



4TH INTERNATIONAL OFF-GRID RENEWABLE ENERGY CONFERENCE & EXHIBITION

IRENA project facilitation tools to support funding for renewable energy

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IRENA Innovation and Technology Centre





RESOURCE
YOUR SOURCE FOR RENEWABLE ENERGY INFORMATION

Success stories
Country profiles

GlobalAtlas
FOR RENEWABLE ENERGY

Site characterization

**Project
concept**

Deployment

Project pipelines
Corridors, SIDS
Lighthouse,
Readiness

**Pre-
feasibility**

Assistance to
financial closure
and debt facility

Bankable project development
guidelines

IRENA ADFD
Supporting Energy Transition

**Investor
ready**

Feasibility

**IRENA
PROJECT
NAVIGATOR**

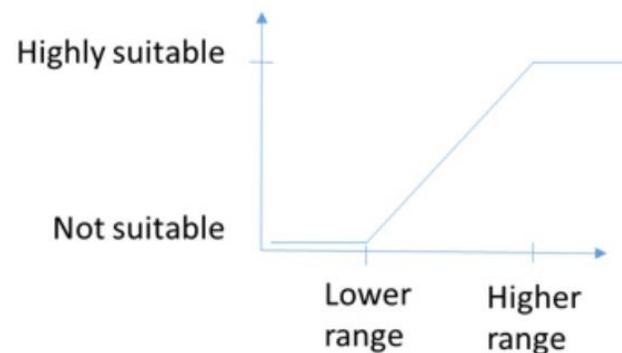
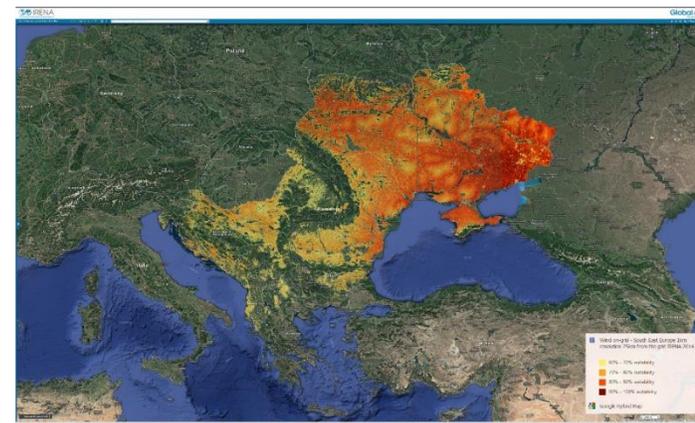
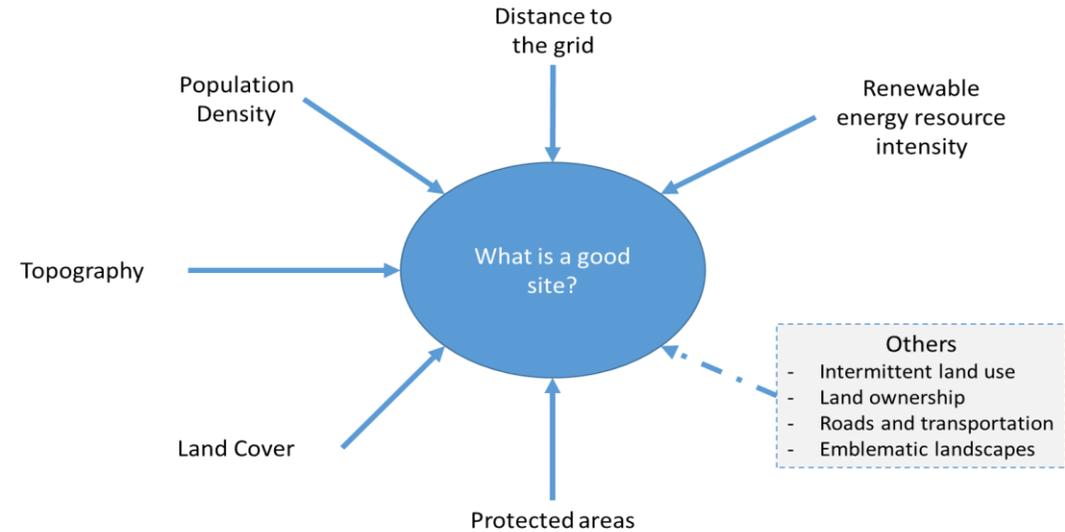
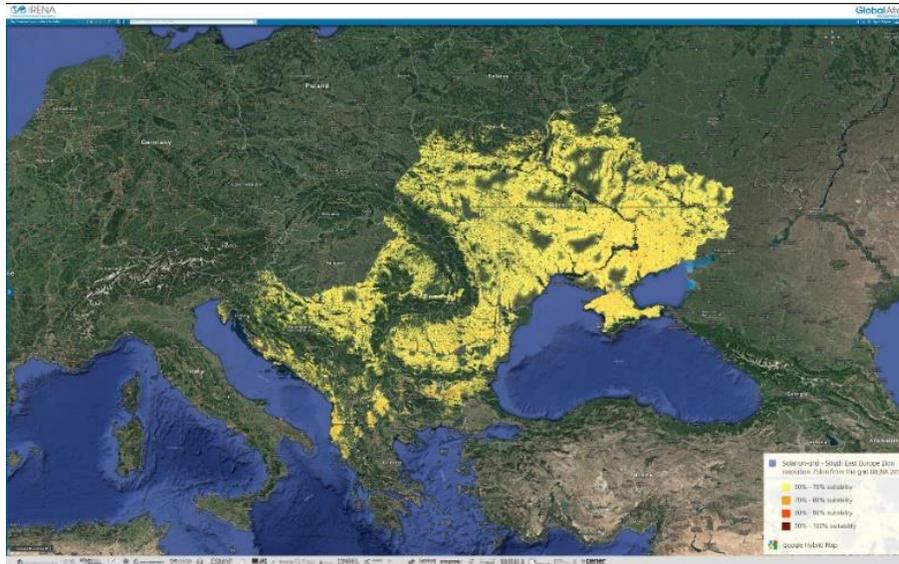
Evaluate, technical assistance

**SUSTAINABLE
ENERGY MARKETPLACE**

Global Atlas Suitability Analysis



- The Global Atlas suitability analysis/zoning service involves GIS based spatial analysis using a method developed by IRENA for utility scale and off-grid applications.



Assess this map at: <http://irena.masdar.ac.ae?map=2411>

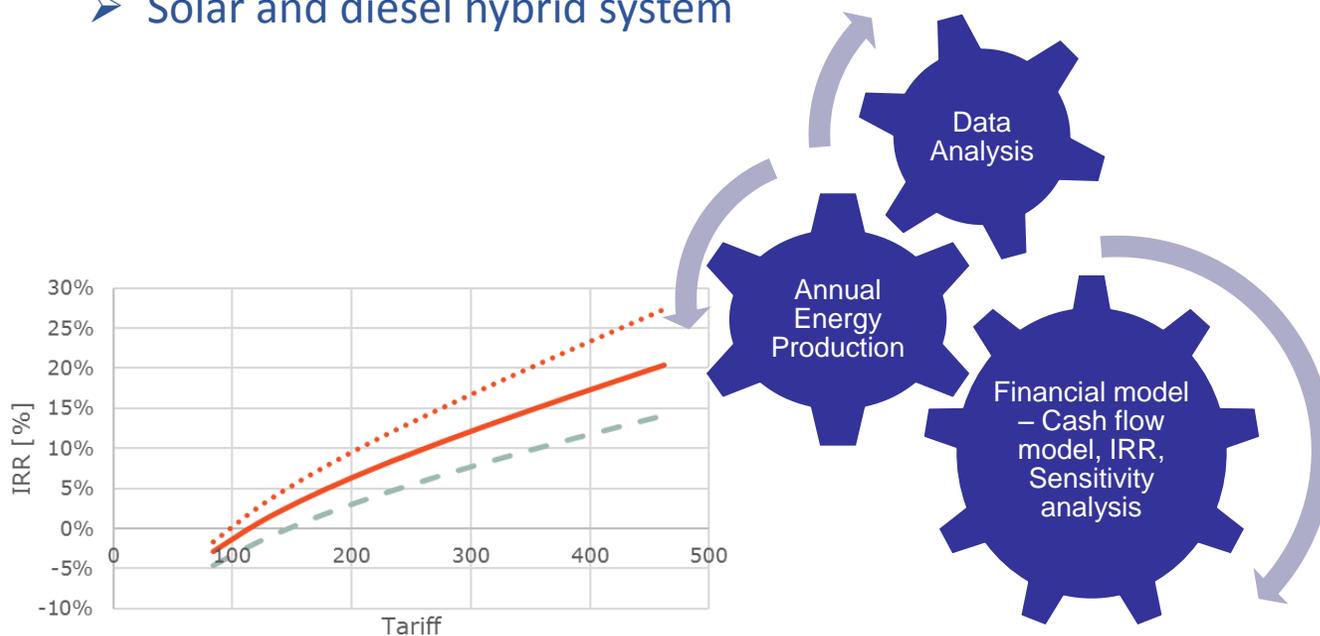
Global Atlas Site Appraisal Service



The service is an innovative and cost effective approach to screen/identify prospective sites for solar and wind development in countries.

System configurations covered:

- Wind (Utility scale)
- Solar (Utility scale)
- Solar and battery hybrid system
- Solar and diesel hybrid system



- Total CAPEX (a) - P50
- - Total CAPEX (a) + X% - P90
- ... Total CAPEX (a) - X% - P50

Interpretation I:

The site is economically feasible – within a given tariff range (in US cents/kWh)

Interpretation II:

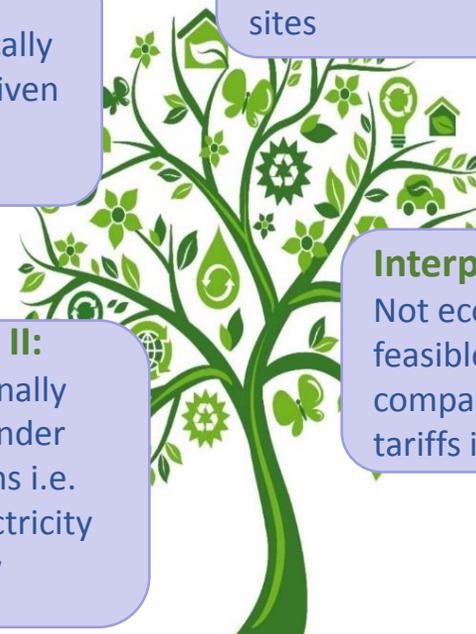
The site is marginally feasible – only under certain conditions i.e. high current electricity tariff or very low financing costs.

Interpretation III:

Marginally feasible – only when pooled with several other economically feasible sites

Interpretation IV:

Not economically feasible when compared to current tariffs in the country





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SUSTAINABLE ENERGY MARKETPLACE

The RE Project Development Challenge



- » Most countries know they have RE potentials. However, they lack the projects to achieve the desired deployment.

- » Conditions inherent to certain countries/regions translate into high costs and risks, e.g. SIDS.

- » Stakeholders involved in a project often lack the know-how to complete a bankable project proposal.
 - » This leads to higher project development costs and risks.

- » Fund securement process and financing options themselves aren't transparent.



➔ **IRENA aims to strengthen the project development base and improve the bankability and visibility of projects, facilitating the financial closure process and increasing the number of successful projects on the ground.**



Learning Section

- » Project development and technical guidelines
- » Best practices
- » Examples & Case Studies

Start a Project

- » Personal and private workspace
- » Tools, templates, checklists
- » Stepwise approach
- » Track your progress
- » Export documents

Financial Navigator

- » Information on multiple funds
- » Filter by region and technology
- » Information includes fund types, requirements and contact details among others.



Objectives

- » Increase the bankability of projects by:
 - » Enhancing Technical, Environmental, Social, Economic and Financial parameters,
 - » Reducing costs and mitigating risks through proper planning and efficient use of funds
 - » Facilitating effective implementation

Renewable energy technology coverage



On-shore wind



Solar PV



Bioenergy



Small Hydro



Solar home systems



Mini-grids



Geothermal

Technical Concept Guidelines

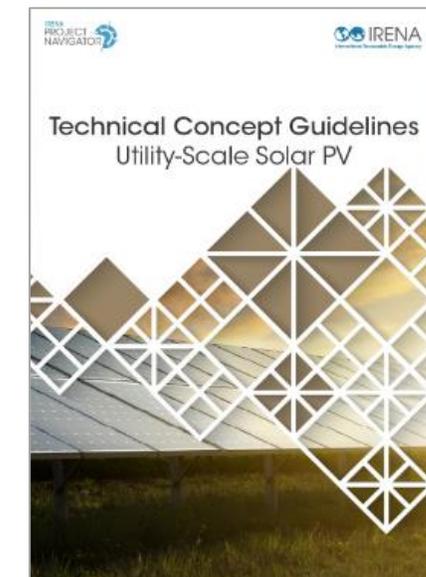
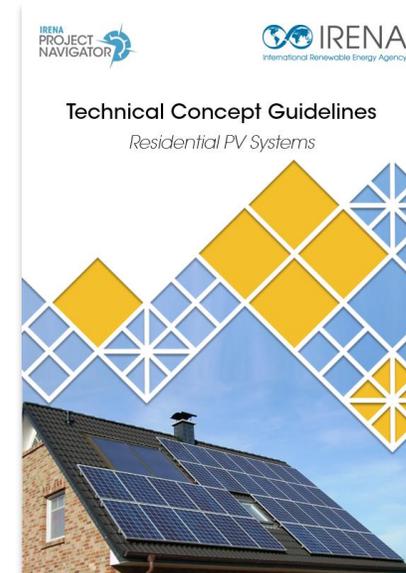
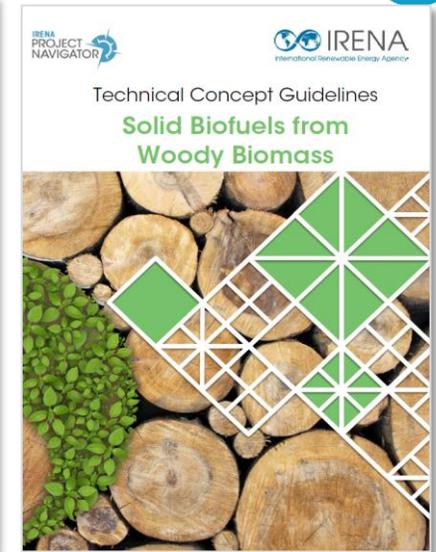
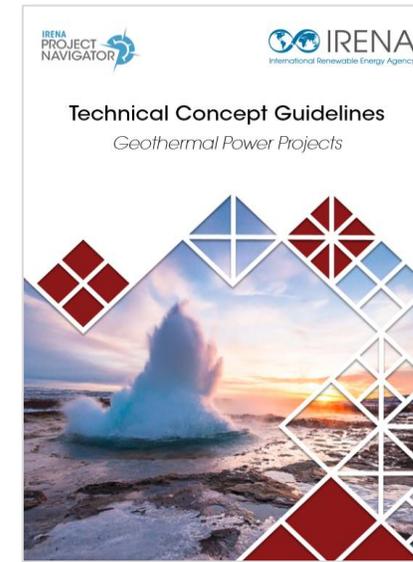
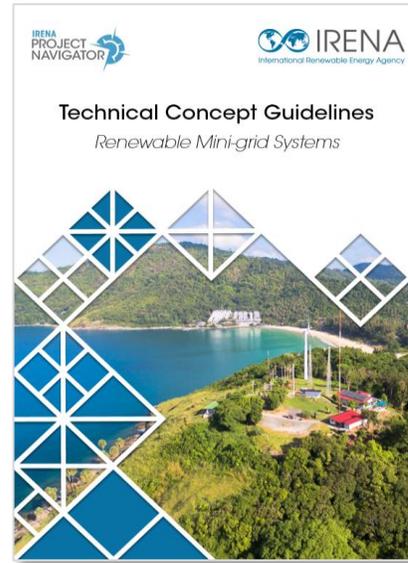


Scope

- » Technology evaluation
- » Technical Project planning and design
- » Technical aspects for Financial closing
- » Project execution and commissioning
- » O&M

Main Features

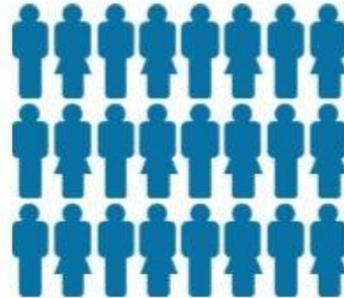
- » Minimum requirements for bankability of a project
- » Comparison of possible options
- » Case studies and tools
- » Financial model
- » Lessons learned / Do's and Don't's from previous projects
- » Applicable standards for bankability



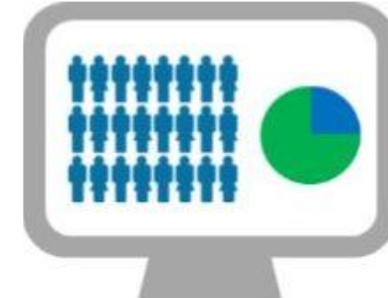
Project Navigator in numbers



6 000 users
registered on the platform



700 developers
trained in workshops



3,000 people
reached through webinars



users from
190+ countries



1,300 projects
created on the platform



7 Technologies
and a SIDS module



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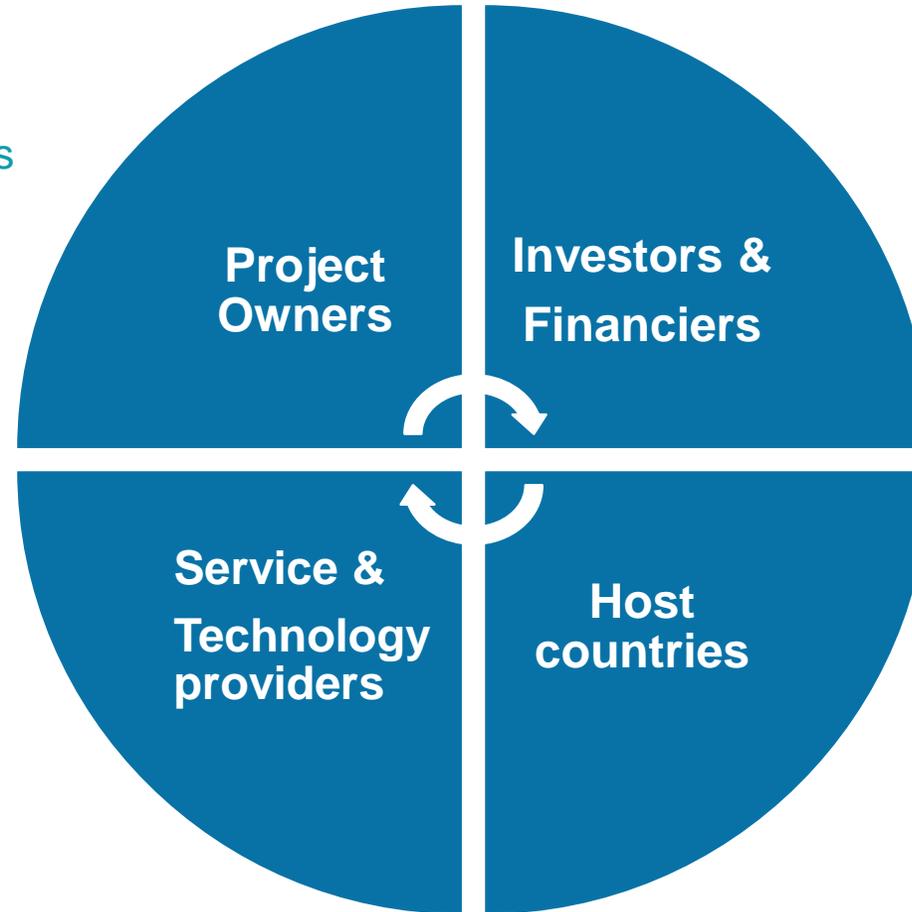
**SUSTAINABLE
ENERGY MARKETPLACE**

Sustainable Energy Marketplace



- Enhanced visibility for projects
- Access to potential investors / financiers and service / technology providers
- Access to project development tools & templates

- Identification of potential clients & new business opportunities
- Access to market data



- Deal sourcing & pre-screening
- Access to market data and regulatory information

- Promotion of investment opportunities
- Enabling foreign direct investments

<http://marketplace.irena.org>

A virtual marketplace connecting project developers with potential investors & financiers and also with service & technology providers to facilitate financial and commercial matchmaking.

COVERAGE – Projects (I)



8.5 billion US \$
Total investment cost

4.2 GW
Combined installed capacity
(power generation projects only)

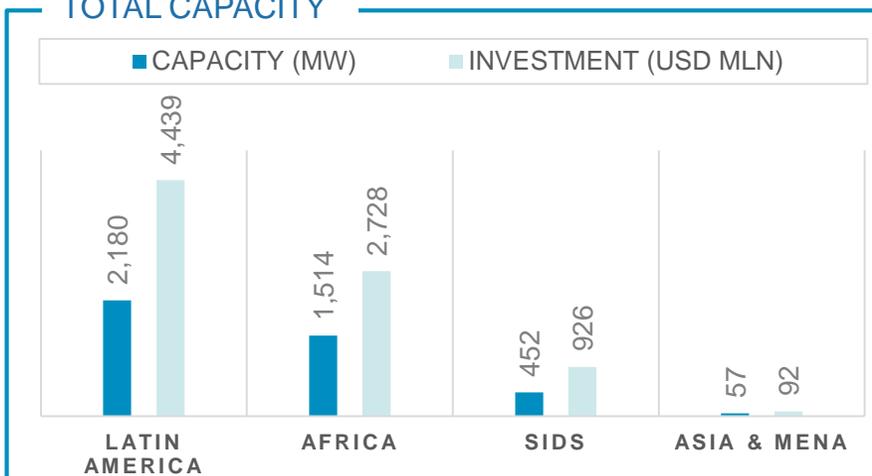
195
Projects

156
Financing instruments

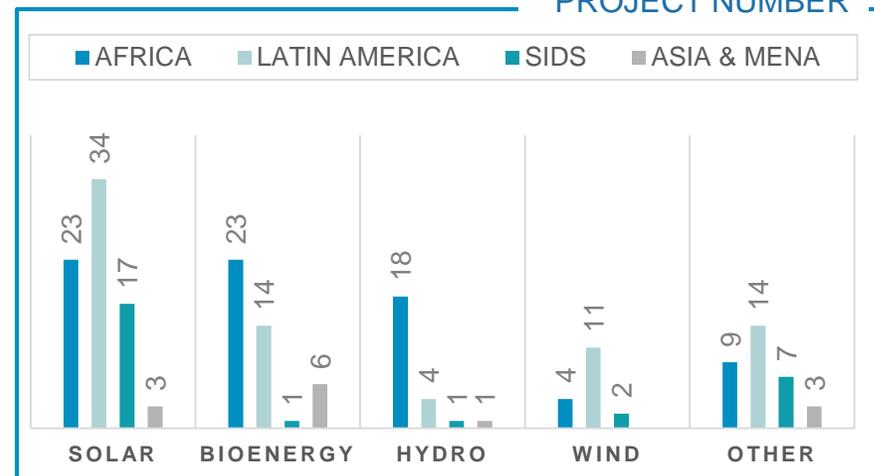
195 #
sustainable energy projects...
77 projects in **SUB SAHARAN AFRICA**
77 projects in **LATIN AMERICA**
28 projects in **SIDS**
13 projects in **ASIA & MENA**
 with their total **installed capacity |**
 total **investment size** being...

4.2 GW | 8.5 BN USD

TOTAL CAPACITY



PROJECT NUMBER



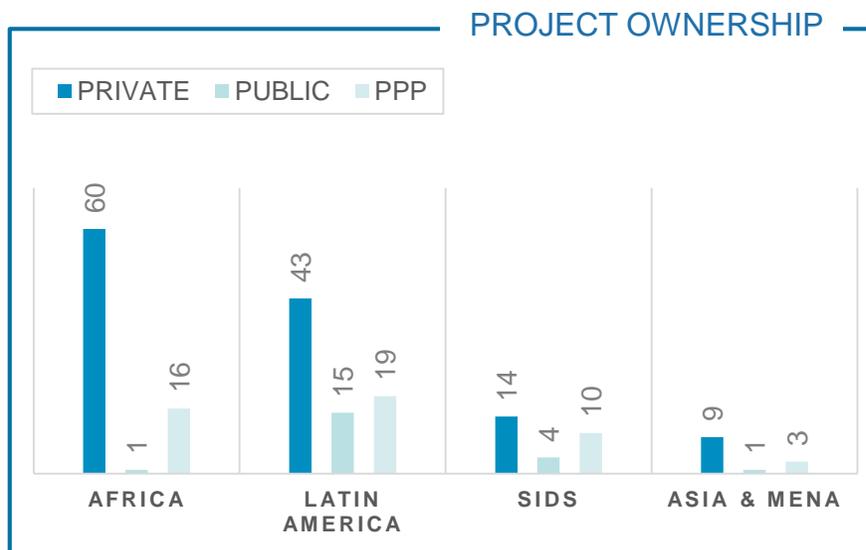
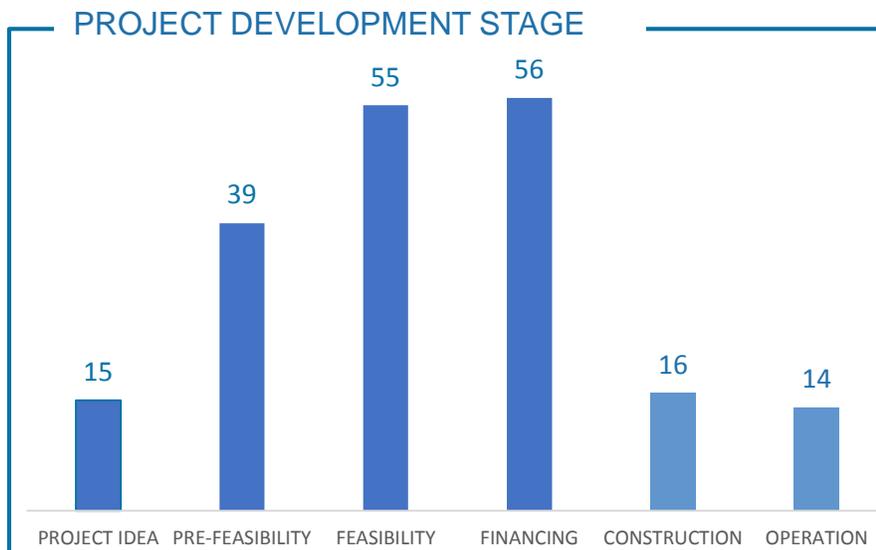
COVERAGE – Projects (II)



The combined share of projects in the development & financing stages



The share of privately developed projects

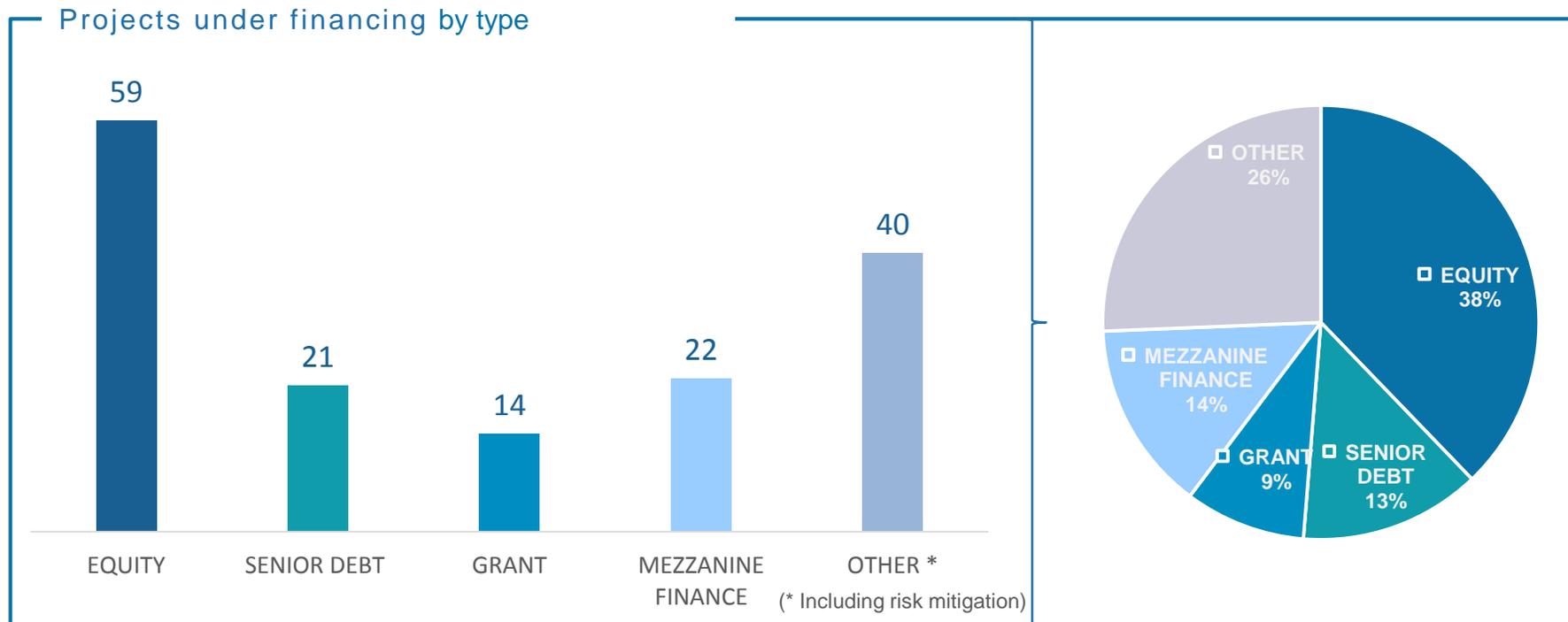


COVERAGE - Financing



62 # } Financing institutions

156 # } Projects under financing





IOREC

International Off-Grid Renewable
Energy Conference & Exhibition

4TH INTERNATIONAL OFF-GRID RENEWABLE ENERGY CONFERENCE & EXHIBITION

Thank you

IRENA
Supporting
renewable project
development
worldwide

