



INTERNATIONAL
SOLAR
ALLIANCE

International Solar Alliance

Making solar a preferred choice of energy

Agenda

1. About ISA

1a. Programmatic Support

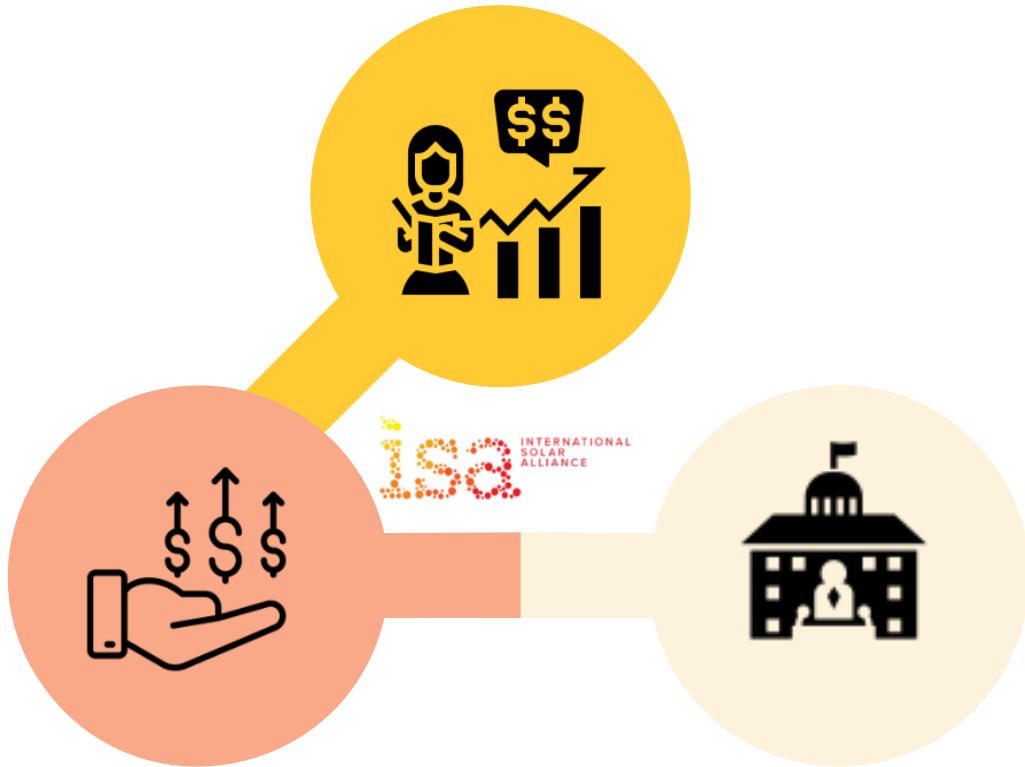
1b. Resource Mobilization

1c. Capacity Building

2. Global Initiative- One Sun One World One Grid

3. Supply Chains

Who are we?



Inter-governmental treaty-based international organization.

United Nations Observer Status.

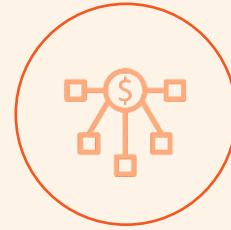
Global mandate to catalyse global solar growth by helping to reduce the cost of financing and technology for solar

114 Signatories including 92 Member Countries

Universal and Affordable last-mile electricity connectivity towards facilitating economic development and environmental impact

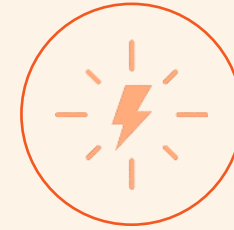
Recently concluded ISA's 5th general assembly, yesterday on 18th October 2022

Journey So Far



USD 83M+

Resources mobilized from member countries & global foundations



9.5 GW+

Aggregated Concept proposals received from 44 members



2,974

Personnel trained on aspects of solar



27 Demonstration Projects

Demonstration projects in pipeline for 27 LDC & SIDS Member Countries, all DPRs approved. 3 Projects commissioned



ISA Flagship Reports

Solar Technology Report, Solar Market Report & Solar Investment Report, ISA's "Ease of Doing Business" Report

Governance Structure

ISA Assembly

India  **President**

France  **Co-President**

8 Vice Presidents representing 4 regions

Asia & Pacific Region



Tuvalu



Bangladesh

Africa Region



Somalia



Mali

Latin America & the Caribbean Region



Venezuela



Dominica

Europe & Other regions



Denmark



Sweden

ISA Committees

5 Committees (1 Standing Committee and 4 Regional Committees)

To provide strategic advice and guidance on functioning of the ISA and support in facilitating implementation of various ISA programmes, projects and activities

ISA Secretariat

Providing programmatic support to Member Countries for promotion of solar solutions

Support in strategic decision making and advocacy

Facilitate engagement with diverse stakeholders for conceptualization of programs and projects

Current Membership Status

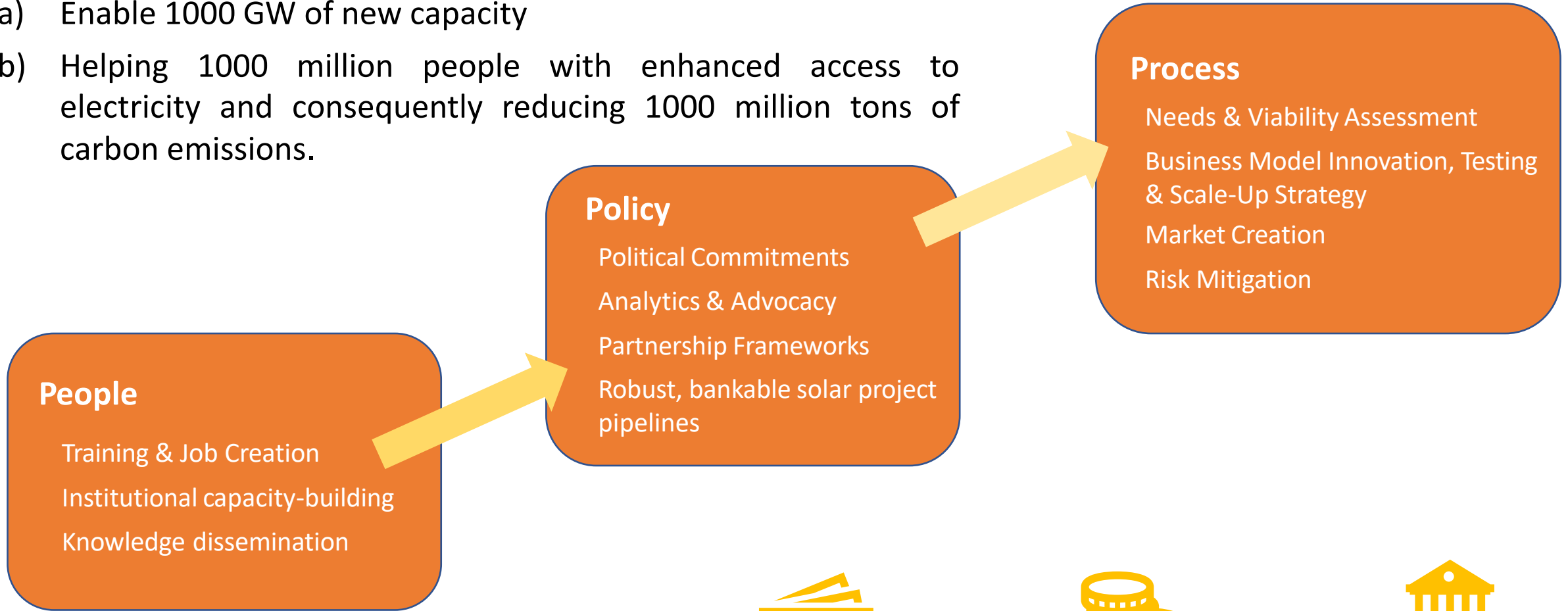
193 Prospective Member Countries

114 No. of countries signed ISA framework agreement

ISA's Mandate

Mobilize USD 1 trillion in solar investments till 2030

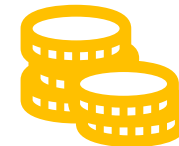
- a) Enable 1000 GW of new capacity
- b) Helping 1000 million people with enhanced access to electricity and consequently reducing 1000 million tons of carbon emissions.



[Roadmap to mobilize USD 1 trillion launched](#)



Country contributions

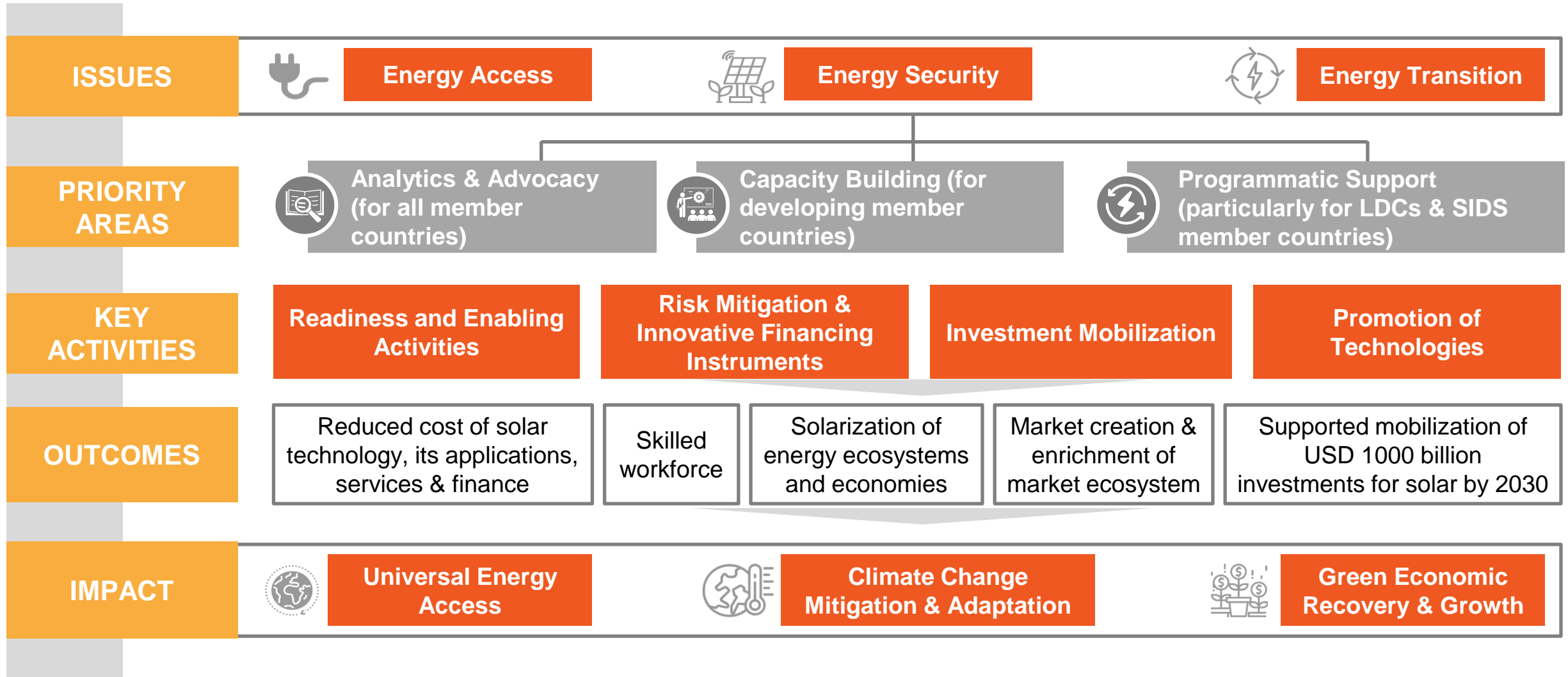


Philanthropic capital



Membership fee

Theory of Change – ISA’s Strategic Framework for Global Solarization



ISA's Multi-faceted Support

9 ISA PROGRAMMES



Scaling Solar Application of Agriculture Use



Affordable Finance at Scale



Scaling Solar Mini-Grids



Scaling Solar Rooftop



Scaling Solar E-Mobility & Storage



Solar Park



Solar Heating and Cooling Systems



Solar PV Battery and Waste Management



Solar for Green Hydrogen

STRATEGIC PRIORITY AREAS

Advocacy and Analytics

Capacity Building

Project Implementation

3 upcoming Global Analytical Reports:

- ▶ The World Solar Technology Report
- ▶ The World Solar Market report
- ▶ The World Solar Investment Report

ISA's Capacity Building Initiatives for Various Stakeholders




Impact Areas:

Energy Access | Energy Security | Energy Transition



Driving Multiplier Effect through Collaboration: 1+1 = 11

 Readiness and Enabling Activities	 Risk Mitigation & Innovative Financing Instruments	 Investment Mobilization	 Promotion of Technologies
 <p>EIB Enhancing energy access through Solar Home Systems</p>	 <p>World Bank Sustainable Renewables Risk Mitigation Initiative for mobilizing USD 850 million in 20 countries</p>	 <p>GGGI Joint fund raising for deployment of 1 Million Solar Irrigation Systems</p>	 <p>WB Lighthouse Transfer of best practices and innovative business models</p>
 <p>AfDB and GCF Technical Assistance for Decentralized Solar Applications</p>	 <p>BP-WRI Developing roadmap for mobilizing USD 1 trillion in solar sector</p>	 <p>IBSA and UNDP Solar Water Pumps in 10 countries with IBSA fund</p>	 <p>UNEP Solar Waste Recycling Study</p>
 <p>UNIDO Creating a network of Solar Technology and Application Resource Centres</p>	 <p>CIFF Investment Series to engage Institutional Investors</p>	 <p>UNAIDS Joint Fund Raising for Solarizing Health Centres</p>	 <p>SDF and ADB Programmatic Support for solar applications</p>
 <p>Rockefeller Technical Assistance for developing DRE markets</p>	 <p>IRENA Collaboration on finance, technologies and R&D</p>	 <p>CIF and BNEF Global Solar Investment Report</p>	 <p>European Union Development of knowledge products</p>
 <p>WAPP Scaling Up Utility-Scale Solar Projects</p>			 <p>Olade Facilitate development and implementation of policies and regulations</p>

1a. Programmatic Support

Facilitate the attainment of SDG 7 (universal energy access), SDG 13 (combating climate change) and SDG 8 (Decent Work & Economic Growth) goals through the following programmes:



Scaling Solar Applications for Agriculture Use



Affordable Financing at Scale



Scaling Solar Mini-Grids



Scaling Solar Rooftop



Scaling Solar E-Mobility and Storage



Solar Parks



Solarizing Heating and Cooling Systems



Solar PV and Battery Waste Management



Solar for Green Hydrogen

Implementation of Pilot Projects in LDC & SIDS

Operative model

Countries join one or more of ISA's Programmes by indicating interest through an Expression of Interest (Eoi).

ISA Secretariat support the countries to prepare a Road map for scaling of solar applications.

Prepare Guidelines based on the best practices for the benefit of the Countries.

Support the countries to identify the projects and carry out pre-feasibility studies.

Support Pilot Project implementation in LDCs & SIDs

Help the countries to create pipeline of Solar Projects and attract the investments

1b. Resource Mobilization for Solar

Contributions from Member countries for core funding

Sl. No.	Name of the Country	Amount
1.	Republic of India	USD 40 million (approx.) pledged as core funding
2.	Republic of France	USD 1.08 million for the STAR-C initiative
3.	United Kingdom	GBP about 1 million for GGI-OSOWOG initiative implementation
4.	United States of America	USD 0.9 million for programmatic support to member countries
5.	Sweden	USD 50K for capacity building
6.	Japan	USD 36K programmatic support for mini grid projects
7.	Australia	AUD 92,000 for capacity building
8.	European Commission	EUR 1 million (in-kind)
Total		USD 44 million (approx.)

Additionally, the Secretariat has also received positive signals and in-kind contributions from the following countries regarding their intention to strengthen the ISA Secretariat for implementation of priorities identified in the Strategic Plan:

- ❖ Kingdom of Denmark
- ❖ Republic of France
- ❖ Germany
- ❖ Kingdom of the Netherlands

Resource Mobilization for Solar

Sl. No.	Name of the Organisation	Amount
1.	Global Energy Alliance for People and Planet with contributions from Rockefeller Foundation; Bezos Earth Fund; and IKEA Foundation (for strategic priorities of ISA including programmatic support, capacity building and analytics and advocacy)	Part A: USD 10 million (Including OD Grant – 1.5 million) Part B: USD 15 million
2.	Children’s Investment Fund Foundation (CIFF) (for strategic priorities of ISA including programmatic support, capacity building and analytics and advocacy)	Grant III - USD 8 million (including OD Grant - USD 0.4 million)
3.	Bloomberg Philanthropies (for strategic priorities of ISA including programmatic support, capacity building and analytics and advocacy)	USD 6 million
4.	Sequoia Climate Fund (implementation of strategic plan)	USD 0.5 million
5.	The John D. and Catherine T. MacArthur Foundation	USD 0.4 million
Total		USD 40 million (approx.)

Additionally, in-kind contributions have also been received from the following organisations for implementation of various projects and activities in ISA member countries over the years:

- ❖ European Commission
- ❖ World Bank
- ❖ Asian Development Bank
- ❖ United Nations Development Programme
- ❖ United Nations Environment Programme
- ❖ Shakti Sustainable Energy Foundation

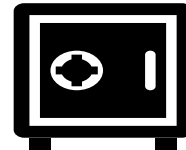
ISA's Solar Facility

The **Solar facility** aims to catalyze solar investments in the underserved segments and geographies of Africa, thereby unlocking commercial capital. The facility would focus on investing across solar technologies – off-grid solar, rooftop solar, productive use solar, utility scale solar – across Africa through a country specific intervention approach

The facility was approved at ISA's Vth General assembly by Hon Minister, Sh RK Singh in Delhi, India

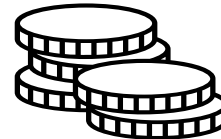


The Solar Facility would comprise of 2 funds and one mini-sub component:



Solar Payment Guarantee Fund

The **Solar Payment Guarantee Fund** will support projects at the time of default and reduce risk of early closures/bankruptcy of solar energy projects



Solar Insurance Fund

The **Solar Insurance fund** would accelerate solar project development in Africa via offsetting insurance premium related expenses (during construction and pre-revenue stages)



The **Solar Investment /PPF** would provide the core investment upto 10% of project costs in projects that are participating in the Solar payment guarantee fund and/or solar insurance fund

ISA's SolarX Grand Challenge

International Solar Alliance is organizing a **Global Startup Challenge** to attract entrepreneurs from African region

The first leg was launched in **Africa** on Nov 10, 2022 during COP27

The Purpose



Attract Global Investments in Solar Energy Sector



Catalyze the solar adaption-rate



Motivate innovators and researchers to add value to the solar sector



Promote NFPs to invest more in the startup ecosystem enablement



Make Africa energy independent and reduce dependance on fossil fuel resources

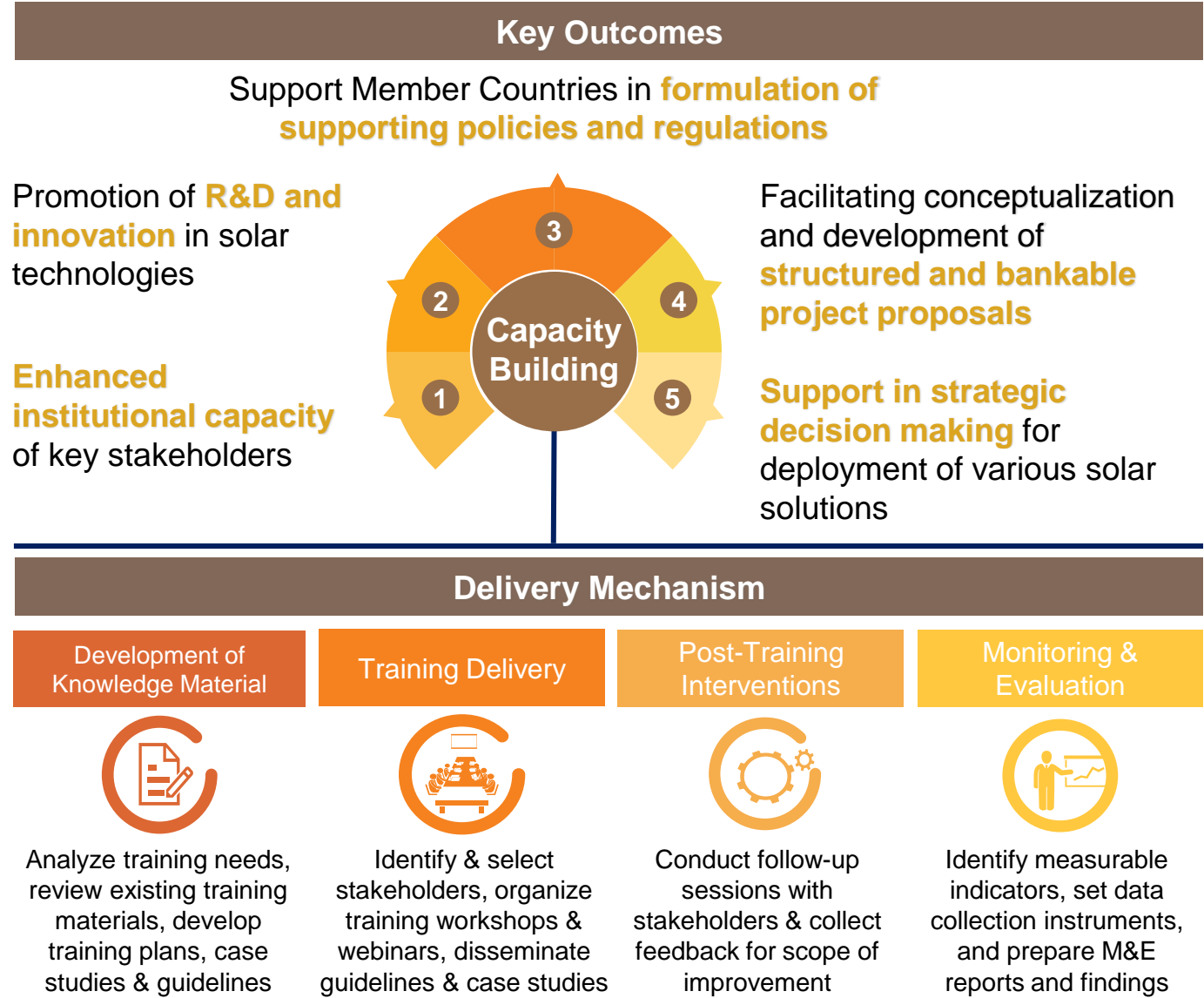


Identify innovations that can offer cost-benefits



Following the approval from the Fifth Assembly, the ISA, in collaboration with Invest India, jointly launched the 'SolarX Grand Challenge' at CoP27 on November 10, 2022.

1c. Capacity Building



ISA's Capacity Building Initiatives for Various Stakeholders



Total People Trained
(Feb 2023)

2974



Training of
Master Trainers
215



Bankers
Training
1226



Technical -
Solar Rooftop
258



Technical -
Solar Mini-grids
348



Technical -
Solar Parks
461



Technical – Solar
Water Pumping System
466

Solar Technology Applications Resource Centres (STAR-C)

NEED

- # More than 700 Million people without access to electricity.
- # The import cost of energy is a big burden for majority of the ISA member countries.
- # High coal and fossil gas prices profoundly making solar energy more attractive.
- # Lack of country capacity poses huge risk to investments.

OPPORTUNITIES

- # High coal and fossil gas prices profoundly makes solar energy more attractive.
- # More and more under-developed and developing countries are seeing solar as one of the major energy sources.
- # Transition towards solar energy is a powerful engine for growth, trade, creating jobs and contributing to climate action.

GAPS

- # Private capital does not yet see the right balance of risk and reward in clean energy projects in Africa.
- # Quality infrastructure and standards for solar products and services often missing.
- # Technical capacities and skills are inadequate.
- # Low awareness level with insufficient data and knowledge.
- # Weak government policies and regulations.

STRATEGY

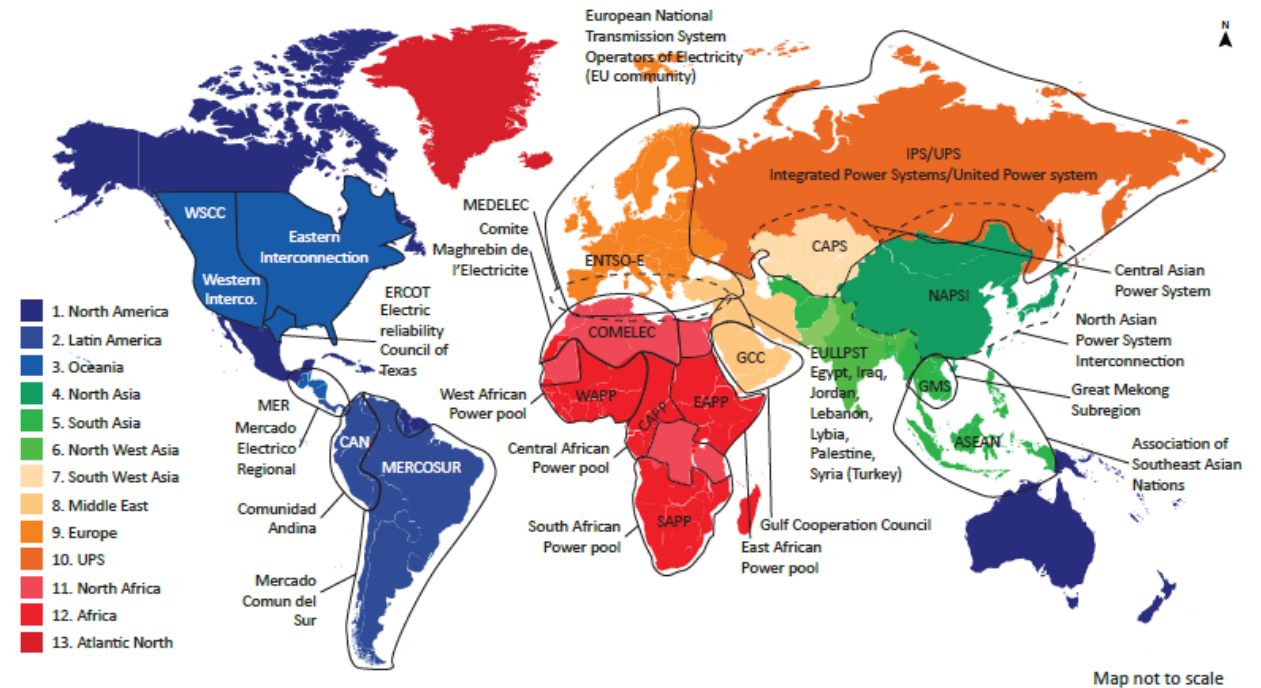
- # Building the necessary human capacity and skills within member countries for them to undertake energy transitions **on their own** while also boosting economic growth, trade and job creation.

STAR C

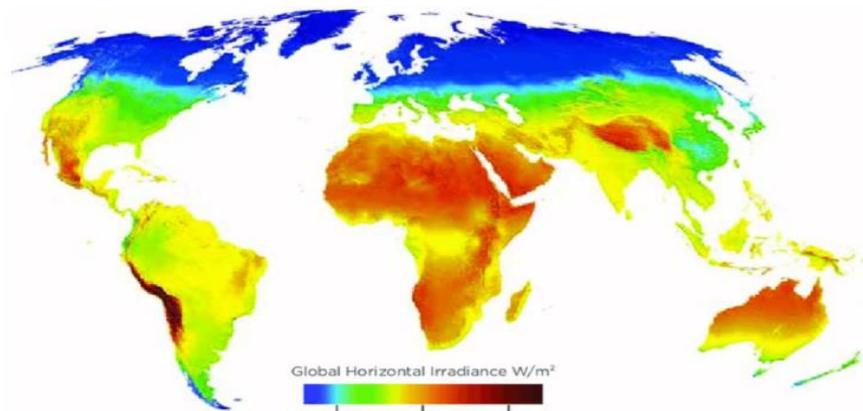
- # Establishing technical facilities undertaking testing/ standardisation, demonstrate and upscale replicable solar energy applications.
- # Undertaking training and skills development for better-qualified solar professionals, decision makers, financial institutions etc. supporting accelerated solar deployment.
- # Creating a global network for exchange of knowledge and expertise.

2. Global initiative: One Sun, One World, One Grid

- The OSOWOG initiative will aim to connect **different regional grids through a common grid** that will be used to transfer renewable energy power and, thus, **realize the potential** of renewable energy sources.
- The initiative, through the developed **interconnected regional grids**, would also help in **addressing the risk associated with intermittency of sources** by allowing **flow of power** from a region with excess generation to a region with increased demand.

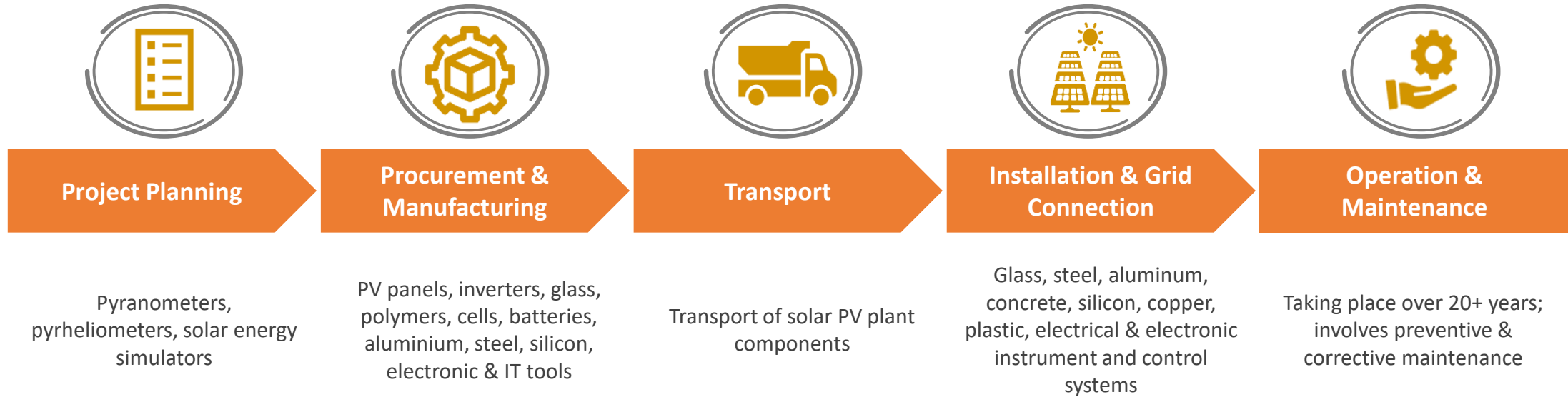


GGI-OSOWOG aims to achieve global grid interconnection through three key pillars:



3. Supply Chains

Solar PV supply chains have become increasingly globalized with key goods being traded include, machines to manufacture PV wafers, cells, modules and panels, and select PV components, such as generators, inverters, cells



Global Trade in Solar PV

USD 300 billion in 2019
Increase from USD 111 billion in 2005

Global Trade in Machines Manufacturing Solar PV

USD 136 billion in 2019
Increase from USD 52 billion in 2005

Source: IRENA – Trading into a Bright Energy Future

Our team has significant experience across renewables, multilaterals and organization building



Dr Ajay Mathur

Director General

Prior Work Experience

- Director General, The Energy and Resources Institute (TERI)
- Director General, Bureau of Energy Efficiency



Mr Joshua Wycliffe

Chief of Operations

Prior Work Experience

- Permanent Secretary, Ministry of Environment, Republic of Fiji



Ms Pragya Gupta

Resource Mobilisation Specialist

Prior Work Experience

- Country programming, Green Climate Fund
- Financial Management Specialist, Asian Development Bank



Ms Nidhi Bakshi

Human Resource Analyst

Prior Work Experience

Project Fin-HR Manager- MEDECINS SANS FRONTIERES-France



Mr Philippe Malbranche

Assistant Director General

Prior Work Experience

- Director General, INES (French Solar Energy Research Institute)



Mr Remesh Kumar

Acting Chief of Unit PPIC

(Secondment from NTPC)

Prior Work Experience

- General Manager: (Project Planning and Monitoring), NTPC



Onyi Iyizoba

Legal Specialist

Prior Work Experience

- Senior Legal and Regulatory Consultant Nextier Power, The Nextier Group



Mr Nikhil Kumar

Senior Consultant, Communication and Advocacy

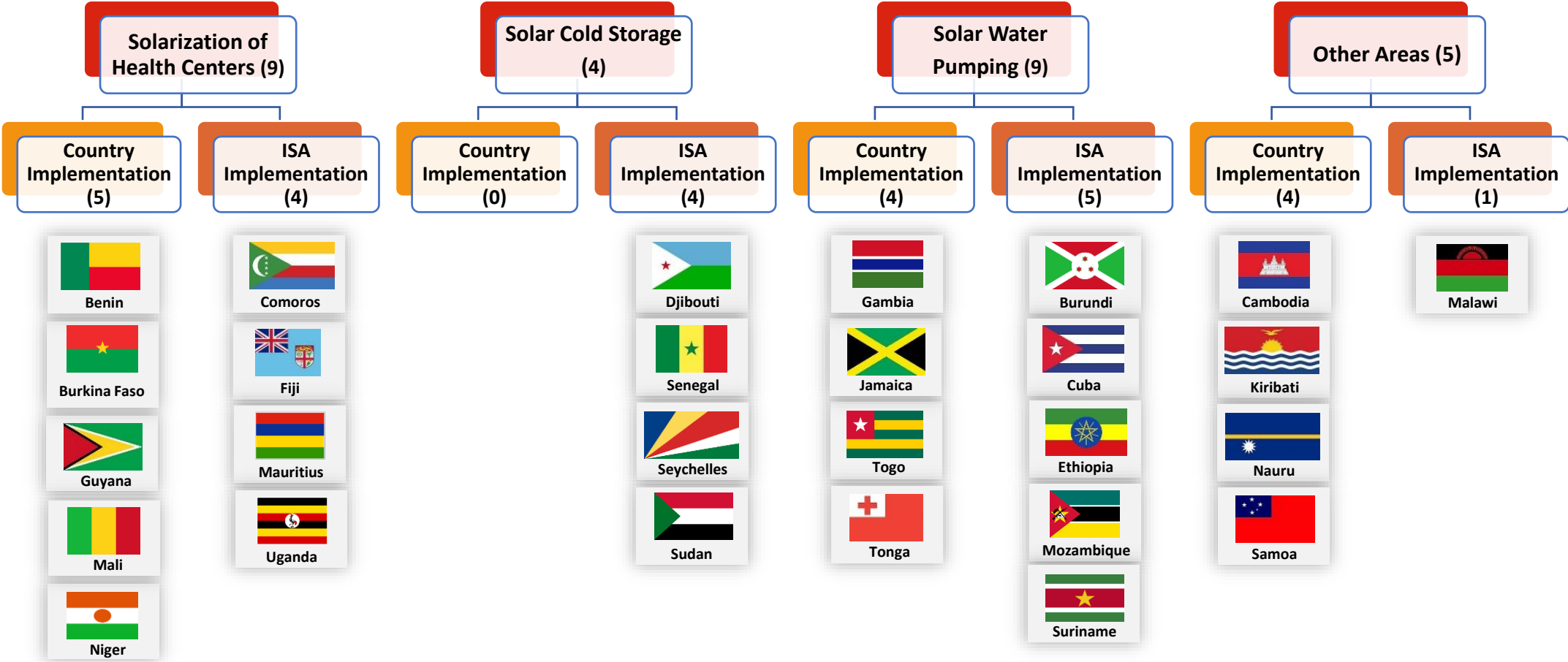
Prior Work Experience

- Associate Vice President, Edelman

Thank You

Demonstration Solar Projects

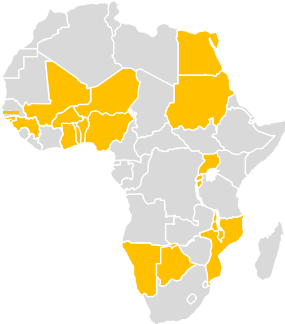
- ❖ Eligible LDCs/ SIDS member countries: 47
- ❖ Total proposal received from LDCs/ SIDS member countries: 27
- ❖ Total DPRs finalized: 27
- ❖ Projects Commissioned: 06



Grid Connected Solar Projects

Country Analytics - Country Assessment Reports with Outreach to 32 Countries

AFRICA



22 Countries

ASIA AND PACIFIC



03 Countries

LATIN AMERICA AND CARIBBEAN



07 Countries

About 7.5 GW of capacity aggregated across 19 Countries



Togo
(500 MW)



Mali
(500 MW)



Malawi
(100 MW)



Niger
(50 MW)



Cuba
(900 MW)



Paraguay
(500 MW)



Guinea-Bissau
(10-60 MW)



Ethiopia
(410 MW)



Venezuela
(2000 MW)



Guinea
(70 MW)



Suriname
(100 MW)



Zambia
(400 MW)



DR Congo
(1,000 MW)



Mauritius
(32 MW)



Mozambique
(30 MW)



Bangladesh
(5 MW)



Sudan
(200 MW)

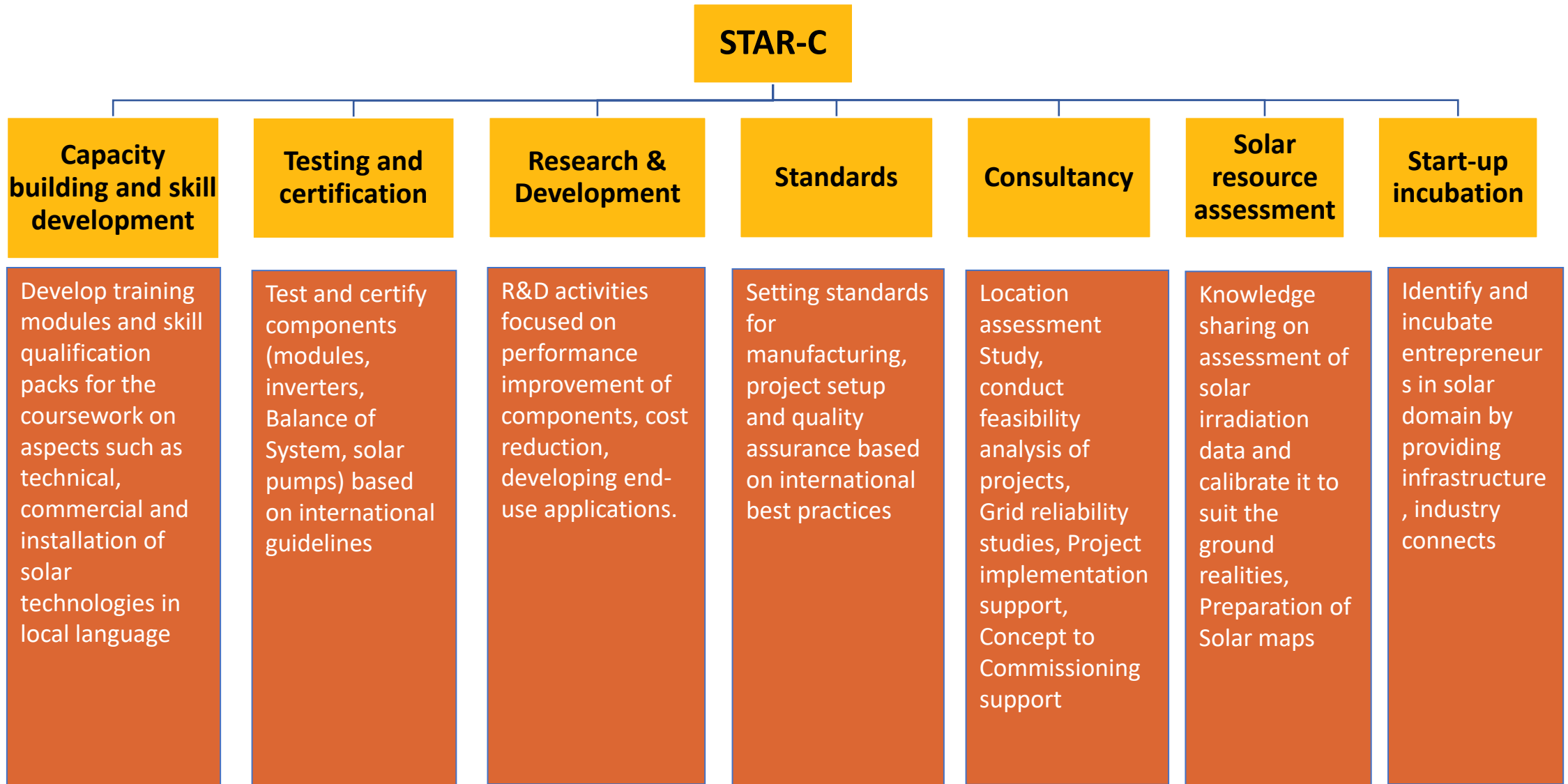


Nicaragua
(100 MW)



Burkina Faso
(750 MW)

Solar Technology Applications Resource Centres (STAR-C)



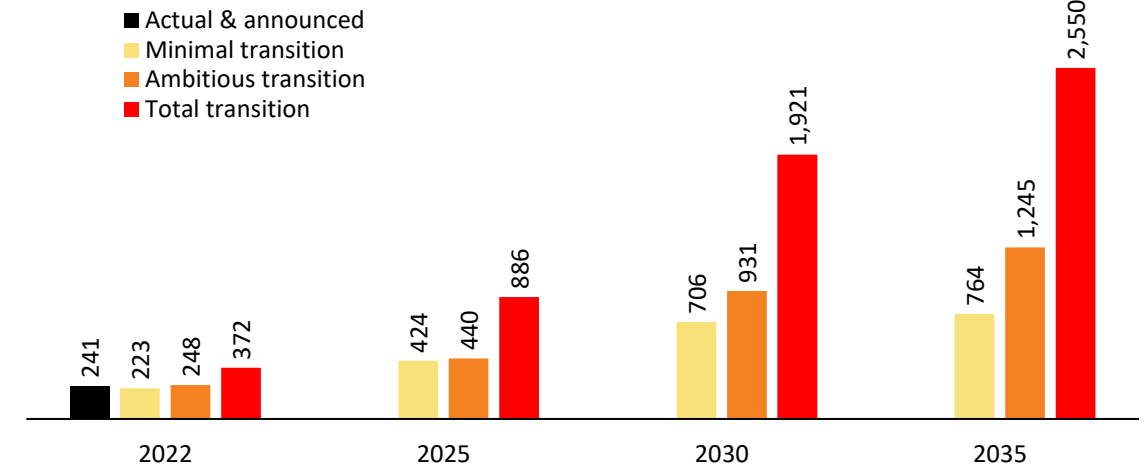
The booming global solar PV market will create space for new industry players

But these opportunities will not be distributed evenly across value chain's steps

Key takeaways from the quantitative analysis

- ❖ The solar PV industry **already is on the right path**, Incumbent actors are thereby in **position of power**
- ❖ Growth will have to occur mainly between **today and 2030** (from polysilicon to wafers)
- ❖ Production capacities will have to increase at least by a **factor of 3** ("Minimal Transition") and even a **factor of 10** ("Total Transition")
- ❖ The window of opportunity for new entrants thereby depends of the **considered step of the solar PV value chain**
- ❖ For **cells and modules** the technology turnover is higher (5-7 years), which will create opportunities, especially after 2030
- ❖ Demand for **components** will also explode, with opportunities in glass, encapsulants, frames, backsheet or inverter manufacturing

Total required production capacity for modules (in GW)



Required annual production capacity additions for modules (in GW)

