



INVEST INDIA
NATIONAL INVESTMENT PROMOTION
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**CHILDREN'S
INVESTMENT FUND
FOUNDATION**



INTERNATIONAL
SOLAR
ALLIANCE



SolarX Grand Challenge

African Chapter
2022-23



SolarX Grand Challenge

The International Solar Alliance (ISA) aims to accelerate innovation and investment in the solar energy sector in ISA member countries. ISA, in partnership with Invest India, is hosting the SolarX Grand Challenge to crowdsource innovative solutions to some of the persistent challenges that the member countries are facing in their respective solar sectors. The Grand Challenge will help ISA discover innovative solutions to some of the most pressing issues of the Solar Industry in ISA member countries that are implementable, cost-effective, and scalable.

SolarX is targeted to span across all ISA member nations, with different editions being held annually in different regions. The first edition is focused on the African region, aiming to promote innovation and discover local solutions, with the over-arching objective of capacity building.

COP 27: Launch of SolarX Grand Challenge

The SolarX Grand Challenge was launched at the 27th session of the Conference of the Parties (COP27) to the United Nations Framework Convention on Climate Change (UNFCCC) held at Sharm El-Sheikh, Egypt on November 10, 2022. SolarX was launched in the august presence of Dr. Ajay Mathur, Director General-ISA and Mr. Deepak Bagla, Managing Director & CEO, Invest India.



The program included a panel discussion on the investment landscape in the solar sector and the potential of solar energy in driving socio-economic development across the globe. The launch was attended by officials from World Association of Investment Promotion Agencies (WAIPA), Africa Infrastructure Development Association (AfIDA), Africa Minigrid Developers Association (AMDA), and Global Off-Grid Lighting Association (GOGLA) among others.

Why SolarX Grand Challenge

Solar Energy Sector

- ✓ Globally, 733 million people still do not have access to modern electricity or clean cooking methods, and 2.4 billion people still cook using fuels detrimental to their health and the environment.
- ✓ With the much-needed transition in the energy sector, the adoption of solar energy systems provides countries with an unprecedented opportunity to bring prosperity, energy security, and sustainable development to their people.
- ✓ There is significant scope for innovation in global solarization that can improve and reduce the costs of solar energy technologies.

Energy Crisis in Africa

- ✓ More than 640 million Africans are experiencing a scarcity of energy which takes the electricity access rate to 40%
- ✓ The limited access to energy for the entire African continent reinforces socioeconomic inequalities and impedes progress in widening access to basic socioeconomic opportunities.
- ✓ Africa carries a solar potential of around 7,900 GW, despite that it accounts for less than 3% of the world's installed renewables-based electricity generation capacity.



The Startup Ecosystem in Africa

- ✓ Africa accounts for about 17% of the global population, hinting at the large local market base that is accessible to startups in this region.
- ✓ The investor interest in African startup ecosystems is growing, indicating the need for bolstering the growth of startups in this region.

The SolarX Grand Challenge will address a three-fold benefit for the African region

- ✓ **Financial:** Attracting investment in the solar energy sector
- ✓ **Technical:** Thinning the gap of energy crisis in Africa
- ✓ **Innovation:** Building the African startup ecosystem to develop innovative solutions

Objectives And Outcomes

The SolarX Challenge aims to promote innovation in the solar energy space and accelerate the responsible energy transition with the following objectives-

Growth of the Solar Energy Sector

- ✓ Identification of frugal innovations that can offer cost-saving
- ✓ Motivating innovators and researchers to add value to the solar sector
- ✓ Performance improvement of the existing infrastructure

Growth of the local Startup Ecosystem

- ✓ Establishment of an entrepreneurial ecosystem in Africa
- ✓ Promote National Focal Points to invest more in the startup ecosystem enablement
- ✓ Promote policy and strategic interventions to nurture the innovation ecosystem
- ✓ Wider outreach for notable innovations

Benefit for Africa

- ✓ Supporting Africa to realise its energy potential and reduce its dependence on fossil fuel resources
- ✓ Position Africa as an Innovation leader in solar energy utilization
- ✓ Global collaborations for solar energy promotion



Program Timeline

- 1** **November 10, 2022**
Launch of the SolarX Grand Challenge at COP27
- 2** **January – February 2023**
Capacity Building Exercise of Startups, Evaluators, and Other Local Stakeholders
- 3** **March 31, 2023**
Closure of Applications
- 4** **April – June 2023**
Evaluation of Applications by Committee
- 5** **July 2023**
Declaration of Winners at G20 Meeting
- 6** **July – October 2023**
Acceleration Program for Winners
- 7** **November 2023**
Award Ceremony for Winners at G20 India Meeting

Next leg of SolarX Grand Challenge to be launched in COP28 in Dubai

Problem Statements

The broad areas for problem statements are –

- ✓ Technical and financial innovations to accelerate the **deployment of off-grid solar applications** (mini-grids and SHS) to displace diesel, charcoal or traditional biomass
- ✓ Development of more efficient models having **high scalability potential and enhancing cost competitiveness** (including life cycle costs) for solar drying, solar water heating, solar cooking or other similar productive use applications
- ✓ Technical and/or business model innovations to bring down the **cost of, or support grid integration** for rooftop solar systems
- ✓ Innovative solutions combining use of solar with other applications (e.g. AgriPV) to **save land and boost small holder family incomes.**
- ✓ Manufacturing innovations (deployment or integration) **to lower the cost or improve efficiency/efficacy of solar or ancillary equipment** in target markets.
- ✓ Innovative business models of solar power to emerging use cases such as **eMobility, green Hydrogen, round-the-clock power, battery waste management** etc.
- ✓ Development of **soft tools based on AI, IOT to improve the manufacturing, deployment or integration of solar energy applications.**
- ✓ Development of **eco-system in terms of manufacturing of balance of system components, such as, high efficiency inverters, glass cover** options for modules to maintain high transmittance and reduce use of water in cleaning, EVA sheets, etc.
- ✓ Development of **high efficiency DC pumps with smart controller** having potential for scalability and practical business models for dissemination
- ✓ Services or softwares which **help in land mapping** e.g. geo-spatial drones



Awards And Incentives

Startups will compete for grants, and access to global mentorship and acceleration program that will provide market access, showcase opportunities, and investor connect facilitations. The winning solution would be rewarded through the following modes:



Cash grant

A cash grant worth USD 15,000 will be offered to each of the 20 selected startups as a winning prize



Acceleration support

Selected innovators will be assisted through an in-house acceleration program. The program shall largely include pillars of Mentorship, Funding, and Market Access.

The handholding assistance will also help to grow the startup ecosystem in African countries through capacity-building workshops and knowledge-sharing exercises.



Program Partners

About International Solar Alliance

International Solar Alliance (ISA) is an action-oriented, member-driven, collaborative platform for the increased deployment of solar energy technologies. ISA was conceived as a joint effort by India and France to mobilize efforts against climate change through the deployment of solar energy solutions.

At present, 110 countries are signatories to the ISA Framework Agreement, of which 90 countries have ratified to become full members of the ISA.

About Invest India

Invest India is the National Investment Promotion and Facilitation Agency of India under the aegis of the Department for Promotion of Industries and Internal Trade, Ministry of Commerce and Industry, Government of India.

Invest India has experience in delivering multiple projects of national and international importance. It is the elected President of the World Association of Investment Promotion Agencies (WAIPA).

About Children's Investment Fund Foundation

Children's Investment Fund Foundation (CIFF) is an independent philanthropic organisation, working with a range of partners seeking to transform the lives of children and adolescents. CIFF programmes are designed to support bold ideas to solve seemingly intractable problems



Other Partners

