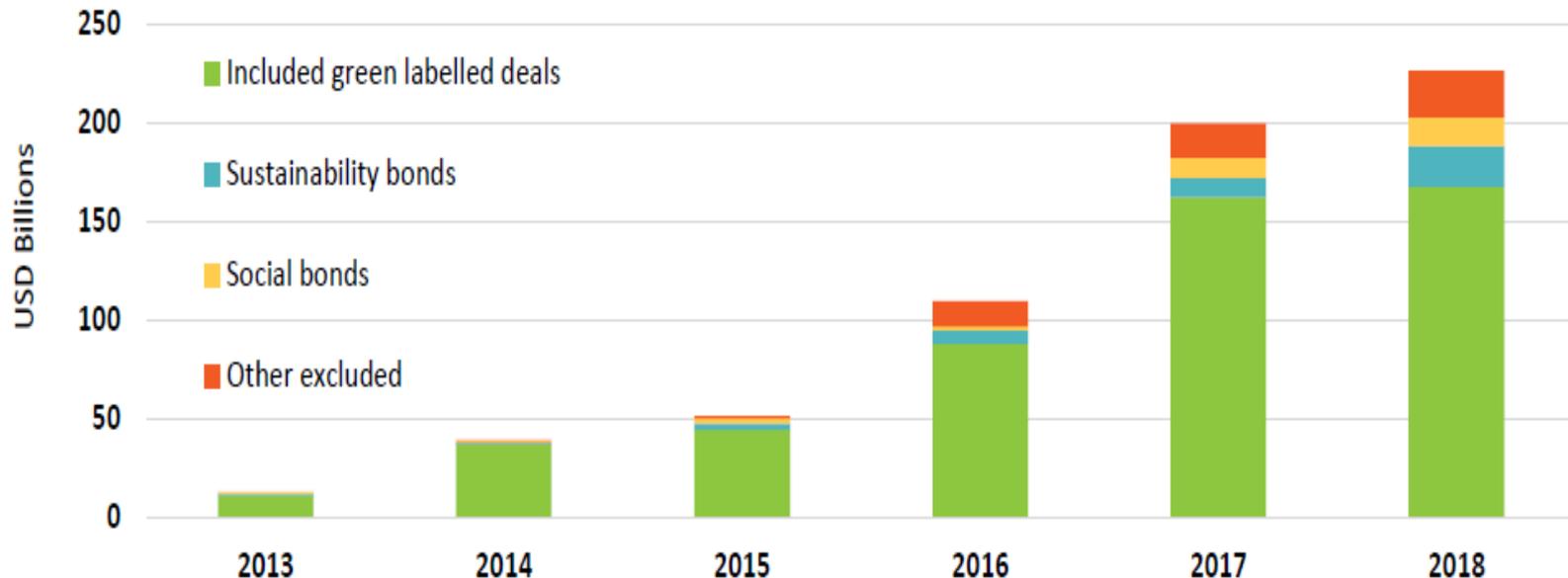
Public finance institutions accounted for 85% of public direct investment in 2013-2016 (\$35bn p.a.).



Source: IRENA and CPI (2018)

Sources of Renewable Energy Finance - Green Bonds

**Strong growth of labelled “green bond” issuances in the past 5 years
From \$37bn in 2014 to \$167bn in 2018**

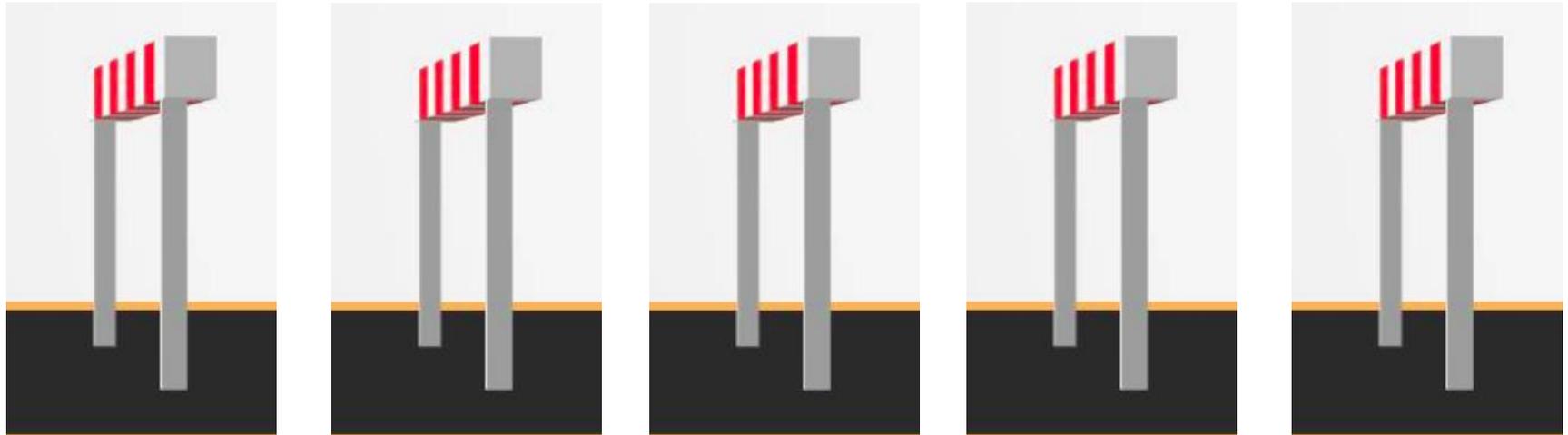


- **USD 165bn issued in 2018**
- **Official green bond guidelines are an important catalyst for new green bond markets.**
- **Sovereign bonds: Poland, France, Fiji, Nigeria, Indonesia, etc.**

Due to strong demand for ESG-robust investments from investors, green bonds are often oversubscribed.

Source: Climate Bonds Initiative (2019)

Barriers to Financing RE Transitions



Non-transparent frameworks
(policy, regulatory, institutional)

Undeveloped financial markets;
Lack of local capital

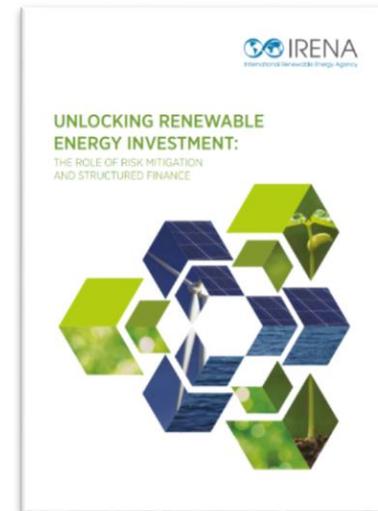
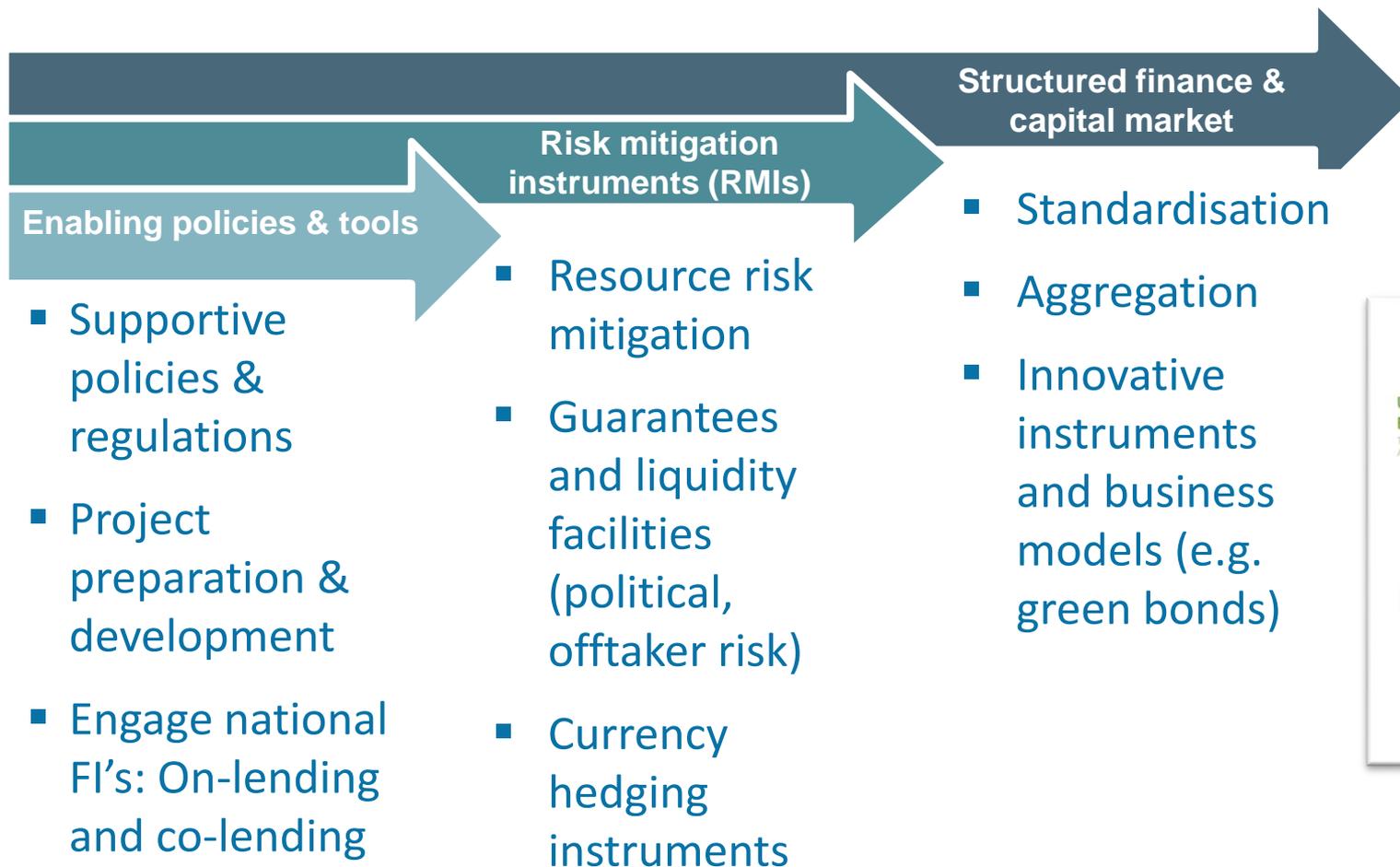
Lack of capacity to develop investor ready projects

Perceptions of elevated risk
(currency, offtake, political)

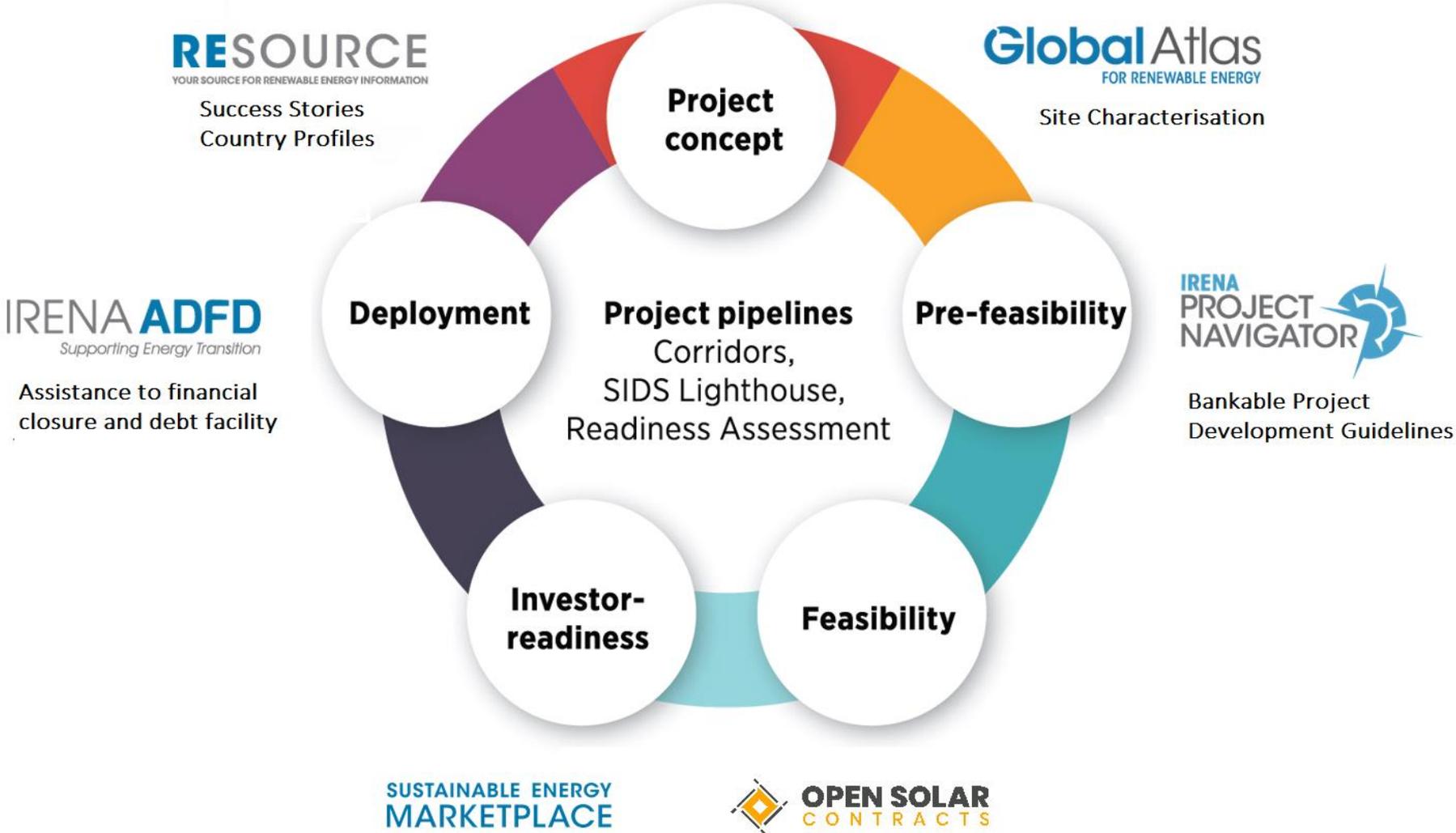
Transaction cost

As renewables become increasingly cost-competitive, it is imperative to overcome these barriers to seize opportunities.

Unlocking Renewable Energy Investments



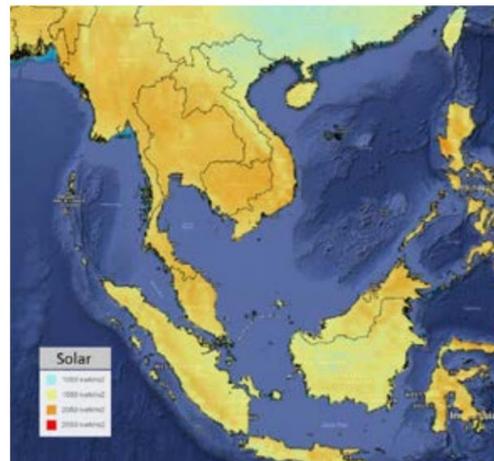
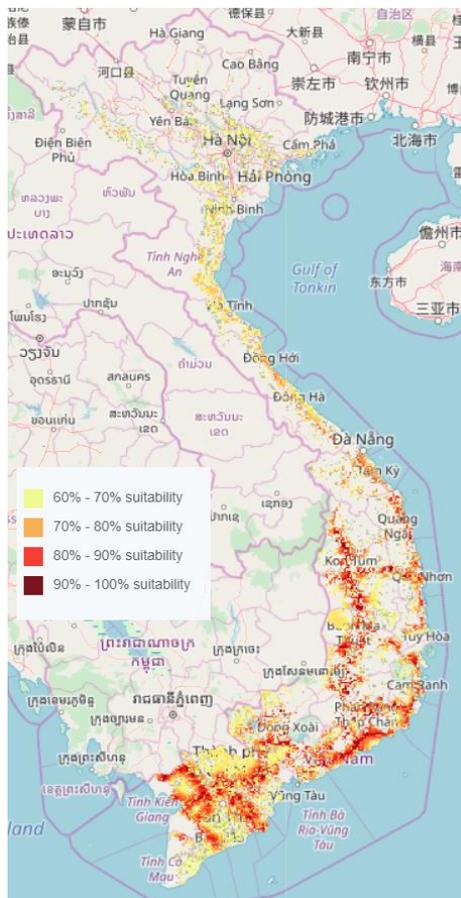
Project Facilitation - Tools and Platforms



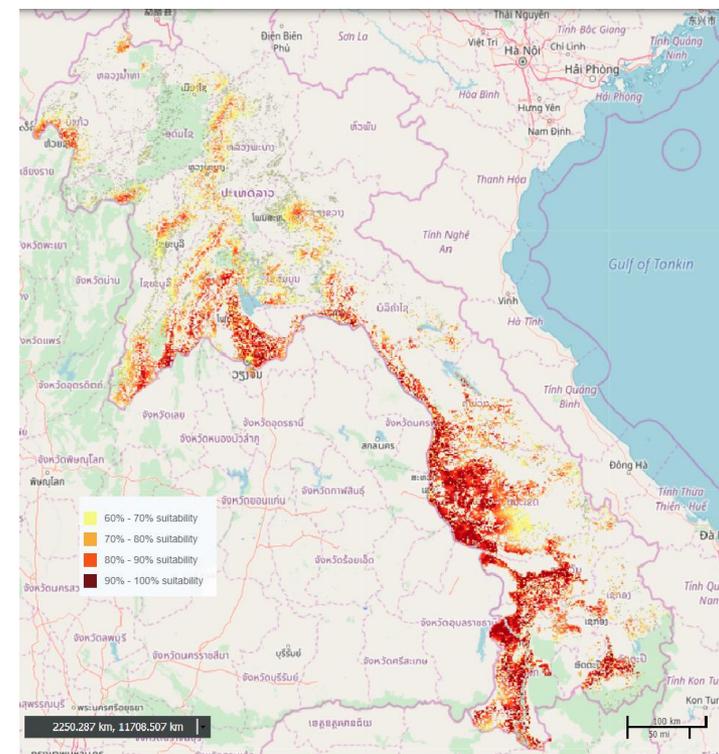
Project Facilitation - Global Atlas for Renewable Energy

Global Atlas FOR RENEWABLE ENERGY

The Global Atlas for Renewable Energy:
Resource zoning exercise for Lao PDR and Viet Nam



ore wind speed at 80m height, extracted from IRENA Global Atlas on www.meteonorm.com, extracted from IRENA Global Atlas



Rooftop Solar PV Simulator for Developing Cities

GlobalAtlas SolarCity Engine

Municipality Level



Community Level



- The first implementation in a developing city (Kasese, Uganda)
- The first built at significant low cost with reasonable accuracy
- The second implementation will be for Zhangjiakou, China
- It ensures the simplicity of operation and transfer to Municipal authorities in cities

Work Flow

1. Creation of detailed 3D building footprint and digital elevation model (DEM)

2. Simulation of solar rooftop resource

3. Identification of suitable roof areas

4. Simulation of rooftop systems

Project Facilitation - Project Navigator

The challenge of RET projects

- » Failing to prove project bankability to funding institutions
- » Insufficient knowledge on project proposal development
 - » Higher project development costs
 - » Higher risk of project failure



Objectives

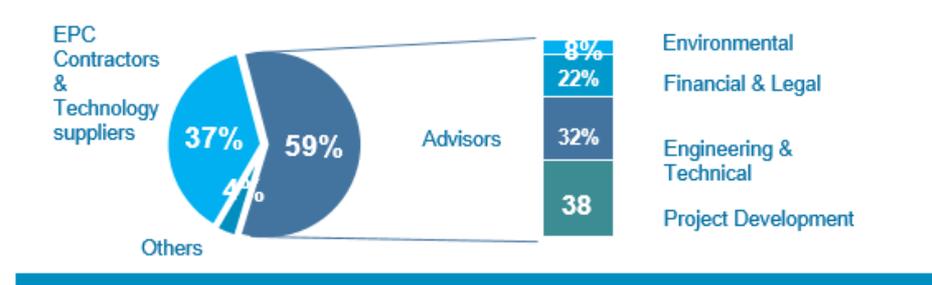
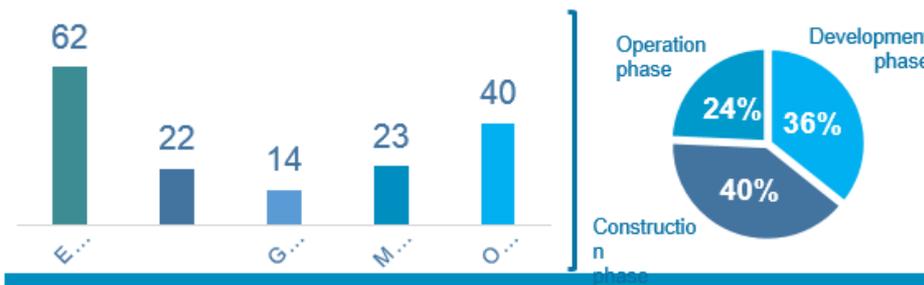
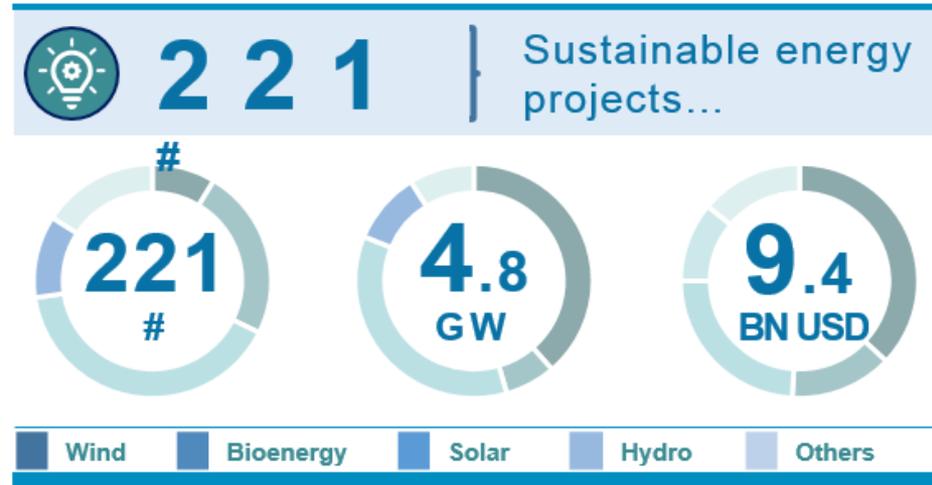
- » Increase the bankability of projects by:
 - » Strengthening the project development base
 - » Enhancing the quality of project proposals
 - » Reducing costs and mitigating risks through proper planning and efficient use of funds
 - » Facilitating effective implementation

Scope

- » All RETs
- » Different finance types: grants, loans, equity
- » Project sizes: from individual use to utility scale projects
- » Global: all geographical regions



Project Facilitation – Sustainable Energy Marketplace



Project Facilitation – Sustainable Energy Marketplace



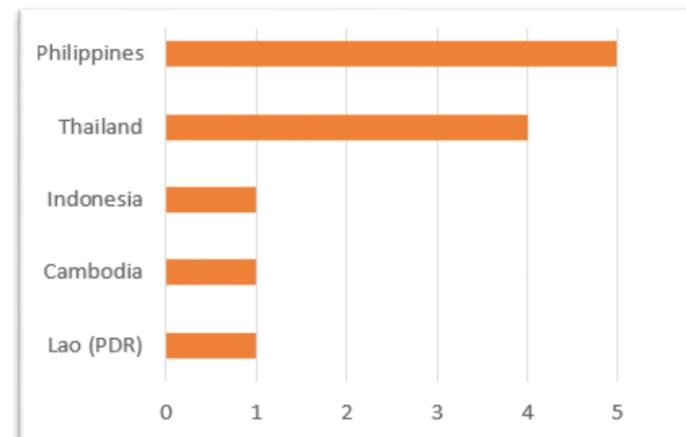
1 2 #

Sustainable energy
Projects in SE Asia Marketplace



Investment
opportunity

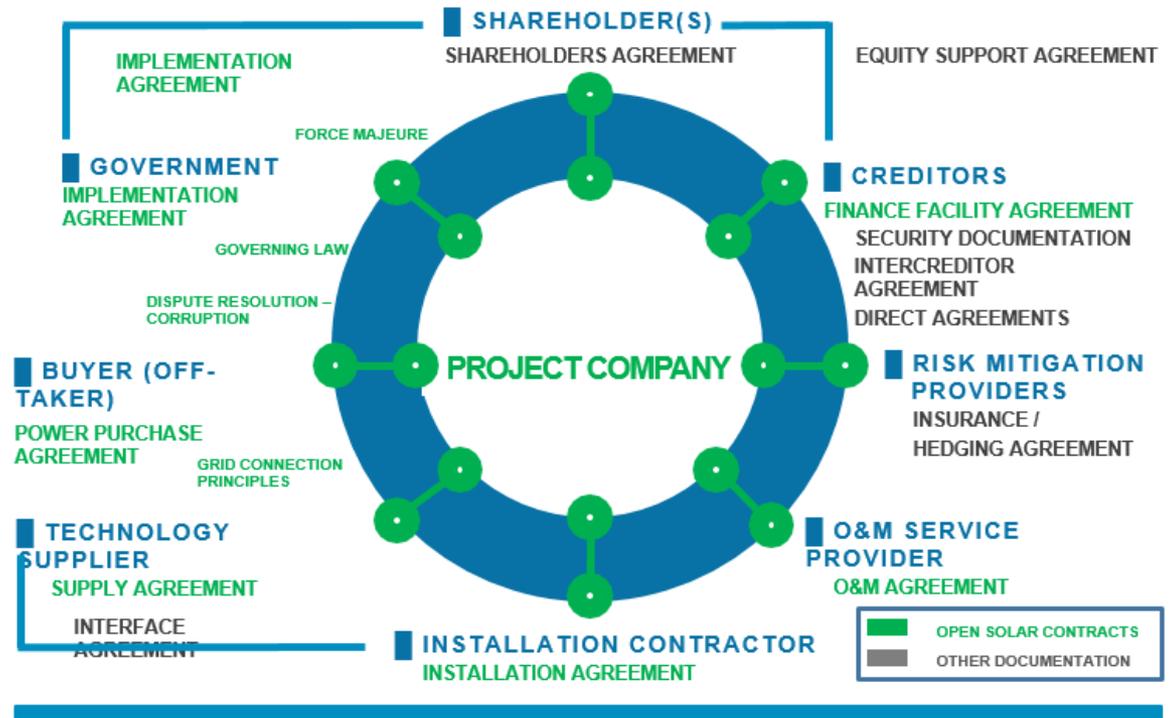
- Biogas - Heat
- Biogas – Power
- EE Transport
- Hybrid – Other
- Hydropower
- Solar - PV - Rooftop/building integrated/distributed
- Solid Biomass - Fuel production
- Solid Biomass - Power



Project Facilitation – Open Solar Contracts

A simplified and standardized contractual documentation solution to:

- DECREASE** legal transaction costs
- EXPEDITE** project timelines
- BALANCE** risk allocation / **REDUCE** cost of capital
- ENABLE** Governments to **ATTRACT** more capital
- BUILD** the ground for project aggregation



PARTNERS



Project Facilitation – Capacity Building



Partnership with Ministry of Environment Japan

Capacity building for Pacific SIDS to improve the understanding of the operational policies and procedures of different climate finance entities and develop draft concept notes for renewable energy projects.



Partnership with SPC's PCREEE and IUCN

Capacity building for national financial institutions in Pacific SIDS to enhance the understanding of the renewable energy sector; frameworks for enabling renewable energy deployment, and the upskilling of staff in national financing institutions.



Partnership with Caribbean Development Bank

Regional matchmaking event for the Caribbean, for project developers to pitch their business proposals to financial institutions, service providers, private equity funds, development financial institutions, financial advisors and legal experts.

SPC: Secretariat of the Pacific Community
PCREEE: Pacific Center for Renewable Energy and Energy Efficiency
IUCN: International Union for the Conservation of Nature



International Renewable Energy Agency



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Programme Officer - RE Project
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