

# SPECIAL EDITION ISA @ COP27



## EASING SOLAR DEPLOYMENT GLOBALLY

7 – 18 NOVEMBER 2022

**Collaboration and cooperation** are critical pillars for a successful and universal edifice of energy transition. ISA is working with its 110 Member Countries towards propelling investment and creating millions of new green jobs in this crucial decade of climate action. ISA showcased its work in 'Easing Solar Deployment Globally' through programmes, partnerships, collaborations, and discussions at its first pavilion at COP27, in Sharm El Sheikh, Egypt, from 7 – 18 November 2022. The focussed discussions and special sessions were designed to create greater stakeholder consensus for promoting and adopting solar energy at a desirable speed and scale.

The ISA interventions at COP27 **advocated** for solar as the preferred energy of choice, **accelerate** partnerships and collaborations among all agencies of import and prioritised **action** across countries, companies, and consortiums globally. To expand the extent and the expanse of participation the sessions will also be streamed live to a global audience over the fortnight.







Over the two weeks, ISA's engagements and interventions at COP27 focused on leveraging investment and innovation to scale-up global solar deployment to help usher in the 'solar revolution' on whose cusp we are standing! This projection can and must come true. In the coming days and, more importantly, until the 28th Conference of Parties, we at ISA will walk our talk through programmes, projects, partnerships, collaborations, and cooperation.

Three key milestones announced at the ISA Pavilion can help us reach our goals: the launch of the [SolarX Grand Challenge](#) in collaboration with WAIPA and Invest India; the 'Our Solar Future — Roadmap to Mobilize USD 1 Trillion by 2030' in partnership with the World Resources Institute and Bloomberg Philanthropies; and the Solar Facility.

Fossil fuel subsidies are one major hindrance to energy transition at the grassroots level. As of 2019, governments spent roughly USD 372 billion annually to subsidise fossil fuel energy use. A report by the International Institute for Sustainable Development (IISD) suggests that if only 10-30% of subsidies for fossil fuels went to renewables - a so-called 'subsidy swap', it could pay for a global clean energy transition. This is where ISA's SolarX Grand Challenge will come into play. We have built the initiative

on the principle that for the climate tech to be influential and help create resilient communities, more solutions should be localised, meaning they should address and adapt to local needs and context. One way to ensure this is by fostering locally grown solutions, which can spill over boundaries and geographies. Through the SolarX Challenge, ISA will enable the provision of tools and the capital required by innovators and entrepreneurs in the developing parts of the world to innovate for themselves and scale it up and beyond.

The '[Our Solar Future — Roadmap to Mobilize USD 1 Trillion by 2030](#)' is designed to aid reduce financing costs and the cost of solar technology applications and services. It will help lay the ground to align policymakers, investors, and other stakeholders around critical investment pathways and high-impact opportunities to scale ambition, investment, and programmatic action to advance solar deployment for energy access, energy security, and a clean energy economy with the larger goal of boosting energy security and worldwide resilience to vagaries of climate change.

Today, more than ever, there is an increasing urgency to address barriers limiting private sector capital flowing at scale into developing and emerging countries to achieve climate change





mitigation and renewable energy deployment. One such barrier is the risk perception associated with investing in emerging markets, which has historically been addressed on a project-by-project basis. Data, information, and reliable analytics have always been scarce for such developing countries, adding to their high-risk perception. We, at the International Solar Alliance, have been trying to bring out high-resolution, well-analysed data for investors. However, we have seen that recalibration of this risk perception could be a slow process. This is how the [Solar Finance Facility](#) came to be—conceived as a blended finance facility comprising risk mitigation instruments, such as a payment guarantee mechanism and an insurance support mechanism. These mechanisms would be instrumental in speeding up development and mobilising investments in the country by absorbing the project risks from the developers and protecting them against unforeseen challenges.

Engagements with Green Climate Fund, Global Environment Facility, the World Bank Group and many more multilateral and bilateral funding agencies, private sector entities, impact investors, and global foundations will contribute to these mechanisms, which will lend credibility to investments made under the Solar Finance Facility. Through this Facility, ISA aims to support the introduction of policies that enable a regulatory structure and drive down systematic risks in a Member Country. In the long run, these would make the country self-reliant in attracting private-sector investments and will not require a risk mitigation mechanism for implementation.

My colleagues and I are optimistic that the above-listed interventions would be able to bring about a strong pipeline of bankable projects on the ground in our Member Countries, contributing to ISA's long-term objective of mobilising USD 1 trillion in solar energy investments by 2030.

While the above interventions will define the future, our COP27 sessions showcased our achievements on the ground. The exclusive Country Spotlight Sessions on Cuba, Ethiopia, Guyana, Mali, Mauritius, Senegal, Seychelles, and Tonga not only documented our important achievements through solar applications across food security, healthcare, and farming sectors - in these Member Countries, but also showcased the solar potential and the opportunities present before us. If the speed continues, the deployment scale will be the game changer in their respective energy transition story. This, combined with the strengthening and integration of capacity building with local systems through our [STAR C initiative](#), will help provide a relevant workforce and will spell guaranteed success.

You can tune in for a recording of all our sessions here: <https://youtube.com/playlist?list=PLnuO2Ing4XaLh4-3ziNEfx-6vol4qZNFN>



## GLIMPSES FROM ISA PAVILION @COP27





# Launched @COP27...

## Our Solar Future Roadmap to Mobilise USD 1 Trillion by 2030

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Scaling up solar investment and deployment faces three primary barriers: the lack of energy sector planning and enabling policies and regulations, an inadequate pipeline of bankable projects with creditworthy off-takers, and risk management challenges. These barriers affect countries differently depending on their investment readiness and market conditions.

This roadmap guides addressing these barriers, accelerating and scaling up solar deployment, and reducing regional investment gaps by equitably mobilising US\$1 trillion of investment in solar energy solutions by 2030. It has been prepared by World Resources Institute (WRI), the International Solar Alliance (ISA), and Bloomberg Philanthropies in collaboration with CONCITO, the Investment Fund for Developing Countries, and the World Climate Foundation. This roadmap builds on reports by IEA, IRENA, IPCC, and other global institutions, as well as consultations with more than 100 solar development

and finance experts worldwide. It identifies and prioritises ways to overcome barriers to scaling solar investment, particularly in developing countries and emerging economies. It focuses on solutions with the most significant potential to

- ♦ catalyse private investment
- ♦ improve energy access and energy security; and
- ♦ provide other socioeconomic benefits

These solutions include actions that countries can pursue in four solar market segments: off-grid and decentralised solar, utility-scale and grid-connected solar, energy storage and grid flexibility infrastructure, and advanced solar and storage technologies. The roadmap offers recommendations for new collaborative actions by international institutions, governments, and private sector actors to address barriers that cannot be solved at the country level.

The complete document can be accessed here: <https://bit.ly/3gG6FB2>





# The Solar Facility: A blended finance facility comprising an investment insurance and payment guarantee fund

The Solar Facility was approved during ISA’s Fifth Assembly on October 18, 2022. ISA hosted a high-level discussion on the Facility on November 8, 2022, during CoP27 in Sharm el-Sheikh, Egypt. The high-level talks included industry experts and leaders from organisations such as Green Climate Fund, Multilateral Investment Guarantee Agency, International Finance Corporation, African Development Bank, European Investment Bank, World Bank, Edhina Capital, and Greenmax Capital. The high-level discussions were focused on highlighting the financing barriers, perceived risks, plausible solutions, flexible financing instruments, and the need for the facility to be

replicable and scalable in the long run for scaling solar investments across Africa and forging the financial partnerships necessary for launching the facility.

As the following steps, ISA would foster partnerships by seeking support from the GCF, GEF, MIGA, and other potential investors to successfully operationalise and implement the facility. ISA will engage a commercial private fund manager(s) through an open, transparent, and competitive procurement process per ISA’s procurement procedures for managing & socialising the facility to mobilise resources to scale up solar investments in emerging geographies (to begin with Africa). For more details, visit: <https://bit.ly/3gR0b1Z>

## The SolarX Grand Challenge

A start-up programme that aims to accelerate investments in solar by creating a pool of entrepreneurs and start-ups in the solar energy sector of ISA Member Countries. The first edition is focused on the African region, aiming to promote innovation, discover local solutions, and enable entrepreneurs with the over-arching objective of building human and institutional capacity to sustain and grow solar businesses.

The SolarX Grand Challenge will promote four-fold benefits in technology, finance,

innovation, and the start-up ecosystem of the region’s solar energy sector. The SolarX Challenge will be a leading force in driving the world’s transformation to a renewable energy economy that promotes innovation in the solar energy space and accelerates a responsible energy transition. The challenge is expected to bring together more than 100+ start-ups across the African solar segments in year 1. Up to 20 new and innovative start-ups would be shortlisted and given technical and financial assistance under this initiative. To apply, visit: <https://bit.ly/3VhHkwj>



# Exclusive: Country Spotlights

The Country Spotlight sessions focussed on initiatives in Small Island Developing States (SIDS) and Least Developed Countries (LDC) Member Countries where grants were extended for technical and financial assistance in setting up solar pilot projects across various solarisation themes such as solar water pumping systems, solar cold storage, and primary health care solarisation, under the aegis of ISA CARES, an important initiative taken by ISA in the wake of COVID-19.



## Mali



The Country Spotlight for Mali, amongst the first countries to join the ISA, focused on scaling up solar projects in the form of solar parks. Given that 65% of Mali's land is either desert or semi-desert, it has substantial potential to scale up its existing solar projects, which are already at the forefront in the global context. The ISA-led session at COP27 helped delve deep into the nuances that can help realise the country's solar potential. The event witnessed a keynote address by H.E. Lamine Seydou TRAORE, Honourable Minister of Energy & Mines, Government of the Republic of Mali. A detailed presentation followed by Dr Souleymane Berthe, Director General, Agency of Renewable Energy, Mali, discussed the Government's experiences, strategies and favourable policies that could advance Mali's solar energy. A presentation followed this by Mr J.S Chandok, General Manager (International Business Department), NTPC Ltd., who are the project management consultants for the project in Mali. The proceedings closed with a panel discussion wherein the panellists discussed the opportunities and challenges of scaling solar power in Mali.

## Seychelles



As an agriculture-based economy, Seychelles is taking various initiatives towards promoting solar energy to meet the energy requirements, especially for the agriculture and allied sectors. Local producers face high-harvest losses, and solar-powered cold storage systems have emerged as one of the ways to address this concern in a financially and environmentally sustainable manner.

Seychelles is targeting a 50% solar output by 2030, as noted by Hon'ble Flavien Joubert, Minister for Agriculture, Climate Change & Environment of Seychelles. Mr Tony Imaduwa, Principal Secretary (Energy), Government of Seychelles, spoke about the solar projects in terms of their implementation and various policy initiatives taken for scaling solar in the country, followed by an overview of the roadmap for the agriculture sector. A panel discussion followed these respective presentations to deliberate on the opportunities and challenges of scaling solar power in Seychelles. The event also marked the signing of an amendment to the existing agreement between ISA and the government of Seychelles. ISA's interventions and initiatives in Seychelles were presented at the session by Mr Ramesh Kumar, Chief of Unit, Programmes & Projects Implementation Cluster, ISA



## Senegal



Senegal has been trying to utilise solar energy across all spheres of the country's energy needs. The ISA Country Spotlight event at COP27 focused on leveraging solar power for the country's growth in the agricultural sector. Agriculture forms a crucial part of the country's economy; along with fishing, it represents about 15% of the Gross Domestic Product (GDP) and employs 29% of the economically active population. However, the sector is facing constraints such as access to stable electricity, high costs, and irregular supply of electricity resulting in high post-harvest losses and shorter shelf life of fish, leading to local communities losing up to 50% of their produce. Solar-powered modular cold storage systems could play a vital role in strengthening food security and reducing the reliance on imports. Compared to 2012, when only 8% of Senegal's energy requirements were being met by renewable energy (hydraulic), the country is now sourcing 30% of its energy from renewable sources, of which 14% is solar in nature (as of December 2021). The session witnessed presentations by the Government of Senegal on their experiences, strategies, and favourable policies for scaling solar in the region by H.E. Mr Djiby Ndiaye National Focal Point, Senegal and by Pierre-Olivier VEYSSET Valorem on the solar-powered cold room to help fishing ports adapt to climate change. In the end, a panel discussion was organised to discuss the prospects of solar energy in Senegal.

## Guyana



This East African agricultural economy has a total electrification rate of 48.3% (as of 2019) and is expected to rise to full electrification by 2030. The National Electrification Programme (2017) envisages 65% of electricity access from the grid and 35% from off-grid technologies such as solar home systems and mini-grids. Even though agriculture forms approximately 40% of the Ethiopian GDP, a mere 5% of the land being irrigated affected crop yield. The objective is to resolve this issue via solar water pumping systems (SWPS), which can help Ethiopia enhance its rural economy while assisting in climate change mitigation and saving its foreign reserves. "... we are working on many things together towards solarising the economy. We are working on rooftops and solar parks, and we are working to support Ethiopia in their dream projects of both solar pumps and microgrids", noted Dr Ajay Mathur, Director General, ISA, in his opening address at the event. ISA's exclusive Country Spotlight session witnessed a keynote address by Honorable State Minister for Energy Sector Development H.E. Dr Sultan Wali, Ministry of Water and Energy Federal, Democratic Republic of Ethiopia, followed by the Ethiopian Agricultural Transformation Agency presentations and a panel discussion.



DG-ISA signed an agreement with Mr Flavien Joubert, Minister for Agriculture, Climate Change & Environment, Seychelles, towards a demonstration project on solar-based cold storage. ISA is providing a 50 thousand USD financial support to the project at COP27



Guyana



The Government of Guyana spends heavily on healthcare, accounting for approximately 15% of the national budget in 2021. Healthcare access, however, can be challenging, given the country’s geographical terrain. In his opening remarks at the ISA’s Country Spotlight session, Mr Joshua Wycliffe, Chief of Operation, International Solar Alliance, said, “this is an essential aspect of Solar energy - (the) health sector. Recently, I read an article, and it was so motivating to see that the International Solar Alliance has aligned itself with a strong message that no woman should give birth in the dark, no surgery should be carried out in the candlelight, and no child should be left vulnerable to diseases because of the unavailability of vaccination storage.” Accessible healthcare facilities and services serve the bulk of the population in Guyana. 90% of the population resides in coastal areas, while rural hinterlands are home to the remaining 10% of the population, leading to a higher concentration of healthcare facilities in the coastal areas. Given the relatively low population count in the hinterlands, access to healthcare is limited, coupled with poor quality of care and lack of consistent energy, thereby hampering service delivery.

The session explored how solar power can assist and help build resilient healthcare infrastructure in Guyana. Mr PC Sharma, NFP/CP Coordinator, ISA, presented ISA’s programmes on promoting solarisation for healthcare centres, followed by a presentation by Dr Karan Singh Sagar, Head of Comprehensive Vaccine Management, GAVI, on how the organisation is solarising health facilities using their platform. The presentations were followed by a film offering a snapshot of the solarisation of healthcare facilities in the country. Towards the end, a panel discussion was also organised to discuss the kind of challenges and opportunities present in Guyana within the solarisation of healthcare space.

Mauritius



Mauritius boasts of a well-developed healthcare system, with about 73% of its population’s healthcare needs being met by the public sector. Mauritius’ healthcare infrastructure includes five major public hospitals, six specialised public hospitals, 18 private multi-speciality clinics, 11 private specialised clinics, and 28 medical laboratories. Within this context, Mauritius has opted to solarise their Jawaharlal Nehru Hospital and Rose Belle under the ISA Cares programme. The opening remarks given by Mr Joshua Wycliffe were followed by a presentation on ISA Care initiatives by Dr Ajay Mathur, Director General, International Solar Alliance. Mr Namah Narainduth from Mauritius Health and Wellness Ministry made a presentation on the solarisation project in Jawaharlal Nehru Hospital, a public-funded 400-bed hospital. While presenting, Mr Narainduth commented, “reliable power supply to healthcare centres is a perennial challenge, and to ensure round-the-clock power is challenging. Hospitals need round-the-clock power to attend to emergency cases, store vaccines in refrigerators, and run RO filters and other essential equipment; it is envisaged to reduce operating expenses, especially the cost of consumed electricity, by adapting alternate means of clean, efficient, reliable, and cheap power.” A panel discussion with an overarching theme of opportunities and challenges in solarising healthcare in Mauritius was also organised and moderated by Dr Philippe Malbranche, Additional Director General of ISA.



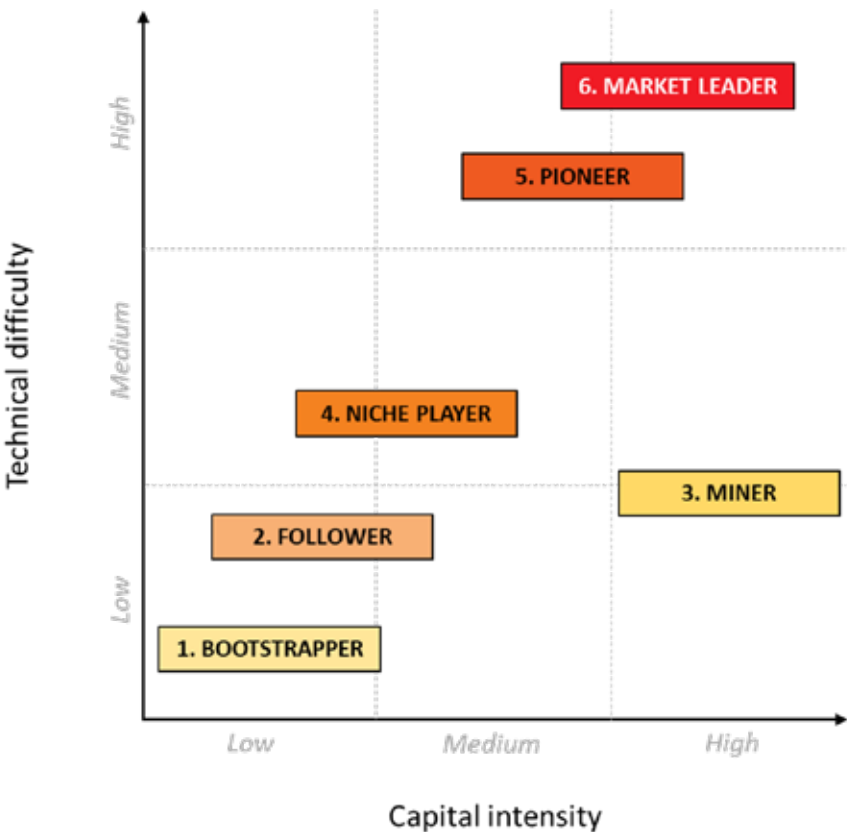
# Session Recap

## Sessions on Solar Manufacturing Day

On 8 November 2022 at COP27, ISA engaged with partners and speakers worldwide at the morning session on **Building Resilient Global Solar Supply Chains**. ISA and Becquerel presented their work, including our framework for supporting countries in evaluating how to approach solar manufacturing (see Figure 1).

Paolo Frankl from IEA and Elizabeth Press from IRENA emphasised that the scale of the challenge is enormous, with a need to ramp up solar manufacturing 3-5 times or even higher by 2030. However, this also creates new opportunities. It is still possible to join the manufacturing ecosystem, as Philippe Malbranche, ADG, ISA, stated. Peter Fath from RCT reiterated the technological feasibility, as they have helped set up giga-scale manufacturing at greenfield sites in Turkey and India and are eager to support more countries and companies in setting up new manufacturing capacity. Finally, Laura Van Wie McGrory from WRI emphasised the need for international collaboration, particularly around financing and policy support.

The afternoon session, **Manufacturing Examples Around the World**, featured examples from around the world. ISA is promoting best practices, learning from each other, and international cooperation. Hon. Kevin Rudd stated in his opening remarks that we have an opportunity to grow the pie rather than fight over crumbs.



**Figure 1:** ISA-Becquerel Framework for countries to determine their path forward in solar manufacturing

Dr Arunabha Ghosh of CEEW shared the success of the PLI scheme in India and emphasised the need for different forms of support and an integrated strategy encompassing supply and demand measures. Dries Acke of SolarPower Europe brought a holistic perspective on carbon, social aspects and more. As regulators in Europe and worldwide increasingly look to raise standards for solar manufacturing, it is vital to ensure some level of global harmonisation on standards.







Rodrigo Pedroso from ABSolar discussed the massive opportunity for manufacturers with Brazil’s low-cost, low-carbon power. This is particularly crucial for energy-intensive steps such as polysilicon manufacturing. Chintan Shah of the Indian Renewable Energy Development Agency spoke about the opportunity for everyone, including the various niches representing the non-solar costs. While it may not be practical for all countries to engage in all steps of the value chain, countries can consider many components - glass, back sheets, inverters, and so on.

Eric Quiring of SMA shared the importance of emphasising quality in manufacturing. In particular, he emphasised that companies and countries should consider life cycle costs and focus on promoting manufacturing excellence. Finally, Dr Nicole Kuepper Russell of 5B was eager to collaborate across communities and countries. She emphasised that we must start thinking at the terawatt scale and how best to deploy solar quickly and consistently. 5B reiterated their willingness to share innovative technology with countries worldwide that welcome adopting new technology.

There is room for every country to develop solar manufacturing, but a concerted strategy and international collaboration are essential. There is a huge opportunity; different countries may occupy different pieces of the supply chain and require different strategies to develop the best fit for their own country. Furthermore, manufacturing must go together with sound financing mechanisms and the



development of bankable projects.

ISA’s “phase 2” work on solar manufacturing has been initiated post-COP27. The first regional stakeholder workshop with West Africa will be in mid-December. Please reach out to Alexander Hogeveen Rutter (Alex.HogeveenRutter@isolaralliance.org) for more details. We will also host workshops in Latin America, the Middle East and East Africa in 2023.

# Enabling Countries to Undertake Solar Energy Transition on their Own: Solar Technology Application Resource Centres (STAR-C)



ISA’s STAR-C initiative (Solar technology Application Resource Centre Initiative) aims to build the necessary human capacity and skills within Member Countries to undertake energy transitions while boosting economic growth and job creation.

To advance the STAR C initiative in ISA’s member countries, ISA organised an event during COP27 at Sharm El Sheikh, Egypt inviting donors, technical institutes, and experts to assess the capacity-building needs of the member countries and help ISA to amplify

the impact of STAR C initiative with more technical and financial support. The event highlighted the existing architecture and institutional arrangements of the STAR C initiative discussed and the improvement it needs to deliver on all aspects, including structural, resource, and operational issues for capacity building. Through the event, Member Countries had an opportunity to discuss the current capacity needs of the countries and solicit measures to ensure that their impact is positive and responsive to the evolving needs of developing countries.

The event also marked the launch of ISA’s first STAR Centre in Ethiopia. It launched a short video to enhance understanding of the STAR C initiative for countries joining it. The event covered the following key points.

- ♦ Launched the STAR-C at Addis Ababa University in Ethiopia
- ♦ Facilitated building a network of Member Countries for STAR-C, creating a gateway for building energy security in Member Countries
- ♦ Showcased critical capacity gaps and opportunities in the ISA member countries for them to undertake energy transition on their own
- ♦ Engaged with potential cooperation partners (Donors, Research Institutions, Technology Providers, etc.) with common priorities





The event witnessed participation from National Focal Points of Ethiopia, Ghana, Uganda, and Zimbabwe; and experts from donor agencies and multilateral institutions: GIZ, SE4ALL and UNIDO. During the discussions following key points were highlighted:

- Capability development needs should address key barriers in the context of market readiness for solar energy deployment and faster adoption of solar energy projects in LDCs and SIDS.
- Support required by the developing, LDC, and SIDS countries to roll out structured capacity building for Government Officials, Technicians, Bankers etc.
- Key capacity building requirements like creating jobs for professionals aspiring to work in solar energy both in the private and public sectors.
- Key challenges and opportunities for regional cooperation with multilateral and technical institutions.
- Prospects for innovation as per the local energy requirements and support business incubation in ISA member countries.
- Opportunities being offered by bilateral agencies like GIZ on knowledge management for Project developers, Financiers, contractors, and technicians.
- Successful knowledge management models of bilateral agencies enable ISA Member Countries to undertake energy transition independently.
- Essential partnership gaps that ISA need to fulfil for larger cooperation with developed countries to help realise the goal of enabling ISA member countries to undertake energy transition independently.
- Impediments for donor agencies to grant funds for Emerging, LDC, and SIDS countries for national capacity enhancement initiatives.

## Enhanced capacity for Solar Energy uptake: Spotlight on Cuba and Tonga

In SIDs and LDCs, a fundamental difficulty in solar energy deployment is ensuring an adequate supply of skilled engineers and technicians. With record-low solar tariffs and relatively steady annual global investments, a lack of skilled workforce would start affecting the overall sectoral growth in the near future.

For countries like Cuba and Tonga, lack of proper skills among installers and system designers results in lower system performance; lower output; higher operation and maintenance cost; lower return on; investment (ROI) for investors; safety issues in operation, huge consequences on humans and buildings; grid-connection issues; reduced life of the system; lack of local value addition.

Intending to advance the STAR C initiative in Tonga and Cuba, ISA organised an event during COP27 at Sharm

El Sheikh, Egypt, to highlight the priorities of Cuba and Tonga concerning the capacity needs at different levels - government, private sector, individuals and try to build linkages with the priorities of donor agencies, industry associations and research institutions to channelise the technical and financial support more efficiently. The event covered the following key points:

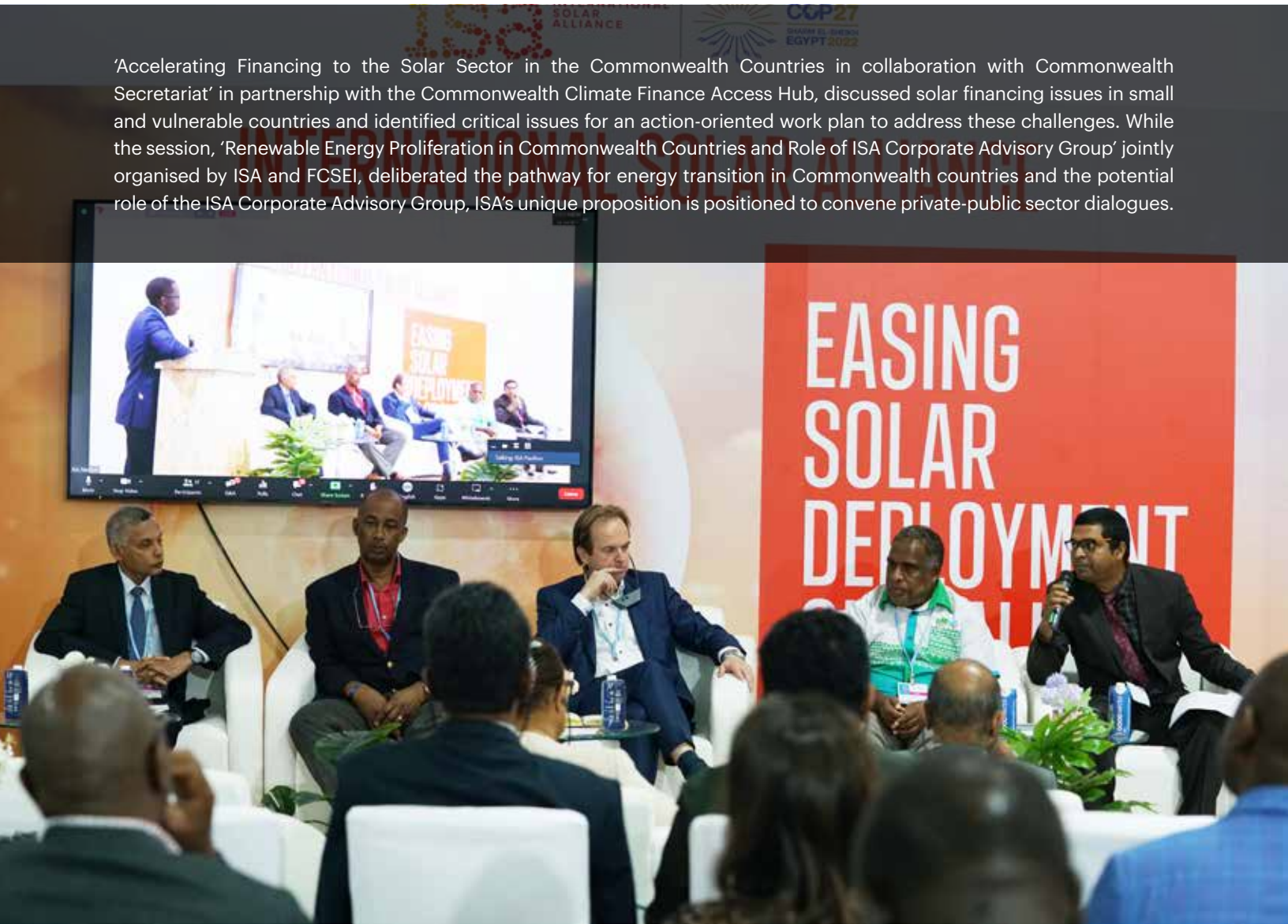
- ◆ Key capacity gaps and opportunities in Cuba and Tonga for them to undertake energy transition on their own
- ◆ Highlighted priorities of the potential cooperation partners: donors, research institutions, and technology providers
- ◆ Drawn linkages and matching priorities of member countries and donor/industry associations/ research institutions.

The event witnessed participation from government officials of Cuba; and experts from multilateral institutions and international organisations: IRENA, Rocky Mountain Institute and Intellecap Advisory Services Ltd.

Key discussion points

- The pathways Cuba and Tonga are anticipating to strengthen the solar ecosystem at the national level.
- Offerings from the Government of Cuba to strengthen STAR Centres.
- Key challenges of solar capacity addition in Small Island Development States (SIDS), especially Cuba
- Offerings of the multilateral agencies to assist SIDs in the capacity development of solar energy stakeholders - developers, bankers, contractors, technicians, and unskilled human resources
- Significance of virtual learning to upskill resources and how it can replace physical training in remote island states
- Support offered by international organisations like Rocky Mountain Institute for capacity improvement of policymakers, bankers, developers, technicians, local manufacturers, and contractors to become self-reliant in SIDs
- Essential factors and risks to attract finance for capability development initiatives for LDC/SIDS countries from bilateral and multilateral institutions
- Prospects for private sector players to uptake capability development in the solar energy market.

‘Accelerating Financing to the Solar Sector in the Commonwealth Countries in collaboration with Commonwealth Secretariat’ in partnership with the Commonwealth Climate Finance Access Hub, discussed solar financing issues in small and vulnerable countries and identified critical issues for an action-oriented work plan to address these challenges. While the session, ‘Renewable Energy Proliferation in Commonwealth Countries and Role of ISA Corporate Advisory Group’ jointly organised by ISA and FCSEI, deliberated the pathway for energy transition in Commonwealth countries and the potential role of the ISA Corporate Advisory Group, ISA’s unique proposition is positioned to convene private-public sector dialogues.





# Solar E- Mobility: Charging for Change

The International Solar Alliance (ISA) and Asian Development Bank (ADB) jointly hosted a thematic side-event on Solar E-mobility at COP27. The event's objective was to discuss the sector's technical, policy and regulatory aspects and explore the economic viability and industry perspectives related to the solar E-mobility sector. The European Union co-hosted the event. A panel discussion followed by a Q&A session was conducted. The Consultation draft of the ISA Solar Charged E-mobility Programme Report was presented at the event. The speakers at the event included;

- 01 Mr Joshua Wycliffe, Chief of Operations, ISA
- 02 Dr Priyantha Wijayatunga, Chief of Energy Sector Group, ADB
- 03 Mr Paolo Bertoldi, Senior Expert, DG JRC, European Commission
- 04 Dr Mridula Bharadwaj, Capacity Building Specialist, ISA-ADB TA
- 05 Dr Srinivasan Sunderasan, Key Expert, EU-ISA Cooperation
- 06 Dr Philippe Malbranche, Assistant Director General, ISA
- 07 Mr Donald Kabanda, CEO, Rwanda Electric Motors, Rwanda
- 08 Mr Thomas Deloison, Director, Mobility and Member of the WBCSD Extended Leadership Group
- 09 Mr Aziz Fall, Special Advisor to the CEO, Senelac, Senegal
- 10 Mr Sandith Thandasherry, CEO, Navalt Solar and Electric Boats Pvt Ltd, India
- 11 Mr Alp Tilev, Co-Founder and CTO, Ampersand, Rwanda
- 12 Mr Christian Ellermann, Senior Climate Change Specialist, ADB

The event highlighted the significance of the Integration of solar in the EV (transport) sector. Pointing out the transport sector's GHG emissions, of nearly 37% of total global emissions, Mr Wycliffe stated that large-scale penetration of solar energy in

the electric vehicle sector is needed to decarbonise and meet the larger goal of net zero. He added that technology development, policy support, and capacity building are required to facilitate a clean mobility ecosystem. Dr Priyantha Wijayatunga advocated for knowledge sharing, research collaboration, technical assistance, and market and resource mobilisation that caters to deploying solar energy at scale across the transport sector. He provided updates on the ADB's cooperation with the ISA for furthering the common objectives of both these organisations in the sector. Mr Paolo highlighted the role of EVs and storage in advancing the vehicle to grid integration. He stated that the EU is facilitating international collaboration on research and innovation through a Europe framework developed to promote climate-neutral and smart cities in Europe by 2030.

Dr Mridula Bharadwaj and Dr S. Srinivasan presented the 'Consultation draft of ISA Solar Charged E-mobility Programme Report', discussing the solarisation of e-mobility and mechanisms to solarise the transportation sector across all vehicle segments. The report focuses on various technical, policy, and regulatory challenges for up-scaling the deployment of solar in the EV sector and evaluating the market readiness of the ISA member countries.

The panel discussion included aspects related to the market potential for EV charging stations powered by renewables/solar; challenges for implementing solar-powered charging facilities for e-mobility in urban and rural areas; favourable financing schemes that promote the adoption of solar e-mobility in the Small Island Developing States, SIDS; Mr Thandasherry presented the case of development and deployment of solar PV integrated electric boats in India; and faster adoption of solar charging stations near manufacturing units (SMEs), retail points, and warehouses to unlock more opportunities. Speakers from Senegal and Rwanda presented the case of solar e-mobility in the African context. The highlight was the deployment of electric bikes in the public transport sector. The batteries used are charged with solar energy (Rooftop PV) and operationalised through battery swapping schemes (pay-as-you-use or subscription-based), accelerating electric mobility adoption.



## Soaring Ahead with Solar Hydrogen

The International Solar Alliance (ISA) and Asian Development Bank (ADB) jointly hosted the thematic event on Solar Hydrogen to discuss various aspects of GH2 technology, scalability, linkage with production and demand, long-term commitment of off-takers:

direct use in large-scale industrial processes to displace grey hydrogen, and its usage for remote locations. The Green Hydrogen Organization co-hosted the event and featured the European Union as the Knowledge Partner.

The speakers at the Inaugural session of the event were:

- i. Dr Ajay Mathur, Director General, ISA
- ii. Dr Priyantha Wijayatunga, Chief of Energy Sector Group, ADB
- iii. Mr Jonas Moberg, CEO, Green Hydrogen Organisation, Geneva
- iv. MsWalburga Hemetsberger, CEO, SolarPower Europe
- v. Mr Lalit Bohra, Joint Secretary, Ministry of New & Renewable Energy, India
- vi. Dr Martin Keller, Director & President, Alliance for Sustainable Energy, NREL, USA

Dr Mathur opened the event. He highlighted the low-cost solar energy driving down the global cost of green hydrogen production. He emphasised the need for a zero carbon-based energy economy to ramp up solar energy targets with a robust supply chain and enabling ecosystem. Dr Priyantha highlighted the negative impacts of climate change and the critical aspects of decarbonising the planet and reducing GHG emissions. Besides, he advocated for favourable government policy and regulatory interventions and the mobilisation of funds to scale up the green hydrogen projects. Ms Hemetsberger elaborated on the significance of achieving decarbonisation goals by replacing grey hydrogen, the need to scale up to ~ 720 GW of electrolyser capacity under net zero scenarios, expanding RE capacity and reducing approval times to

ensure green hydrogen production. Mr Jonas elucidated the faster adoption of solar hydrogen to meet the global demand for hydrogen by 2030, bankable off-take agreements, and facilitating blended finance solutions with private institutional investors. Mr Bohra spoke about the demand creation and supply-side facilitations supported by the governments in the refinery and steel industry. Dr Martin Keller highlighted the energy system integration that paves a smoother way for electrolysis by using intermittent power from solar PVs and large-scale demonstration projects for hydrogen storage.

Two moderated panel discussions were conducted. The Consultation draft of the ISA Green Hydrogen Blueprint Report was also presented. The speakers in the first moderated panel discussion were:





The speakers at the Inaugural session of the event were:

- i. Dr Philippe Malbranche, Assistant Director General, ISA
- ii. Mr Mathieu Geze, Director, Asia, HDF Energy, Indonesia
- iii. Ms Maria Paz de La Cruz, CEO, H2Chile
- iv. Mr Hesham Nasr, Project Developer, SCATEC.

The Speakers in the second moderated panel discussion were;

- i. Ms. Inês Schjølberg Marques, Director for the Green Hydrogen Development Plan, Green Hydrogen Organization, Geneva
- ii. Ms Anna Shpitsberg, Deputy Assistant Secretary, Bureau of Energy Resources, US Department of State
- iii. Mr Eric Scotto, President, Akuo Energy & Founder of the Akuo Foundation
- iv. Mr Derek Michael Shah, Senior Vice President, L&T Head of Green Manufacturing & Development
- v. Mr Sam Bartlett, Director for the GH2 Standard and the CEO Roundtable, Green Hydrogen Organization, Geneva
- vi. Mr Jiwan S. Acharya, Principal Energy Specialist, ADB

The first-panel discussion included learnings from the first green hydrogen movers - ongoing projects and case studies, where the key discussion points were: use of green hydrogen in the ammonia sector and hydrogen blending with natural gas; bankable PPA for feasible green hydrogen projects; resilient supply chain of raw materials; facilitating incentive schemes to accelerate the green hydrogen production.

The second-panel discussion focused on Green hydrogen (GH2) standards, policy and contracting, emissions standards, ESG and certification, offtake agreements, pricing mechanisms, and global market enablers. Key discussed points were: the role of green hydrogen in hard to abate industry sector for

decarbonisation and heavy-duty transport systems; government support in manufacturing of solar panels and electrolyzers (incentives, grants, investment tax credits); availability of skilled resources; taxation on methane emissions; and creating an enabling environment along with international cooperation to promote green hydrogen.

Dr Mridula Bharadwaj ( ISA-ADB TA) presented the Consultation draft of the 'ISA's Green Hydrogen Blueprint Report', which assesses the ecosystem readiness of green hydrogen, specifically solar hydrogen, in ISA member countries. Dr S. Srinivasan (EU team) presented on the 'EU-ISA Partnership: GH2 Case studies'.



# Accelerating Clean Energy Transition through Storage

The International Solar Alliance (ISA) and Asian Development Bank (ADB) jointly hosted the thematic event on Storage at COP27 to discuss developing a robust business and technical capability ecosystem

for solar/renewables integrated storage infrastructure. The event was co-hosted by the International Renewable Energy Agency (IRENA) and featured the European Union as the Knowledge Partner.

The speakers at the event were:

- i. Mr Joshua Wycliffe, Chief of Operations, ISA
- ii. Dr Priyantha Wijayatunga, Chief of Energy Sector Group, ADB
- iii. Mr Patrick Clerens, Secretary General, The European Association for Storage of Energy
- iv. Dr Roland Roesch, Acting Director, IRENA Innovation and Technology Center
- v. Mr José Donoso, General Director, UNEF & Chair of Global Solar Council
- vi. Dr Anthony Burell, Energy Storage Programme Manager, NREL
- vii. Dr Rashi Gupta, Founder and Managing Director, Vision Mechatronics
- viii. Dr Rahul Walawalkar, President, India Energy Storage Alliance, and MD, Customized Energy Solutions
- ix. Mr Colin Steley, MD, Stratcon
- x. Mr Hiren Shah, CEO, Replus Engitech
- xi. Mr Jiwan Sharma Acharya, Principal Energy Specialist, ADB

A moderated panel discussion was conducted. The event emphasised emerging energy storage technologies and their role in ensuring energy security. Opening the event, Mr Wycliffe advocated for policy support for storage applications. He added that grid-scale battery storage capacity would increase 44-fold to about 680 GW, offering better power quality and reducing the peak demand of the electricity market.

Dr Wijayatunga highlighted the critical elements for the decarbonisation of energy systems, the intermittency issues of renewable sources, and the significance of battery energy storage systems for improving the system’s overall flexibility. He discussed the ADB’s engagement with Cambodia to develop 2 GW of solar power and assistance in conducting a nationwide study on opportunities for additional solar and battery energy storage systems by 2030. He added that ADB would assist the utilities in bidding out the 100 MW Pilot project identified under the study to the private sector to mobilise USD 100 million to build and operate the pilot project.

Mr Patrick Clerens presented the current challenges of European grid stability in the electricity sector, which aimed to generate 70% of the total energy requirements from renewable sources by 2030. He emphasised facilitating suitable frameworks for long-

term energy storage applications to create more utility revenue streams and offer consumers affordable electricity.

Dr Roland Roesch pointed out that the variable nature of renewable energy and issues related to system flexibility are key concerns amid energy transition and climate change scenarios. He also stressed identifying the economic viability gap associated with the monetisable project for energy storage systems. He recommended stakeholder consultations based on business models, regulations, developers (including vertically integrated utilities/TSO/DSO), policy incentives (feed-in tariffs, feed-in-premiums, capacity payments, grants, peak reduction incentives, investment tax credits), and ancillary services mechanisms to accelerate the storage system deployment along with renewable energy capacity additions.

The key discussion points that emerged from the panel discussions were – the commitment to improve power quality and create higher predictability in energy demand, the resilient supply chain to meet rising demands for critical storage materials that reduce the procurement risk, regulation costs for ancillary services, and foremost clear vision and implementation strategy to push the more extensive uptake of storage systems in the energy market.



# Digital Highlights

**31962** visitors to [www.isolaralliance.org](http://www.isolaralliance.org)



**31,476** followers  
215 new followers during COP27



**49,000+** organic impressions on COP27 posts, reaching **39.6%** click-through rate

**87,000+** impressions  
**37,000+** page visits

‘Our Solar Future: The Roadmap to Mobilize USD 1 trillion’ launch with highest engagement  
**123 likes, 6 reposts, 15.46%** engagement rate

## Best performing posts

International Solar Alliance @isolaralliance

ISA in collaboration with @WorldResources & @bloombergdotorg launched 'Our solar future:the roadmap to mobilize usd 1trillion' at #COP27 . The roadmap lays down seven recommendations on mobilizing investments.

World Resources Inst and 5 others  
12:32 AM · Nov 10, 2022  
17 Retweets · 1 Quote Tweet · 19 Likes  
convertthetweetimage.com

International Solar Alliance @isolaralliance

DG-ISA spoke at a programme on "Renewable Energy for Agrifood Systems: Mobilizing Investments Through Cross-Sector Partnerships" hosted at @IRENA pavilion at #COP27 and highlighted the need of solar solutions in food-water-energy problems

Food and Agriculture Organization and International Fund for Agricultural Development  
8:19 AM · Nov 11, 2022  
9 Retweets · 31 Likes  
convertthetweetimage.com

International Solar Alliance @isolaralliance

ISA launched the Green Hydrogen Blue Print Consultation Draft during the session on 'Soaring ahead with Solar Hydrogen'. The draft includes guidelines for a quick roll-out strategy in Member Countries.

Koodick E and 8 others  
10:44 AM · Nov 14, 2022  
7 Retweets · 12 Likes  
convertthetweetimage.com

International Solar Alliance @isolaralliance

ISA launched the SolarX Grand challenge today at #COP27 to promote startup ecosystem in the Africa. New and innovative Startups would be shortlisted and given technical and financial assistance. Apply here : [isolaralliance.org](http://isolaralliance.org)

WAIPA and 8 others  
8:41 AM · Nov 10, 2022

International Solar Alliance @isolaralliance

DG ISA spoke at the World climate foundation Investment summit and highlighted the need of radiating solar's impact across the energy economy. He suggested accelerating investments for solar through initiatives such as the Solar Facility and SolarX. #COP27

World Climate Foundation  
8:33 AM · Nov 13, 2022  
9 Retweets · 27 Likes  
convertthetweetimage.com

International Solar Alliance @isolaralliance

ISA held a high level discussion on solar facility. The panel highlighted barriers to financing, solutions, perceived risks, flexible financing instruments and the need for the facility to be replicable and scalable in the long run.

MISA and 8 others  
8:30 PM · Nov 8, 2022  
8 Retweets · 12 Likes  
convertthetweetimage.com