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

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**18 September 2022**

*Agenda Item 24*

## Update on the Solar Grand Challenge

### Summary

The document presents the information on SolarX Grand Challenge to be held in Africa. The ISA Secretariat, in collaboration with Invest India, will launch the SolarX Grand Challenge to crowdsource innovative solutions to some of the persistent challenges impeding the growth of the solar energy ecosystem. Ultimately, the International Solar Alliance (ISA) aims to accelerate investment in solar in Member countries.

## Update on the Solar Grand Challenge

### Introduction:

The Second Assembly of the International Solar Alliance considered the proposal for a Solar Grand Challenge under Agenda Item 13 contained in the Working Document ISA/FC.01/WD.08 and approved the same.

The ISA Secretariat, in collaboration with Invest India, proposes to host the SolarX Grand Challenge in Africa to crowdsource innovative solutions to some of the persistent challenges member countries are facing in their respective solar sectors. The Grand Challenge will essentially help the ISA discover innovative solutions to some of the pressing issues of the Global Solar Industry that are cost-effective and scalable. The SolarX Grand Challenge attempts to remove specific critical barriers that would address an important problem of the industry with a high likelihood of global impact through widespread implementation.

### Background:

A Solar start-up ecosystem in Africa will enhance the economic growth of the continent and will consequently have a significant impact on potential job creation. Entrepreneurs need the much-required nudge to innovate and become job creators. Startup-focused programs such as grand challenges are a motivation for entrepreneurs. The SolarX Grand Challenge will strengthen the solar start-up ecosystem on a continent-wide basis. Entrepreneurs need the much-required nudge to innovate and become job creators. Startup focused programs such as grand challenges are a motivation for entrepreneurs.

The SolarX Grand Challenge will focus on innovation and start-ups, particularly decentralized solar energy applications that contribute to livelihoods, such as agriculture, health, and small-scale industrial applications. This will foster a three-fold benefit– promotion of the solar energy sector, thinning the gap of the energy crisis, and promoting a solar startup ecosystem. The SolarX Grand Challenge will be limited to the African region in this instance, as this region has the largest energy and investment gaps. Assessments, including those conducted by the ISA in the context of understanding Africa's investment gap, show that very little attention has been paid to the development and deployment of solar applications that result in increased income from productive uses. Based on the first SolarX Grand Challenge's learnings and experience, recommendations for future Grand Challenges would be made to the ISA's Sixth Assembly.

## About the Challenge:

The objective of this challenge is to support innovation by recognizing the best concepts that assist in enabling creative innovations that can add value to the African solar energy sector.

The Program Ideation would involve the formation of a Program secretariat that will include the International Solar Alliance and Invest India. Relevant partners for the program will include the Africa Infrastructure Development Association (AFIDA), Africa Minigrid Developers Association (AMDA), World Association Of Investment Promotion Agencies (WAIPA), and Global Association For The Off-Grid Solar Energy Industry (GOGLA). The partners have been chosen based on their regional interests and potential to finance successful ideas.

The challenge will focus on:

### **Growth of the Solar Energy Sector**

- Seeking innovations in the solar energy sector that can catalyze the adoption-rate
- Identification of frugal innovations that can offer cost-saving and supplement additional income
- Motivating innovators and researchers to add value to the solar sector

### **Growth of the local Solar Startup Ecosystem**

- Strengthen the current entrepreneurial ecosystem fostering the inclusion of solar applications in the government's – innovation and entrepreneurship programs.
- Promoting the policy and strategic interventions in the energy sector which have the potential to nurture the solar innovation ecosystem
- Widening the outreach for notable innovations

### **Benefits for Africa**

- Reducing dependence on fossil fuel resources
- Innovation leader in solar energy utilization
- Global collaborations for solar energy promotion

Women Entrepreneurs and applications in health and other livelihood areas would be preferred.

The proposal envisages the following:

- ISA Secretariat would host a Solar Grand Challenge with at least 10 problem statements, to crowdsource innovative solutions to some of the persistent challenges that African member countries are facing in their solar sectors, with the following objectives:

- a. Identifying the problems & launching the challenge
- b. Mobilizing the innovation ecosystem to address the challenges posed
- c. Identifying the best solution through a competitive selection
- d. Supporting the best solution through recognition and seed financial support
- The Eligibility Criteria specifies the different types of entities from the solar energy space that qualify as applicants to the Solar Grand Challenge. Preference would be given to distributed solar applications for livelihood opportunities. These include:
  - a. Energy Start-ups – Early Stage
  - b. R&D Institutions
  - c. Medium & Small Enterprises
  - d. Academic Researchers
- For the Assessment of the Start-up proposals, the ISA, along with Invest India, will constitute a Grand Challenge Committee (GCC) comprising of the members of ISA, Invest India, and other partner organizations for assessing the start-up proposals.
- The GCC will request start-up proposals for up to ten problem statements and will evaluate the applications under each Problem Statement received. After the evaluation, 2 winners will be selected in each of the problem statement areas.
- The prizes that will be provided include:
  - a. **Cash Prizes:** The ISA would provide cash prizes for the 20 winners who would be awarded USD 15,000 each (including for outstation travel, if need be)
  - b. **Pilot Opportunity with ISA:** Member nations may deploy the solutions invited wherever feasible through pilot projects
- The Second Assembly of the ISA authorized an expenditure of USD 14,000 from the internal resources of ISA and mandated the Secretariat to mobilize the remaining resources externally. More information about this challenge has been attached in **Annexure I.**
- The proposed responsibility matrix for the Solar Grand Challenge, as approved by the assembly, is appended in **Annexure II.**

### **Budget:**

The ISA Secretariat has received funding commitments for the SolarX Grand Challenge from the Children's Investment Fund Foundation (CIFF), who have committed a total of USD 7.6M to ISA including up to USD 600,000 for the Africa SolarX Challenge.

For this SolarX Grand Challenge, ISA proposes collaborating with Invest India. Invest India, an organization established under the Start-up initiative, has facilitated several such start-up challenges in India and on a global scale. For this SolarX Grand Challenge, Invest India would bring in the Africa Infrastructure Development Association (AfIDA), Africa Minigrid Developers

Association (AMDA), World Association of Investment Promotion Agencies (WAIPA), Global Association of off-grid solar energy (GOGLA), etc as program partners. The budget has been finalized to support Invest India and the above-identified partners. A short write-up on the partner organizations is attached in **Annexure III**.

S.No.	Budget Head	Amount (in USD)
1.	Reward Money for Start-ups <i>USD 15,000 each for ~20 start-ups (including outstation travel, if need be)</i>	300,000
2.	Management fee for Invest India <ul style="list-style-type: none"> <li>• Deployment of two full-time resources to the execution team at Invest India - <i>USD 80,000</i></li> <li>• Travel for the execution team - <i>USD 20,000</i></li> <li>• Payment to partners - WAIPA, AfiDA, AMDA, GOGLA (USD 25,000 each) - <i>USD 100,000</i></li> </ul>	200,000
3.	Bootcamps for participants, Regional/cluster meetings, Evaluation process, Results announcement meeting, and events at investor meetings.	100,000
	<b>Total</b>	<b>600,000</b>

### Next Steps:

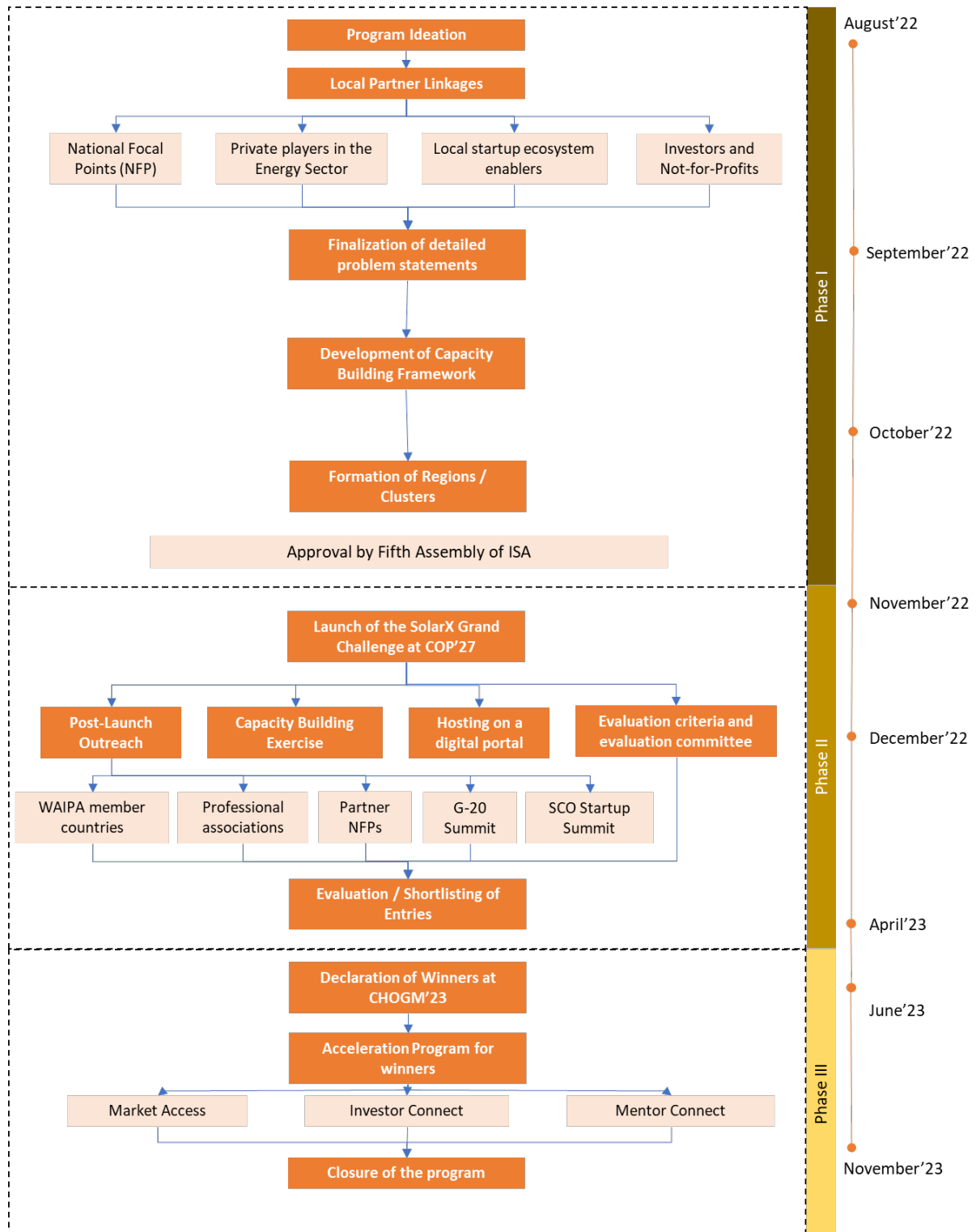
The Proposed SolarX Challenge will be a leading force in driving the world's transformation to a renewable energy economy. SolarX Challenge aims to promote innovation in the solar energy space and accelerate the responsible energy transition.

As the next steps, the ISA secretariat seeks approval for the following:

1. Budget- Approval of budget of USD 600,000 for the SolarX Grand Challenge
2. Appeal for partnering with Invest India and other regional partners including AFIDA, WAIPA, and GOGLA, and providing USD 200,000 to Invest India for this purpose (included in the total budget of USD 600,000)
3. Launch of the SolarX Grand challenge during the 27th Conference of the Parties (COP27) to the United Nations Framework Convention on Climate Change (UNFCCC) at Sharm-el-Sheikh, Egypt.

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**Annexure I - About the Challenge:**



A call for application from startups will be initiated digitally through the ISA and Invest India websites. National agencies, National Focal Points (NFPs), and partners will be requested to amplify it further. The applications will remain open for 24 weeks (~6 months) for startups

and innovators to participate. Bootcamps, both virtual and in-person, and in various languages, would support the preparation of applications.

### **Application closure and evaluation of entries**

Evaluation is a critical part of executing SolarX. The applications will be critically assessed for local fitment of the solution. The problem statements are coupled with a plan to implement a pilot project. Hence, the following guidelines shall be followed to select the evaluation committee:

- a. The evaluation committee shall involve one member each from the Cluster Representative, the member countries for pilot implementation, and GCC.
- b. An industry expert shall be onboarded to evaluate the scalability and commercial viability of the solution.
- c. A research professional to understand the technical feasibility and local acceptance of the solution.

### **Declaration of results**

The winning solution will be rewarded through two modes:

- a. **Cash grant** – A cash grant will be offered to the start-ups as a winning prize. The winners will also be featured in the award program planned for the mid of 2023.
- b. **Acceleration support** – All the selected innovators will be assisted through an in-house acceleration program. The program shall largely include pillars of Mentorship, Funding, and Market Access.

### **Acceleration Program**

The innovations identified from the program will be supported by the Program Secretariate and support partners for wider implementation. The program will be across the following pillars:

- a. **Market Access** – The innovators will be offered market access through showcase and buyer-seller meets in collaboration with the ecosystem, private players, and enablers. The effort will ensure wider adoption and implementation of the innovation. The benefit will be two-fold. Firstly, the start-ups will get market access to grow their consumers and stabilize their offerings. Secondly, the selected innovation will be tested and verified examples will add to the success of the program.
- b. **Investor Connect** – Investments play a major role in the success of an early-stage organization. The investment will not only allow the innovation to grow but have

a greater capacity to implement the solution. The investors can fund the companies or pay for pilot projects for NFPs and social foundations.

- c. **Mentorship Connect** – The early-stage entrepreneurs largely lag in large-scale implementation due to a lack of support and mentorship from the experienced.

The acceleration program will be delivered virtually and physically to ensure outreach to all finalists across the globe.



**Annexure II - Responsibility Matrix:**

Phase	Task	Indicative Activities	Partners				
			Invest India	ISA	Program Partners (WAIPA, AfIDA, etc.)	Regional Partners	
0	Road Map	Prepare a preliminary roadmap deck to onboard partners	•	•	•		
Idea tion	Conceptualisation	Partner Exploration	•	•	•		
		Detailed cluster identification		•	•	•	
		Capacity Building Framework	•	•	•	•	
		Defining Problem Statements		•	•	•	
		Identifying assessment parameters	•	•	•		
		Preliminary Impact Assessment		•		•	
	Partner Identification - I	Identifying partners	•	•	•		
		Identifying regional agencies/groups	•	•	•		
		Defining roles and responsibilities for partners	•	•			
		Recommendations for Evaluation Committee	•	•	•	•	
	Cluster Creation	Propose clusters based on regional relevance		•		•	
		Ensure administrative coordination and alignments of the cluster countries and representatives		•		•	
	Capa	Cluster	Finalising capacity	•	•	•	

Phase	Task	Indicative Activities	Partners			
			Invest India	ISA	Program Partners (WAIPA, AfIDA, etc.)	Regional Partners
	Knowledge Exchange	building module				
		Capacity building workshops of cluster representatives	•	•	•	
		Inputs on and finalising problem statements		•	•	•
		Inputs of common evaluation parameters and other criteria for the global framework		•	•	•
	Evaluation Committee	Propose regional evaluation committee members		•	•	•
		Finalising regional evaluation committee		•		
		Knowledge transfer to Evaluation Committee members	•	•	•	
		Coordination with Evaluation Committee		•	•	
Post-Launch	Launch of Applications	Identifying / building local platforms for call for applications	•	•		
		Call for applications		•		
	Outreach and Marketing	Marketing and Outreach Strategy	•	•	•	•
		Partner Engagement	•	•	•	•
		Outreach events	•	•	•	•

Phase	Task	Indicative Activities	Partners			
			Invest India	ISA	Program Partners (WAIPA, AfIDA, etc.)	Regional Partners
	Monitoring	and webinars				
		Monitoring applications inflow	•	•		
	Monitoring	Ensure implementation of outreach plan and measure the impact	•	•	•	
Call to Action	Identification of Cluster Winners	Execute evaluation sessions with transparency	•	•		
		Collate the evaluation results	•	•		
		Preliminary Shortlisting of entries	•	•		
		Monitor and administrate the entire process	•	•		
		Organise a Mega Felicitation Event for the winners	•	•		
		Disbursement of funds		•		
		Identify key pillars of engagement for winners	•	•	•	•
Acceleration Program	Implementation of Acceleration Program	Organise focused virtual workshops for the winner (e.g., Buyer-seller meets, investor connects, etc.)	•	•	•	•
		Participation by Partners	•	•	•	•
		Program Feedback and Impact Assessment	•	•		

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## Annexure III - Partner Organizations

### Invest India Advantage

Invest India's multi-faceted activities include detailed India entry strategies and research, end-to-end handholding, and investment aftercare. It works with every major country around the world, and across all the Indian states. The company serves as investors' pro bono guide to developing the best India strategy. From assisting with land acquisition to highlighting infrastructure projects for investment, showcasing cutting-edge innovation and startups, and world-class research, the various teams at Invest India offer each new investor the panoramic scope of the India opportunity and ways to navigate it.

From supporting India's expanding solar start-up ecosystem to harnessing the power of innovation and bringing them to the market or identifying, developing, and deploying technologies on-ground, Invest India's work covers the entire gamut of India's transformational business sector.

Invest India is the elected President of the World Association of Investment Promotion Agencies (WAIPA), headquartered in Geneva, Switzerland, and shall be undertaking several activities in pursuance of its new role, to create a global collaborative environment for direct investment. The WAIPA's international network can help expedite the implementation of cross-border programs. Association with international counterparts is a unique proposition offered by Invest India that can be instrumental for program execution. A trilateral MOU has been signed between WAIPA, Invest India, and ISA regarding investment promotion & capacity building in the Solar Energy sector. Invest India has been defined as the "facilitation partner" for implementing the objectives of the MOU. This was signed in September 2018 and has recently been renewed.

Invest India has developed and is maintaining some of the best performing portals and platforms for the projects of the Government of India. The assets are tailor-made to meet the unique needs and objectives of the government and users. The assets are integrated with machine learning, advanced analytics, and many other cutting-edge technologies.

### AfIDA

The Africa Infrastructure Development Association (AfIDA) is an association of project developers that seeks to promote and enable project development activities in Africa, by creating an eco-system and platform that will foster continuous dialogue amongst its members, standardize project development template documents and serve as a policy advocacy platform for the industry, with a view to ensuring that more projects on the continent achieve bankability.

**AMDA**

The Africa Minigrid Developers Association (AMDA) represents the mini-grid development industry, which is a critical solution for delivering sustainable and environmentally-friendly electricity to Sub-Saharan's more than 600 million people without access to power. AMDA is currently active in 42 members across 19 African countries.

**WAIPA**

The World Association of Investment Promotion Agencies (WAIPA) was created in 1995. It was established as an Association under Swiss law. It has been registered in Geneva, as a non-governmental organization. From its very inception, WAIPA has represented an ever-growing number of Member agencies. Through its wide range of activities, WAIPA provides the opportunity for investment promotion agencies (IPAs) to network and exchange best practices in investment promotion. WAIPA has always dedicated, and continues to dedicate, time and effort towards building the human resources capacity of its Member agencies. Training events have been organized by WAIPA, alone or in coordination with partner organizations. Membership is open to any agency, government body or entity whose prime function is “to promote any country, political sub-division of a country or other uncontested territory, as a destination for, or as a source of investments”.

**GOGLA**

GOGLA is the global association for the off-grid solar energy industry. We are proud to champion one of the world’s most innovative and impactful sectors. Hundreds of millions of people already benefit from affordable, high-quality, clean off-grid solar products and services. With the right support, our pioneering industry will be able to scale up rapidly to improve the lives of 1 billion people by 2030. To help make this happen, we promote, safeguard, and convene the industry, advocating for enabling policies and increased investment as well as supporting our 200+ members with effective services.