
Fifth Assembly of International Solar Alliance
18 October 2022
New Delhi, Republic of India

10 October 2022

Agenda Item 22

Update on the ISA's Solar Finance Facility

Summary

The document presents an update on the technical work undertaken by the ISA Secretariat in operationalizing the Solar Finance Facility.

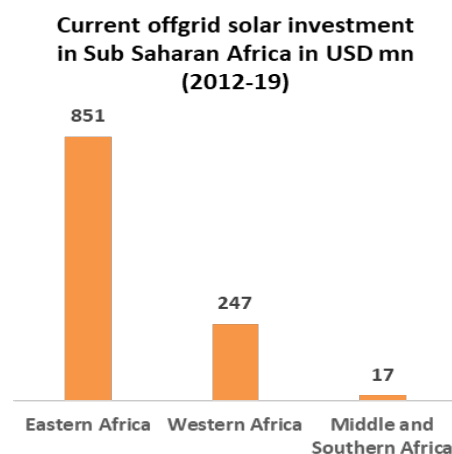
Update on the ISA's Solar Finance Facility

1. Background

The Fourth Assembly of ISA had approved the formation of a Blended Finance Risk Mitigation Facility, (hereafter referred to as, the Solar Facility) to mobilize investments to scale up solar, with a dedicated initial focus on the African region and a potential to expand the scope and coverage in other regions of the ISA. The Solar Facility will be a financing vehicle for the African countries for crowding in investments in the solar sector by providing risk mitigation support.

2. Introduction- Why Africa?

Africa accounts for only 1.3% of the global installed capacity, despite having nearly 600 million people without access to electricity, 10.6GW in 2021, compared to a global total of 716GW¹. **Access to finance for solar-related investments is one of the biggest challenges in Africa.** Africa needs **USD 70 billion** of investments in solar in the next 5-7 years². Electricity access interventions such as solar home systems (SHS) and mini grids alone constitute approx. 50% of the investment requirement. However, existing capital positioned to make investments in solar is not more than **USD 13 billion**. Moreover, the existing pool is focused on a few regions to the exclusion of large parts of the continent. Furthermore, even these existing pools remain largely undeployed. Segments like the productive use of solar (for instance, in agriculture) have hardly seen any investments. Thus, Africa will need about **6 – 10 times** more capital to be deployed in solar in the next 8-10 years.



3. Proposed Structure & Methodology

ISA will stimulate investments into solar through a financing vehicle (the solar facility) with the following two components:

3a. Solar payment guarantee fund

3b. Solar insurance fund

The solar facility will stimulate **high potential solar technologies**, by **attracting private capital** to flow into underserved markets in Africa, while ensuring a payment and insurance mechanism as a first loss guarantee. Solar facility would be operationalized to crowd in investments from various donors across the globe. A note on the rationale of the facility is appended in Annexure I. Projects that are proposed in Africa could purchase payment guarantees or partial insurance premia from these funds.

¹ [Renewable Energy Statistics 2021 \(irena.org\)](https://irena.org/), [Africa Solar Industry Association Outlook 2022 report](#)

² Intellecap Analysis

3a. Solar Payment Guarantee Fund

The Solar payment guarantee fund will support projects at the time of default in payments by consumers for the power supplied by solar projects. Projects will pay a premium to be covered by this guarantee fund. It will reduce lenders' apprehensions and enable financing for projects that otherwise might not have received financing. The payment guarantee fund will only provide a partial guarantee. With minimal default, the guarantee fund would enable investments in geographies that do not receive investments. More details on the fund are appended in Annexure II

A brief snapshot of the Solar Payment Guarantee Fund is provided below:

Objective	To accelerate the uptake of solar energy projects in Africa by providing guarantee products to mitigate risks with solar energy projects
Sectors	Solar energy (grid-connected + off-grid)
Description of facility	The Solar Project Guarantee would compensate debt financiers in case of default by the borrower or the off taker.
Geographical Focus	Pan Africa (ISA member states)
Fund Program Manager	To be recruited
Initial Capital Requirement	USD 100 million, from global funds (as grants)
Expected Impact	<ul style="list-style-type: none"> • With leverage of 5-10x, the facility can enable mobilization of USD 500-1000 million • Support 500 MW - 1 GW of solar installations through the provision of the guarantees)
Key Stakeholders	Project developers, off-takers, banks, and institutional investors active in the solar sector in Africa

3b. Solar Insurance Fund

One of the key factors that affects the bankability of solar projects is the non-availability of affordable insurance products (specifically designed for the solar sector). It is primarily because the insurance provider/**sector** has limited historical data to determine the project viability for 25 years (lifetime of solar projects). Additionally, the understanding of insurance companies about solar PV systems/projects in specific geographies remains limited. It results in costly insurance premia since they are considered as high-risk markets. These high insurance premiums not only impact the overall project returns, but also impact the cash flow for projects especially during the initial stages (i.e., construction or the pre-revenue stage). The impact on cash flows often makes the projects unviable for debt financiers.

The Solar Insurance Fund will reduce the burden of insurance premium for solar developers in the pre-revenue phase of the project. It will offset the cost of insurance for a specified period (e.g., only for the construction phase of the project or pre-revenue phase). The insurance would be provided by organisation that are in the business of project insurance, such as MIGA. The projects could recoup the insurance premium, paid to the Fund, by charging an additional tariff during the revenue phase.

A brief snapshot of the insurance fund is provided below:

Objective	To accelerate establishment of solar projects in Africa through partial offsetting insurance premium related expenses (during construction, pre-revenue and loan-repayment stages).
Sector Focus	Solar energy (grid-connected + off-grid)
Description of Facility	The Facility would provide capital for partial coverage of the insurance premium till the period the project becomes operational and/or start generating revenues
Geographical Focus	Pan Africa (ISA member states)
Facility Program Manager	To be recruited
Initial Capital Corpus	USD 50 million
Expected Impact	<ul style="list-style-type: none"> • With a leverage of 20x, the facility can support mobilisation of USD 1000 million of debt financing for projects • Support 1 GW of solar installations (by making the projects bankable)
Key Stakeholders	Insurance companies, project developers, banks and institutional investors active in the solar energy sector in Africa

More details on the fund are appended in Annexure III

The Solar Facility will seek to create, finance and operationalize these two funds. It will seek to leverage available investment and project preparation facilities to provide them the confidence to invest in markets which are currently underserved, and where these two funds would operate. If required, the Facility, could in the future, establish formal relationships with investment and project preparation facilities or establish its own with the goal of crowding-in investment.

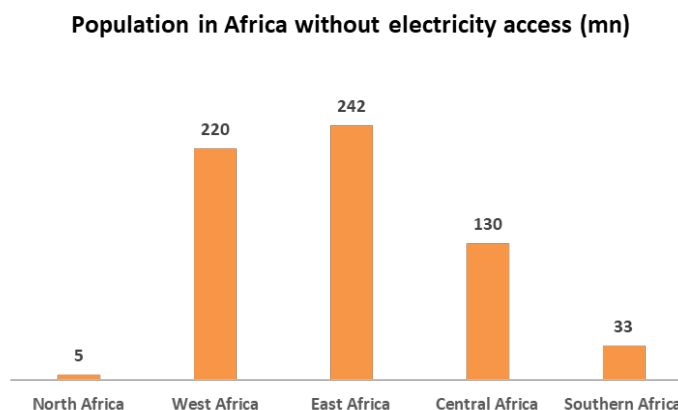
4. Next steps

As the next step, ISA Secretariat seeks approval for the operationalization of the Solar Facility and to secure funding for its two funds (Solar Payment Guarantee Fund and Solar Insurance Fund). The General Assembly is requested to provide guidance on the overall design of the Facility and mandate the ISA secretariat to undertake the following activities to operationalize the Facility:

1. Hire a fund manager -Procure services of commercial fund manager through an open, transparent, and complete procurement process as per ISA's procurement procedures, to manage the Facility; enable its financial capitalization efforts, deployment the monies and provide oversight of its assets. The fund manager will be chosen to add credibility to the fund in the eyes of investors of this fund, and to carry out, independently, the due diligence necessary for the various funds. A full description of the eligibility criteria is placed in Annexure IV.
2. Association with an international organization (World bank group- MIGA) to help in designing the solar insurance fund
3. Approve a budget of USD 2 million for operationalizing the funds
4. Announce the Facility at the UNFCCC CoP 27 in Egypt in Nov 2022, and secure the first financial close of the Facility during 2023

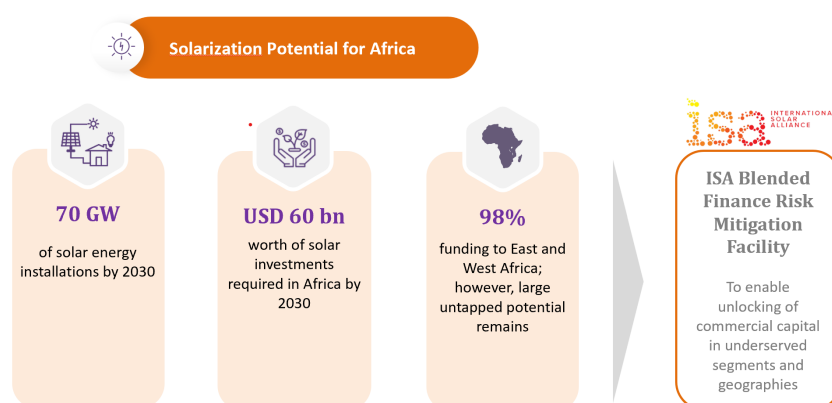
Annexure I- Why this facility

Africa is home to over 1.3 billion people but only half its population has access to electricity (around 79% in urban and 35% in rural areas)³. Electricity access is poor which is evident from the annual per capita electricity consumption of various nations in the African continent. The per capita electricity consumption is as low as 21 kWh for Somalia, Chad, and Guinea Bissau, while it ranges between 60-80 kWh for the countries such as Rwanda, Ethiopia, and Uganda⁴. This is significantly lower than the basic electricity needs of 300 kWh per person per annum that would enable running basic appliances, such as a fan, a shared refrigerator, or a television⁵. Power shortages cost the continent about 2% – 4% of GDP a year⁶.



The African continent will need to double its capacity to 497 GW between now and 2030 to meet the rising electricity demand. The current power generation mix in Africa is based mostly on coal, oil, and traditional biomass. As such, meeting the rising demand with current sources would have serious repercussions on health and the environment.

Solar and wind power offer the most viable alternatives, with prices now less than that of power desired from fossil fuels. In addition, conditions are favorable for the generation of electricity from solar energy in the African continent, where sunshine is not only abundant but also much more reliable than elsewhere. **Yet, the continent accounts for a meager 1% or 6.6 GW of global solar energy production.**



Solar power developers are currently under-represented in Africa because of perception of high risk. Securitization is therefore essential. In order to enable the flow of finance for solar projects in

³ Solarize – Africa Market Report, 2020 ([Link](#))

⁴ CIA World Factbook ([Link](#))

⁵ SE4ALL Global Tracking Framework ([Link](#))

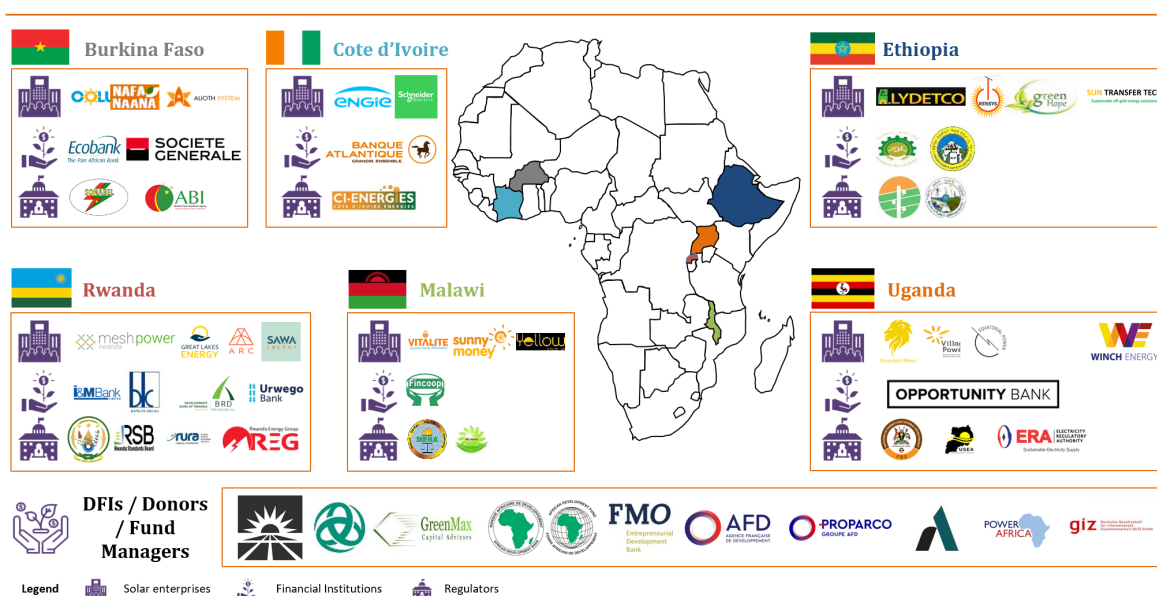
⁶ IMF, 2020 ([Link](#))

African countries, ISA puts forward a design and management structure for a risk mitigation facility for solar projects as a part of its mandate to scale up solar solutions in developing nations and mobilize required investment for the said purpose.

Stakeholder analysis

The ISA Secretariat, with the support of consultants, has conducted stakeholder consultations with 100+ stakeholders in Africa. In-depth consultations were also conducted, together with Aavishkar, with relevant investors across Africa including Sunfunder; Triple Jump; CrossBoundary; Green Max Capital Advisors; Symbiotics; African Infrastructure Investment Managers (AIIM); Nordics Impact Funds; Lion's Head Global Partners (LHGP); CAMCO; KawiSafi; SIMA; Acumen; Africa50; Macquarie Group; ALL On; Oikocredit and IFU.

The focus, design, and investment strategy of the Facility was informed through 180+ stakeholder conversations (Enterprises, FIs, Regulators, Investors) held across Africa



Segment	Mini grids	SHS	Rooftop C&I	Solar Pumps	Solar parks	Storage	EV & Charging Infra	Heating & Cooling
Investment need (USD, B)	15	21	6-8	1.6	3.4	4-5	1	16.5

With the analysis and stakeholder consultations conducted, it is underlined that the existing capital positioned to make investments in solar is not more than **USD 13 billion** (and likely to be considerably lower). Approx USD 40 billion of solar finance funds are positioned for investing in Sub-Saharan Africa, of which about 30% is chasing energy deals (not merely solar)⁷. Thus, Africa will need about 6 -10 times

⁷ Convergence analysis based on data as of 2020

more capital to be deployed in solar. Also, existing facilities are not equipped to cater to the solar sector for various reasons, including **lack of concessional** or **risk-appropriate returns** - hence, this capital largely remains undeployed and will remain so unless an intervention of the nature proposed by ISA is put into motion.

The ISA proposes to set up risk mitigation instruments (a payment guarantee mechanisms, and an insurance premium mitigation mechanism) to speed up development and mobilize investments by getting a plethora of potential funders like the Green Climate Fund, Global Environment Facility, the World Bank Group etc, multilateral and bilateral funding agencies, private sector entities, impact investors, and global foundations to contribute to these mechanisms. The Facility, apart from project risk mitigation, would support introduction of policies that enable a regulatory structure to create private sector demand and payment to private sector developers so that they can payback investors. Parallely, and in close association with the Facility, the ISA will work with Members to help create regulatory interventions that help attract investments in solar applications, particularly in those countries where projects under the Facility are under consideration.

It is proposed to setup two corpuses- one will be a payment guarantee mechanism fund and the other will be an insurance fund.

ISA will provide dedicated and strategic support to the facility to enable favorable outcomes

 Role	 International Solar Alliance	 Fund Manager
 Fundraising	Strategic direction to Fund Manager	Leads the fundraise
 Creating a Bankable Pipeline	Support through member countries	Own deal screening and due diligence process
 Fund Management	Advisory support to the Fund Manager	Leads the investment and management of funds
 Administration of Technical Assistance	Create blueprint for collaboration and co-administration the TA Fund	Co-administer the TA Fund

ISA's Value proposition

ISA will be instrumental in hiring a fund manager, providing technical assistance to the organisations and setting up funds to develop a bankable pipeline of projects. ISA provides a strong value proposition in answering the challenges:

1. **Resource mobilization**- Philanthropic foundations are open to providing risk protection. ISA is in the process of lining up a few million dollars in commitment from these foundations that will go to de-risk commercial investments.
2. **Provide Technical Assistance** to the enterprises in the form of technical scoping studies and support towards project preparation

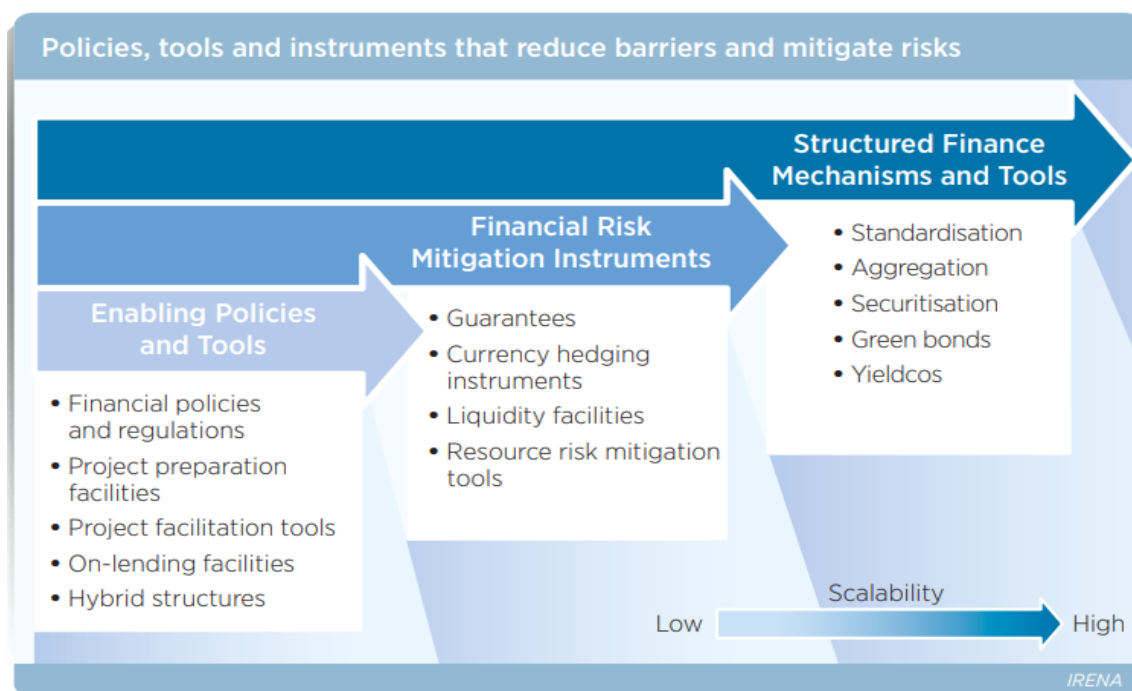
3. **Capacity building-** The Facility will also focus on the capacity development of Local FIs with the help of philanthropic capital. To this end, it will work closely with National Development Banks in Africa. Fund managers will be tasked to generate a proportion of the funds from local investors – HNIs, Pension funds, etc

The components together will enable three levers:

- Political- Convening political leadership of respective African nations and assisting them to develop the right kind of political environment
- Financial- Creating a solar finance, solar insurance and solar payment guarantee mechanism to unlock commercial investment potential in underserved solar segments/geographies
- Technical- Creating a pipeline of investable projects through extensive work with member nations and technical assistance that is provided through the Facility

Annexure II- Solar Payment Guarantee Fund

There are several barriers that prevent the scale-up of the solar energy sector. According to the ISA consultations, the perceived risks of the solar projects in Africa is high, and financing is expensive for solar developers. Moreover, the limited past precedents and small-ticket sizes in the case of decentralized and off-grid solar products further restrict financing to the sector.



For the Africa region, although there is a requirement for further improvement within the policy and regulatory domain, the enabling environment for the solar sector is generally supportive. Thus, the **solar sector within Africa is at a stage where it requires financial risk mitigation interventions to crowd-in commercial investments at scale.**

While there are financial risk mitigation structures within Africa, for e.g., GuarantCo's credit guarantees for the broader climate finance sector, the total capital provision in guarantees is significantly inadequate considering the overall need of the sector (Africa currently has 11.5 GW of solar installed, which is just 1.3% of the global solar installed capacity of 907 GW⁸. IRENA estimates that Africa could have more than 70 GW of solar by 2030⁹, entailing an investment of at least USD 60 billion to increase capacity from the current 11.5 GW). Thus, there is a significant opportunity to develop new guarantee mechanisms and customize them based on a project and jurisdiction's risks and barriers. As part of International Solar Alliance's overarching objective of accelerating solar by enabling financing for solar solutions/projects, it will launch a **Solar Project Guarantee Fund** to support the project developers.

The payment default guarantee will be provided as part of a tripartite agreement with the lender and the developer and would get triggered in case of default by the off-taker. The agreement will support the lender as a beneficiary in the case of exercising of the guarantee.

⁸ [Solar Outlook 2022 – AFSIA](#)

⁹ [Solar PV in Africa: Costs and Markets – IRENA](#)

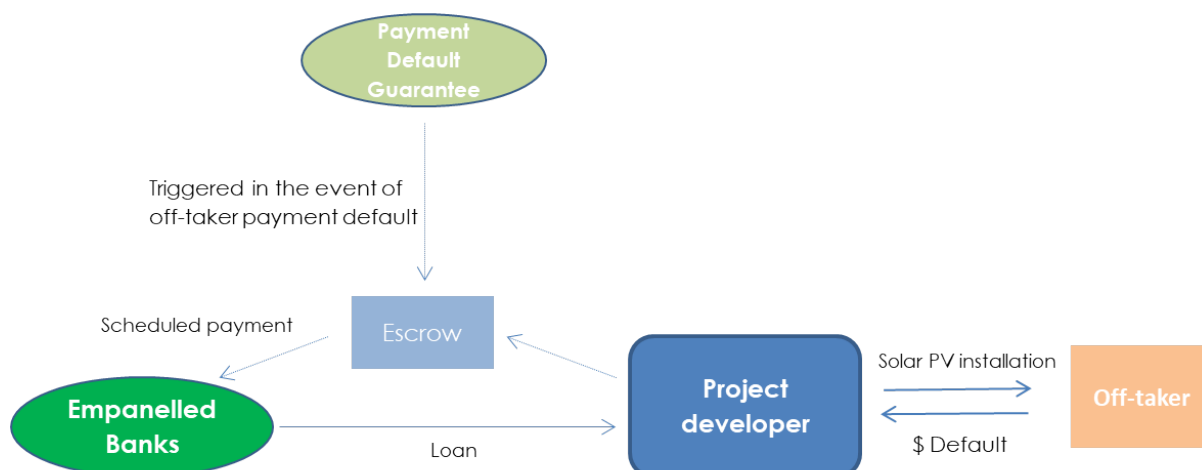


Fig 2: The Payment Default Guarantee is triggered in the event of an off-taker payment default

Depending on the design and risk appetite of the guarantee fund, the leverage ratios can vary, but ratios of 5x and in some cases 10x will be targeted as part of the facility. Thus, a USD 100 million guarantee fund has the potential to mobilize USD 500 million - 1 billion. This could support 400-800 MW of solar installation within the region.

Annexure III- Solar Insurance Fund

One of the key credit assessment requirements for securing debt finance for the project developer is the ability to insure the solar projects (for the project's lifetime) against unforeseen events. It includes securing projects against events outside the developer/off-taker control and beyond the core project risks. The lender is often a loss payee in the case of the insurance getting triggered for such risks. Some of the risks that are covered by insurance products include:

- General liability insurance
- Fire and burglary
- Business interruptions
- Property damage
- Natural calamities

Although the insurance is designed to protect against events beyond a project developer's control, the costs associated with acquiring such insurance have a significant impact on the overall project economics and cash flows. It is estimated that the annual cost of insuring solar projects would be in the range of 0.20-0.30% of the project's initial capital expenditure cost (insured amount). For projects located in adverse weather-related areas, the cost of insurance may go up to 0.5% of the initial Capex cost.

The **insurance premium is highest** at the **initial/development phase** of the project (when equipment is new and the project isn't yet operational, i.e., the construction phase) – leading to **severe impact on cash flow at the initial/ pre-revenue stage** for the project developer. Moreover, over the course of a 25-year project, insurance premiums cost 3-5% of the total Capex cost. This reduces project returns by a few percentage points and renders projects that were otherwise commercially viable as unviable.

A facility that can reduce the insurance costs to **improve** the overall **project returns** as well as **address the cash flow requirements at the initial stage** for solar project developers will make projects more bankable and enable developers in accessing commercial finance.

As part of International Solar Alliance's overarching objective of enabling financing of solar solutions, it will launch a **Solar Insurance Fund** to support the project developers.

This would improve the overall IRR of the project and improve project cashflows – leading to enhanced likelihood of securing debt financing.

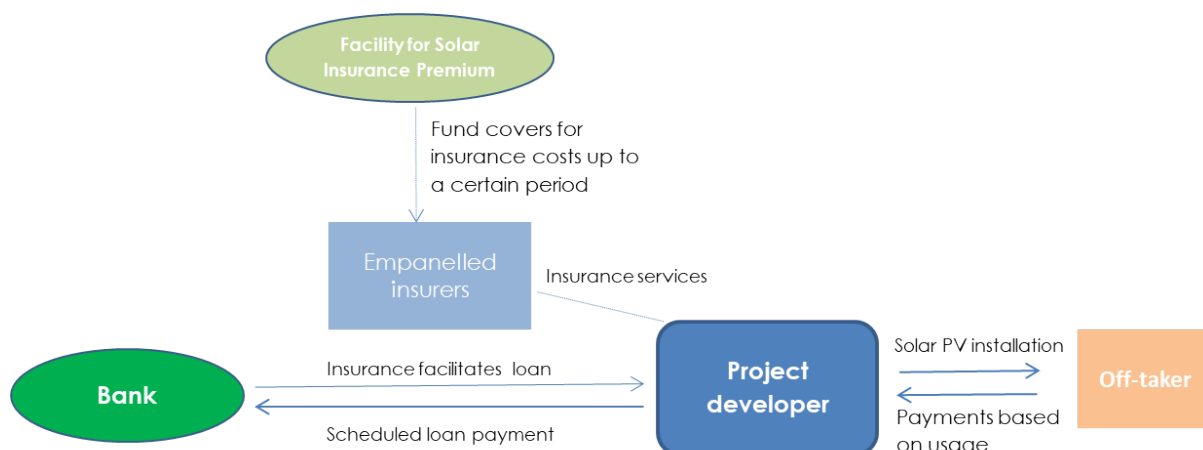


Fig 3: The Solar Insurance Fund

The insurance fund can be deployed at a regional level and will have a tie-up with empanelled list of insurance providers. The empanelment will be basis the qualifying criteria established by the facility (in terms of costing, past experiences, and other criteria).

The facility will improve the overall IRR of the project. For example, for a solar project with 2 year-construction period and insurance premium of 0.25% of the Capex per year, the facility will support 0.5% of the total solar project cost (for the 2-year of construction period). Thus, this facility can potentially yield a leverage of 200x (i.e., $1/0.5\%$). An Insurance facility, capitalized by USD 50 million, can therefore mobilize private financing worth USD 1 billion.

Annexure IV

Eligibility criteria for hiring a fund manager

The ISA would like to seek proposals from experienced, trusted and knowledgeable fund managers with expertise in solar energy in early stage and developing markets, fundraising, due diligence, fund creation and operation. The fund manager's work will include:

1. Leading fundraising of concessionary and private capital
2. Evaluating the financing and funding of a pipeline of projects
3. Monitoring and reporting of impact aligned with ISA's mandate and objectives

This RFP seeks to gather information to evaluate potential fund managers based on

1. Alignment with the Solar Finance Facility's mission and vision
2. Ability to execute fund manager responsibilities

Evaluation and Selection Criteria

1. The applying fund manager should preferably be an **accredited agency** of Green Climate Fund (GCF)¹⁰ or Global Environment Facility (GEF) to be able to channel in GCF/GEF funds in case GCF comes in as an anchor investor
2. The fund manager must have a **local presence** and existing team based out of Africa
3. The fund manager must have **prior experience** of successfully raising and deploying capital in **solar energy sector** in emerging markets
4. The fund manager should have the ability to conduct business relationships in **English and French**.

Proposals that meet the eligibility criteria will be evaluated on the following key metrics:

Criteria	Points
Fund Manager's qualification, capacity and experience	40%
Proposed methodology, approach and implementation plan	30%
Management structure and key personnel	30%

Supporting Information and Documents

Kindly provide the following supporting documents:

1. **Company registration and certificate of incorporation**
2. **All active and related funds using chart below:**

¹⁰ To be confirmed

Fund Name	First Close	Fund Tenor/ Term	Size (\$mn)	Target IRR (Net)	Realized IRR to date (Net)	Capital Structure (include if leverage is applicable)	Geography	Investment Thesis
e.g. Africa RE Fund	2012	10	\$650	9%	5%	Private equity	Southern Africa	Greenfield solar assets
		Total:	\$					

3. Alignment with Solar Finance facility's Mission and Vision

Please explain how your firm's values and experience aligns with the mission and vision of the ISA and of the solar finance facility (500 words)?

4. Technical Proposal, with following details

- Structure:** Initial views on fund structure and execution; Strategy for portfolio investment risk; Proposed risk tracking methodology for the Solar Finance Facility; Fundraising strategy and timelines
- Staffing and Team Structure:** Core execution team and envisaged roles, relevant experience and resumes, sector focus and geographies
- Sourcing strategy:** Details of strategy around sourcing pipeline and competencies around the same
- Risks** and proposed mitigation strategy

5. Proposed fee schedule (with a preference for fees based on the profits on the Solar Finance Facility)

6. Additional items and references (at least four)

Detailed Scope of Work

The fund manager's scope of work is as follows:

- Design & refine mechanics** and operational plan of the fund
- Build pipeline** of investible opportunities
- Managing the entire cash to cash cycle including raising funds by attracting pools of capital and making investments**
- Coordinate with TA facility Manager** to allocate resources for building capacities of enterprises, FIs, and government as deemed fit and necessary for promoting solar and creating an investible pipeline
- Monitoring & Evaluation** of fund's performance and reporting

Each of these is explained in more detail below.

a. Design & refine mechanics and operational plan of the fund

The fund manager will liaise with legal and tax advisors to help design the structure, keeping in mind aspects such as place of incorporation and registration, including all applicable legal filings to operate within the finalized domicile of operations.

The ISA team generated a significant amount of analysis, stakeholder engagement, and planning in order to expedite fund creation. ISA understands that the fund manager will consider this but might also make valuable and important changes to ensure that the strategy positions the fund manager to achieve stated objectives.

Accordingly, the fund manager is also expected to define the fund's operational, financial, and reporting procedures, and get the same approved from ISA.

b. Build pipeline of investible opportunities

Refine & detail out investment eligibility criteria: The fund manager is expected to define the enterprise / project eligibility criteria for financing under the facility, as well as to review, adapt, grow and advance the pipeline of investible projects. The profile of the target investments and investment selection process should be refined in line with the solar finance fund's philosophy.

Supporting the pipeline development strategy: This includes performing critical facility outreach, engagement and opportunity screening, including handling inbound and outbound leads, contributing to developing and implementing a marketing, promotion and communication strategy, and other activities that help maintain a steady pipeline of bankable projects / enterprises.

Developing the pipeline: This will likely require partnerships and communication with on-the-ground entities to perform due diligence on borrowers and identifying suitable investment opportunities. The fund manager will determine the staff to best fit their approach, but **should strongly consider an "on-the-ground team"** which can be valuable not just for identifying and evaluating investment options but also monitoring the investments and investees on ground.

c. Managing the entire cash to cash cycle

The fund manager will be expected to provide all services related to the Initiative's investment cycle. This includes:

Raising funds: The fund manager is expected to bring a network of potential investors, build relationships with new potential investors, and lead pitch meetings with potential investors. The fund manager will lead the development of a strategy and marketing materials for fundraising. The fund manager will be expected to raise capital for the solar finance facility by attracting both concessionary as well as for-profit private capital pools. The fund manager will set an appropriate risk profile for the

fund to accommodate investors per their risk appetite. Assessing insurance options, concessionary capital, and other de-risking strategies will be part of this process.

In this regard, ISA is committed to bringing in concessionary capital from the likes of GCF, DFC and philanthropic foundations. However, this capital may have to be leveraged with matching contribution of some nature from private capital providers. Securing such capital will be the primary responsibility of the fund manager so that 1st close and subsequently final close of the fund takes place within envisaged timelines.

Appraisal: Performing site visits, implementing analysis strategies for critical facility qualification and other types of due diligence to inform investment acceptance into the Solar Finance Facility, and its three funds .

Disburse: Making investments in line with detailed business plans received and vetted by the Fund Manager in tranches as deemed feasible by the Investment Committee.

Monitor: Monitor the portfolio, assess risk exposures as well as exposure limits and sub-limits that may have been promised to investors, and prepare required reports

FX Management: Manage liquidity and FX exposure, as well as other back-office functions in managing the fund

Exit opportunities: Source suitable investment exit opportunities both for equity investment, as well as debt (where applicable)

d. Coordinate with TA facility Manager to allocate resources for building capacities

The fund manager will coordinate with TA Facility Manager to allocate resources for building capacities of local financial institutions, enterprises / project sponsors, and respective country governments that will assist in improving project bankability and building a robust pipeline for the fund.

e. Monitoring & Evaluation of fund's performance and impact

The fund manager will define an optimal M&E strategy to support the impact thesis of the fund, and report on the same.