INTERNATIONAL SOLAR ALLIANCE

NEWSLETTER

October & November 2023 | Volume 22 & 23

SIXTH SESSION OF THE INTERNATIONAL SOLAR ALLIANCE ASSEMBLY

SPOTLIGHT

SIXTH SESSION OF THE INTERNATIONAL SOLAR ALLIANCE ASSEMBLY

The 2023 Governance Meetings of the International Solar Alliance (ISA) were initiated in June of this year. The governance bodies of the ISA, namely the Assembly, the Standing Committee, and the Regional Committees, offer an integrated approach to governance and decision-making within the Alliance.

The Governance Meetings comprise deliberations across the four regions of Africa, Asia-Pacific, Europe & Others, and Latin America-Caribbean at the Regional Committee. The Regional Committees of the ISA meet annually, chaired by two Vice-Presidents from the region, and aim to assess and discuss progress, challenges, and opportunities related to ISA's programmatic support, flagship initiatives, partnerships, private sector engagements, and work plan for the region.

1

The Fourth Meeting of the ISA Regional Committee for Europe and the Others region was hosted from 21-23 June 2023 in Brussels, Belgium.

2

The Fifth Meeting of the ISA Regional Committee for the Asia and the Pacific region was hosted from 24-26 July 2023 in Abu Dhabi, United Arab Emirates.

3

The Fifth Meeting of the ISA Regional Committee for Latin America and the Caribbean region was hosted virtually on 23 August 2023.

4

The Fifth Meeting of the ISA Regional Committee for Africa was hosted from 30 August to 1 September 2023 in Kigali, Rwanda.

These discussions inform the deliberations of the Standing Committee, which comprises the Hon'ble President, Co-President, and 8 regional Vice-Presidents. Convened at the Ministerial level, the Governance Meetings facilitate in-depth analysis of the ISA's strategic initiatives, programmes, activities, and regional priorities through moderated discussions. The Eighth & Ninth Standing Committee Meetings were hosted in New Delhi, India, on 6 June and 25 September 2023, respectively. These Meetings extend the ISA Secretariat the opportunity to enhance cooperation with ISA Member Countries, as well as provide Member Countries with the ability to improve collaboration among themselves and mutually identify avenues of cooperation and partnership. The deliberations by the Standing Committee, in turn, inform the deliberations of the Assembly, which is the apex decision-making body of the ISA. The Sixth Assembly of the International Solar Alliance was hosted in New Delhi, India, 30 October to 2 November, 2023. Ministers from 20 countries and delegates from across 116 Member and Signatory countries and 18 prospective countries joined the inaugural ceremony.

SPOTLIGHT

ABOUT THE SIXTH ASSEMBLY OF THE INTERNATIONAL SOLAR ALLIANCE – 30 OCTOBER – 2 NOVEMBER, 2023

The Sixth Assembly of the International Solar Alliance, reinforcing global commitment to solar energy was held in New Delhi, presided over by Shri Raj Kumar Singh, Minister of Power and New & Renewable Energy, Government of India. The event witnessed the participation of ministers from 20 countries and delegates representing 116 Member and Signatory Countries.

In his inaugural address, H.E. Mr R. K. Singh Hon'ble Minister of Power and New & Renewable Energy, India & President, ISA, emphasised the pivotal role of renewable energy in addressing the global dependence on fossil fuels, affecting a staggering 6 billion people. He outlined a vision where renewable sources could contribute 65 percent of the world's total electricity by 2030, aiming to decarbonise 90 percent of the power sector by 2050. The International Solar Alliance, under his leadership, pledged to make solar the energy source of choice by creating favorable investment environments and ensuring ample energy availability.

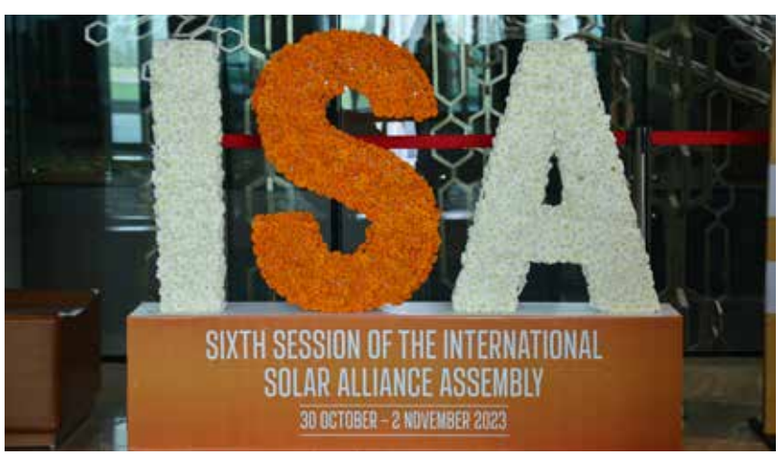
One significant initiative highlighted by Shri RK Singh was the ISA's Viability Gap Funding (VGF) mechanism, providing grants of up to USD 150,000 or 35% of the project cost (depending on capacity and needs) to Member Countries. This financial support aims to accelerate the adoption of solar energy globally.

Co-President of the Assembly, H.E. Ms Chrysoula Zacharopoulou, France's Minister of State for Development, Francophonie, and International Partnerships, lauded ISA's efforts as a key initiative in combating climate disruptions.

She announced France's unwavering support, citing over 1.5 billion euros in financing for solar projects since 2016 and a commitment to broader climate finance initiatives.

Dr Ajay Mathur, Director General of ISA, emphasised the urgency to accelerate solar energy development, particularly in developing countries. ISA is actively involved in facilitating over 9.5 GW of solar applications in 55 developing nations, providing training to nearly 4000 individuals. The establishment of STAR Centres in various countries aims to serve as hubs for technology, knowledge, and expertise in solar energy.

The Assembly also recognised the importance of ISA's Demonstration Projects initiated in May 2020, showcasing scalable solar technology applications. Shri RK Singh inaugurated four projects, including solarisation of the parliament building in Malawi, rural health care centres in Fiji, a solar-powered cold storage facility in Seychelles, and a solarised school in Kiribati.



Name of Project	Solarization of Nawai Junior Secondary school (JSS)
Location of Projects	Last outer island of southern province Tamana Island
Project Capacity	7 kW Solar PV rooftop system paired with a 24-kWh BSS
Project Completion Date	June-2023

Name of Project	Solarization of Parliament Building
Location of Projects	Parliament building Lilongwe, Malawi
Project Capacity	25 KW solar PV system, grid connected
Project Completion Date	Aug-2023

Name of Project	Solarization of Health Centre
Location of Projects	Dakuibeqa-Beqa, Beqa Island and Daviqele- Kadavu, Kadavu Island.
Project Capacity	08 kWp with 20 kwh Battery Storage for each (total 16 kWp with 40 kWh Battery Storage system)
Project Completion Date	Sep-2023

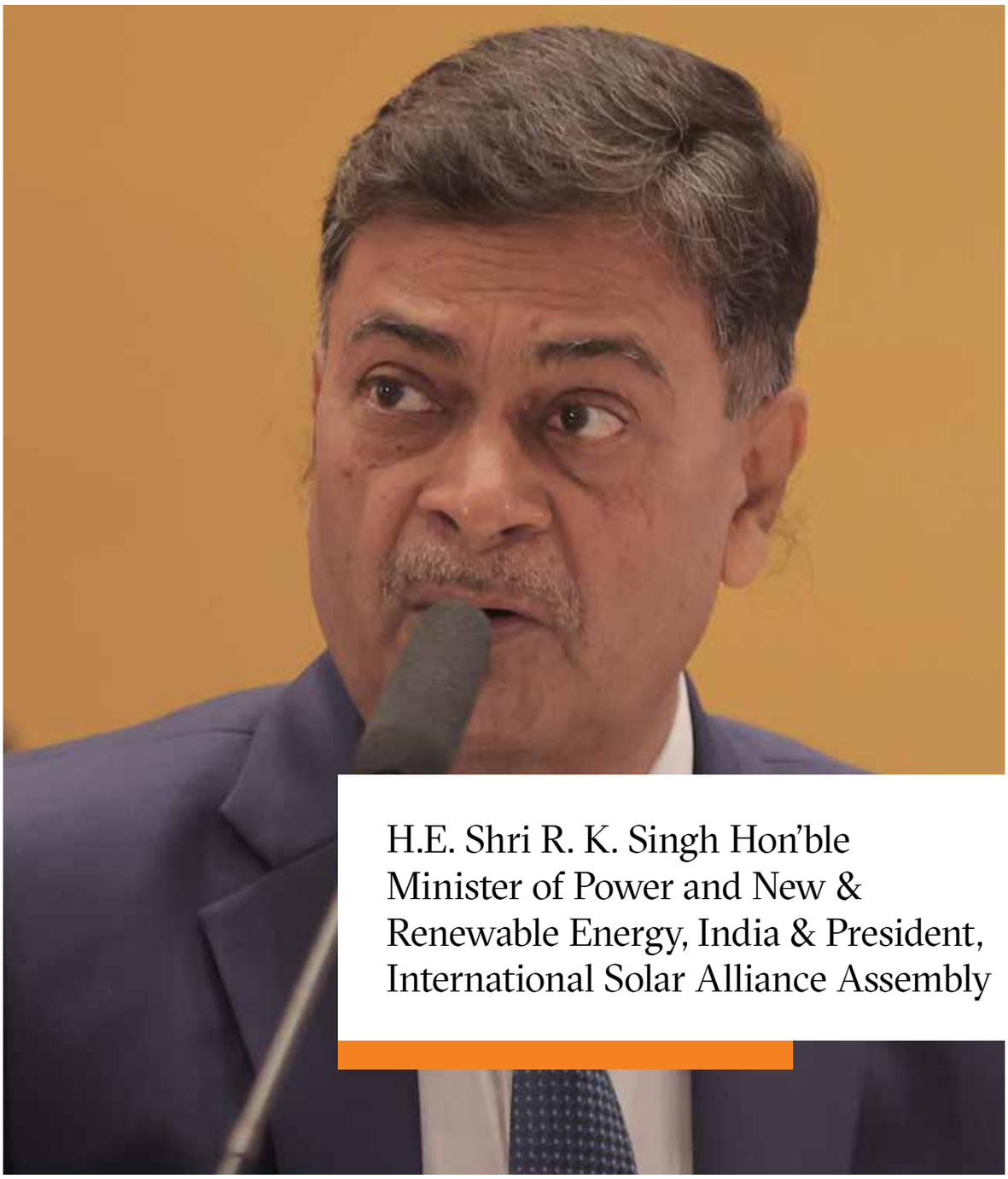
Name of Project	Implementation of Solar Cold Storage of 5 MT
Location of Projects	La digue Island of Seychelles
Project Capacity	5 kW Solar PV for refrigeration and auxiliary battery
Project Completion Date	Oct- 2023

Shri RK Singh expressed pride in dedicating these projects to the respective nations, each benefiting from a USD 50,000 grant provided by ISA. The Assembly, as the apex decision-making body, focuses on implementing ISA's Framework Agreement and evaluating the impact of programs related to solar energy deployment, performance, reliability, cost, and scale of finance. The Sixth Assembly of the ISA deliberated on key initiatives addressing energy access, energy security, and energy transition. As the global community comes together, India, through the ISA, continues to champion the cause of solar energy, fostering collaboration to create a sustainable and cleaner future for all.

SPOTLIGHT

GLIMPSES FROM THE SIXTH ISA ASSEMBLY

INAUGURAL ADDRESSES



H.E. Shri R. K. Singh Hon'ble Minister of Power and New & Renewable Energy, India & President, International Solar Alliance Assembly

Your Excellency, Chrysoula Zacharopoulou, Minister of State for Development, Francophonie and International Partnerships and Co-President of the International Solar Alliance Assembly. Hon'ble Ministers, Vice Presidents of the ISA Assembly, Ambassadors, High Commissioners, Honorary Consuls, and other Excellencies and the Director General, International Solar Alliance. As we convene for this Assembly session, I am reminded of the immense challenges and opportunities ahead of us in our collective pursuit of a cleaner, greener, and more sustainable planet. We all are well aware that the world is facing an unprecedented climate crisis, with rising temperatures, extreme weather events, and a palpable sense of urgency to act. Our commitment to solar energy is not merely an environmental choice; it is imperative for the survival of our planet and the well-being of generations to come. Currently, around 80 percent1 of the global population resides in countries that depend on fossil fuel imports, totalling a staggering 6 billion people. Renewable energy sources have the potential to supply 65 percent of the world's total electricity by 2030 and decarbonise 90 percent of the power sector by 2050.

The recent G20 Summit in New Delhi also underscored the urgent need for a transition to clean energy. However, we must acknowledge that the transition to solar energy is not without its complexities, but history has shown that humanity is capable of remarkable feats when united by a common purpose. The International Solar Alliance is a testament to this unity, and I am pleased to inform the Assembly that the membership of the International Solar Alliance has grown to 116 Member and Signatory Countries. This diverse membership brings together countries fostering a collaborative environment for shared learning and innovation. More countries joining this alliance only reinforces the commitment to our shared vision of a solarised world. We hope and expect more countries who are not Members and many of whom are attending this Assembly to join the International Solar Alliance soon. As we reflect on the journey of the International Solar Alliance, I would like to highlight some of the notable milestones that we as a collective have been able to achieve so far. The nine programmes spanning sectors, including agriculture, health, transport, battery storage, heating and cooling, and green hydrogen and capacity building have made commendable progress in furthering Sustaining Development Goals 7 (Affordable and Clean Energy) and 13 (Climate Action).

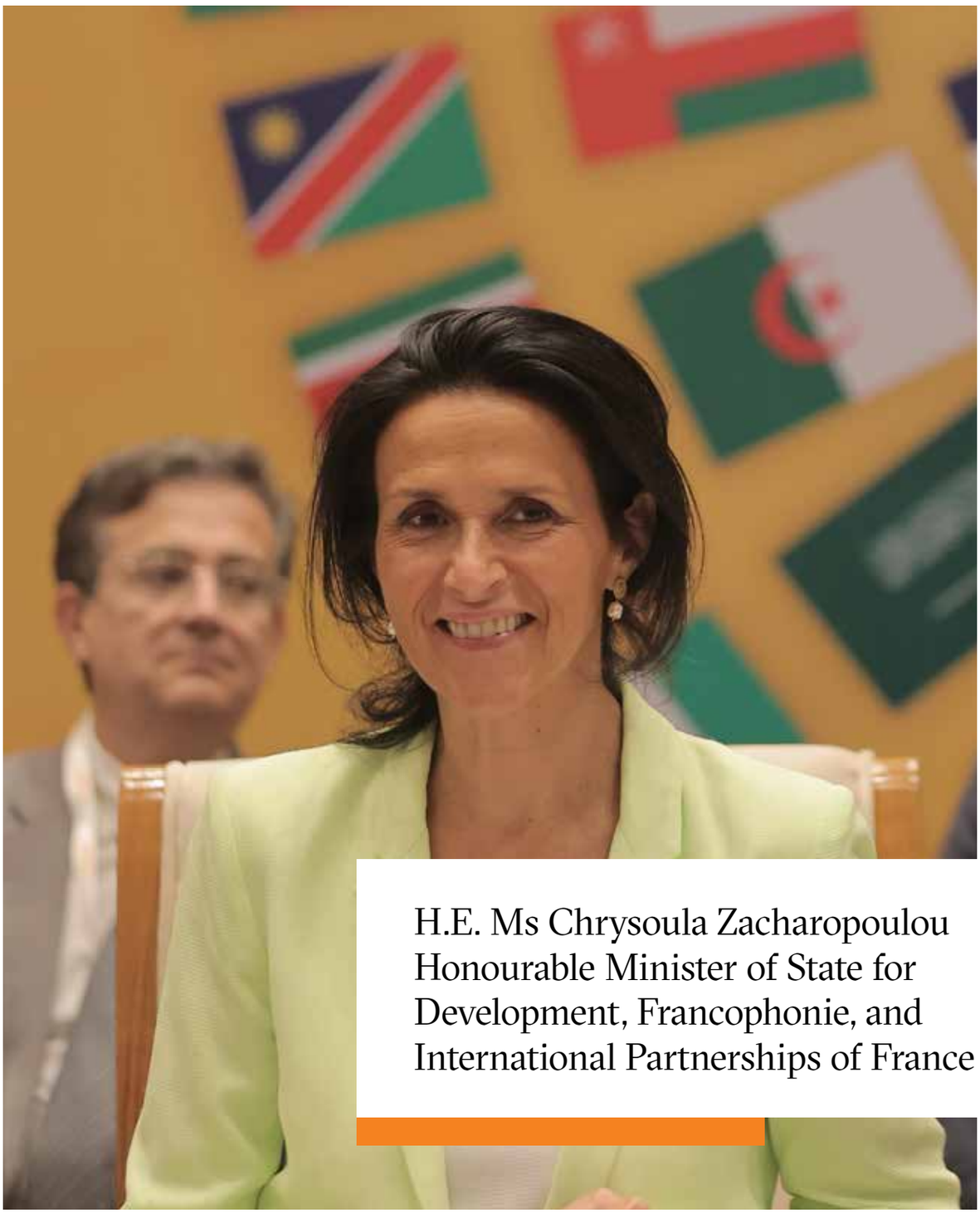
> **“Around 80 percent of the global population resides in countries that depend on fossil fuel imports, totalling a staggering 6 billion people. Renewable energy sources have the potential to supply 65 percent of the world’s total electricity by 2030 and decarbonise 90 percent of the power sector by 2050. The International Solar Alliance is steadfast in its commitment to Member Countries to make solar as the energy source of choice, foster environments conducive to attracting investments and ensuring ample energy availability to meet the surging global demands. Towards this, ISA through its Viability Gap Funding (VGF) mechanism provides a grant of USD 150,000 or 10% of the project cost (whichever is lower), per country per project. The Assembly decided to increase the range to 35% of the project cost, depending on the capacity and needs of the countries and their respective projects.”**

The International Solar Alliance capacity building initiative has been successful in establishing the Solar Technology and Application Resources Centres (STAR-C) in five countries Ethiopia, Somalia, Kiribati, Cuba and Côte d’Ivoire, which are expected to be operational by December 2023. I would also like to highlight the International Solar Alliance Global Solar Facility that aims to leverage investments to accelerate the transition to solar energy targets to raise 100 million USD. The Facility for the Africa Region was launched last year and we are looking to globalise this Facility in the years to come. Africa has immense potential in deploying solar energy capacities, yet due to risks in investments, the region has not been able to leverage its potential. The Global Solar Facility aims to address this challenge and provide security to the investments. India is a good example of development due to private sector investments. India has no sovereign risks and has a strong legal and security framework with a dispute mechanism and a security of payments towards the investments, which has enabled India to attract investments. To create a similar environment that provides a sense of security to the private sector investors, the ISA aims to have a group that will constitute experts with experience in electricity generation, distribution and transmission for developing a strong regulatory framework in the beneficiary Member Countries.

This will also drive the increase of per capita income of the countries using renewable energy. However, a country alone does not have the capability of financing these projects. We have to mobilise the private sector and for that, the responsibility is on the developed world who have much higher per capita carbon emissions than the countries in the global south.

So, I invite all the Member Countries, ISA Partner Organisations and other organisations present here today to partner with us in making this Facility a catalyst for the transformative change that we all are working towards. Our vision in mind when the International Solar Alliance came into being was to create a sustainable world through the adoption of solar energy solutions. The objective before all of us today is to triple global renewable energy capacity by 2030, aligning with the countries’ established targets and policies and expanding aspirations to include zero and low emission technologies, adopting more blended finance and risk-sharing facilities in the renewable energy sector.

So, let us approach this Assembly Session with a sense of duty, purpose, and optimism. I am confident that together, we can rise to the challenges of climate change before us. With this, I welcome all the delegates to this Sixth Session of the International Solar Alliance Assembly.



H.E. Ms Chrysoula Zacharopoulou Honourable Minister of State for Development, Francophonie, and International Partnerships of France

Honourable Minister of Power, and New and Renewable Energy, Honourable Ministers, Director General of the International Solar Alliance, Ambassadors, Dear friends, I'm delighted to be here t oday to co-chair our Assembly with the Hon'ble Minister, Shri RK Singh. On July 14th, the President of the French Republic Emmanuel Macron had the pleasure of welcoming Prime Minister Narendra Modi as Guest of Honour of our National Day, and celebrating 25 years of strategic partnership between India and France. We also set out our roadmap for the next 25 years: global challenges are and will remain at the heart of this partnership. We look forward to continuing to work together. The International Solar Alliance - even though it was born in Paris as part of COP21, and was the first international organisation established in India - is much more than a bridge between India and France. It's a truly multilateral project that brings together all the players involved in facing the greatest challenge of our time.

For France, the Solar Alliance is a key initiative to promote the development of clean energy and thus combat climate disruptions. The Solar Alliance has grown a lot since 2015. I'm proud to see new members joining us every year. We're approaching the 120-member-state mark! What a wonderful momentum! I'm glad to see our programmes thriving, particularly in capacity building. France is playing its full part in this great project, with constant and growing support for our Alliance: - Through the French Development Agency (AFD), we've financed over 1.5 billion euros worth of solar projects since 2016. - And today I'm pleased to announce, Director General, that a French expert is joining the Alliance Secretariat to strengthen our support for your work. Ladies and gentlemen, the geopolitical and the global energy contexts have changed radically since our Alliance was launched in 2015.

And this has consequences for the direction we need to give to our organisation. In 2015, when the Alliance was founded, the aim was to support the growth of solar energy, lower costs, and convince people of the relevance of this technology. 8 years later, two trends have overtaken this original mission. On the one hand, we have entered a state of climate emergency more than ever before. Climate catastrophes are multiplying, from the Himalayas to the Sahel, from the Mediterranean basin to Australia. With COP28 just around the corner, it's vital that we step up our efforts on all fronts to meet the objectives of the 2030 Agenda for Sustainable Development and at the same time those of the Paris Agreement. At the COP, one of France's priorities will be to support all commitments - particularly financial - to accelerate the global energy transition. On the other hand, the solar revolution is underway, and is set to accelerate drastically over the coming years. The new figures from the International Energy Agency (IEA) are striking.

Year after year, the solar power boom beats the most optimistic forecasts. At the time we founded our Alliance, the IEA predicted just 1,400 gigawatts of solar power by 2050, but we surpassed that mark as early as 2023! - And between 2022 and 2023, the Agency has raised its outlook for 2050 by +69%! In 2022, it predicted barely 5,000 gigawatts of solar power. It now predicts over 12,000 gigawatts of solar energy by the middle of this century! So the challenge for our organisation is no longer to support the growth of solar energy. This boom is inevitable, and it's already underway. Today, our mission is to steer this momentum. Towards which countries? For the benefit of which populations?

How can we contribute to achieving the Sustainable Development Goals (SDGs)? I see three challenges: The first challenge, in my opinion, is to accelerate the deployment of solar energy in major markets such as Europe and India, in order to structure a truly global ecosystem. Europe and France remain deeply committed to implementing this solar transition on our territory. By 2030, we intend to increase the share of renewable energy in the EU's energy consumption to over 42%. - In France, our ecological plan calls for doubling the rate of solar capacity installation. And I know that in India, this revolution is also underway.

The second major challenge is to ensure that investment in solar energy is equitably distributed and also benefits developing countries, from Africa to the Middle East and South-East Asia. Unfortunately, the solar revolution I've described is not benefiting everyone. It's not bearing fruit everywhere at the same speed. The African continent possesses 60% of the world's solar potential, but only 1% of installed solar capacity. It is this great injustice that our Alliance must tackle. France is taking action. And we are determined to accelerate. Last year, we provided over 7.5 billion euros in climate finance to our partners. These are not mere figures, but concrete projects, such as the construction of the Onigbolo solar power plant in Benin, which we completed this year, bringing 25 megawatts of clean energy to the people of Benin. We also support our partners in formulating and financing their fair energy transition plans. This is the founding principle of all our international partnerships: to be based on national agendas and priorities. In this respect, I would like to pay tribute to the commitment of the Senegalese authorities. Together with Germany, we have signed a historic "Just Energy Transition Partnership" that will increase the share of renewable energy in Senegal's electricity mix to 40% by 2030, in return for 2.5 billion euros in funding from donors, including France. And Senegal is not the only country: we have also signed JETPs with South Africa, Vietnam, and Indonesia. I would also like to remind you that the solar revolution must be backed up by a broader strategy of access to energy. Again, in Senegal, we are contributing 72 million euros with the European Investment Bank and the EU to connect 270,000 households and businesses to the electricity grid.

Above all, we want to work together to improve access to financing. Billions of euros from France and other donors won't solve the problem. We need to reform the international financial architecture so that it meets the challenges of the 21st century, and in particular, the energy transition challenge. In particular, we need to ensure that private investment in renewable energies is leveraged to flow to developing countries. This is the aim of the Paris Agenda for People and the Planet, which nearly 40 countries have already joined, and which we will continue to support in the run-up to COP 28. Its principles echo the agenda we are pursuing at the Solar Alliance through the Sustainable Renewables Risk Mitigation Initiative (SRMI). We have approved the second phase of this partnership between the Solar Alliance, several multilateral banks, and development agencies. 160 million

dollars from the Green Fund will be combined with 960 million dollars from the World Bank to mobilise 1.8 billion dollars in private investment in nine countries, including Tunisia, Ethiopia, the Seychelles, and Somalia. It will enable the deployment of over 2 gigawatts of new projects, benefiting 3 million people. The objective is clear: to reconcile economic development and ecological transition. In other words, to reconcile the planet with its peoples. This was a key priority of the Indian presidency of the G20, so let's continue with a concrete ambition.

The last challenge and France's last priority for the Solar Alliance is people. The solar revolution isn't just about billions in investment and silicon panels. The solar revolution also includes: - engineers, - technicians, - training centres - and the creation of genuine scientific, technological and entrepreneurial ecosystems. These elements are crucial to strengthening the absorptive capacity of countries. This is the best investment we can make. The Solar Alliance plays a key role in capacity building: through the STAR-C programme we aim to strengthen a solid network of centres of expertise, to standardise training, have uniform technological standards and ensure that the solar revolution contributes to local employment. France's contribution to the STAR-C programme supports regional centres of expertise in three pilot countries: Senegal, Papua New Guinea, and Bhutan.

Ladies and gentlemen, at a time when international tensions seem to be growing more acute by the day, I would like to conclude with a conviction that is dear to me: I sincerely believe that this Alliance has the capacity to provide solutions to one of the great challenges of our time, despite the fractures in the world. It is in such spaces that we can truly transform the world. As President Ruto of Kenya often says, in the face of climate change, it's an impasse to oppose an imaginary "Global South" to a so-called "Global North". It's cooperation between us all that will enable us to face the challenge. When it comes to global challenges, the only distinction that exists is between champions who act, and laggards who block collective progress. It's up to us to prove together that the International Solar Alliance is a force for progress. COP28 will be a decisive test for the Alliance and for each of its members. You can count on France, and I know I can count on you. Thank you.

Dr Ajay Mathur, Director General of International Solar Alliance

Access to reliable and affordable energy, especially in developing regions, is a formidable challenge that's exacerbated by the need for environmentally friendly solutions. As of 2021 estimates, approximately 675 million people, constituting 9% of the global population, lacked access to electricity. If the current trajectory continues, an alarming projection suggests that about 660 million people could remain without electricity by 2030. We urgently need to accelerate the build-up of solar energy, especially in developing countries and in applications that influence the daily lives of those without access to reliable energy – such as getting electricity from solar mini-grids, powering agricultural pumps, running cold storages, etc. Capacity building and regulatory change are necessary enablers towards that. ISA is facilitating over 9.5 GW of solar applications in 55 developing countries, including LDCs and SIDS, and have already provided training to nearly 4000 people across the developing world on ways to make a living out of supporting solar energy. We are working on developing STAR Centres in countries which will be a hub of technology,

knowledge, and expertise on solar energy. In addition, ISA is enabling solar mini grids to provide universal energy access, especially where grid extension is too expensive. Guarantees help in crowding-in private sector investment, and ISA has developed such a mechanism to provide guarantees through its Global Solar Facility to its Member Countries in Africa. We are also enabling entrepreneurs in these countries who can, with help, become major suppliers of solar energy across countries and regions.

The ISA projects were conceptualised taking into consideration the demands from Least Developed Countries (LDCs) and Small Island Developing States (SIDS) that are Member Countries of the ISA. The primary purpose of these projects is to successfully demonstrate solar technology applications in the beneficiary Member Countries and enhance their capacity to scale up these projects in the future and potentially replicate these projects in other Member Countries. Today, it is my honour and privilege to dedicate four projects to the Republic of Malawi, the Republic of Fiji, the Republic of Seychelles and the Republic of Kiribati, each of USD USD 50,000 (Fifty thousand) provided by the ISA under the ISA grant initiative.

These projects showcase the feasibility and effectiveness of solar solutions and promote their widespread implementation across diverse regions and sectors like;

- Solarisation of the parliament building of the Republic of Malawi
- the solarisation of two rural health care centres in the Republic of Fiji, with an 8-kW solar PV system & 20-kWh battery storage capacity for each health centre.
- Installation of 1 solar powered cold storage of capacity 5 MT for the benefit of its agricultural stakeholders at La Digue Island, Republic of Seychelles.
- Solarisation of the Nawai Junior Secondary school (JSS) in the Republic of Kiribati, with a 7 kW Solar PV rooftop system paired with a 24-kWh BSS.

These projects have the potential to provide affordable and clean energy, and ultimately avoid carbon emissions from power generation and consumption Three projects were inaugurated during the last Assembly in October 2022 in Jamaica, the Togolese Republic and Guyana. Three projects were also inaugurated during the Fifth Meeting of the ISA Regional Committee for the Africa Region held in August 2023 in Kigali, in the Republic of Uganda, Union of Comoros and in Republic of Mali. With these four projects inaugurated today, the International Solar Alliance has successfully completed 11 out of the 27 demonstration projects under this grant initiative. 12 more projects will be completed by December 2023 and the remaining will be completed by March 2024.

The International Solar Alliance recognises the achievements of our Member Countries and applaud their efforts in advancing the cause of energy transition through solar. We as a collective must learn from for one another's successes and challenges. Each step forward, no matter how small, contributes to the larger narrative of a sustainable, solar-powered world. I congratulate the Member Countries and dedicate the projects to the Republic of Malawi, the Republic of Fiji, the Republic of Seychelles and the Republic of Kiribati. I also extend my gratitude to their governments for their commitments and efforts towards realising the vision of the ISA to solarise the world

GLIMPSES OF THE PRESS CONFERENCE

H.E. Shri RK Singh, the Hon'ble Minister of Power and New & Renewable Energy, India, and President of the ISA Assembly, addressed the media during the 6th Session of the ISA Assembly. He highlighted the importance of solar energy, inaugurated four Demo Projects, and discussed ISA's capacity building and Viability Gap Funding scaling. Shri RK Singh emphasised that around 80% of the global population, residing in fossil fuel-dependent countries, could benefit from renewable energy, potentially supplying 65% of the world's electricity by 2030 and decarbonising 90% of the power sector by 2050. The Minister from Seychelles stressed the need for renewable energy and collaboration within the ISA, while the Malawi Minister of Energy stated that the time has come to transition to renewable energy, especially solar, for inclusive development.





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SIXTH SESSION OF THE INTERNATIONAL SOLAR ALLIANCE ASSEMBLY





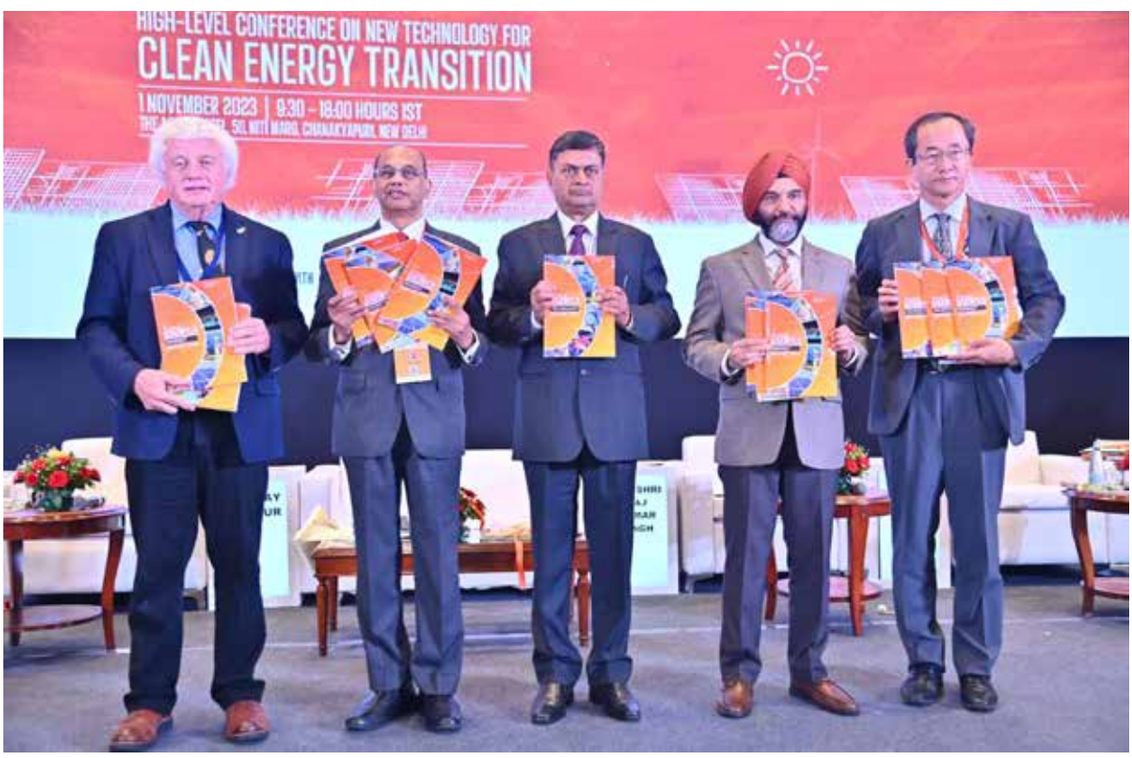
SPOTLIGHT

HIGH-LEVEL CONFERENCE ON NEW TECHNOLOGIES FOR CLEAN ENERGY TRANSITION

A High-level Conference on New Technologies for Clean Energy Transition in collaboration with the Ministry of New & Renewable Energy, the Government of India, the Asian Development Bank (ADB), and the International Solar Energy Society (ISES) was organised on the sidelines of the Sixth Session of the ISA Assembly. The overarching goal of the Conference was to translate dialogue into action. The Conference was attended by the Ministerial delegations of the ISA Member Countries, policymakers, experts, and industry leaders. By fostering collaboration, sparking innovation, and sharing knowledge, the Conference aimed to drive real-world change and make significant strides toward achieving global climate goals. The Conference was organised with a clear focus to make solar energy the energy of choice, reduce carbon emissions, expand energy access, and bolster economic growth in the process.

The Welcome Address was delivered by Dr Ajay Mathur, Director General, ISA, followed by a presentation on the outline of the World Solar Reports on Technology, Investments & Markets by ISA Secretariat and KPMG.

H.E. Shri Raj Kumar Singh Hon'ble Minister of Power and New and Renewable Energy and President of the ISA Assembly, in his inaugural address stated, "We are approaching the cause of a greener and sustainable planet with much zeal but global energy transition can only be achieved when other countries also do their part with similar compassion. We also need to help the least developed countries with finance and technology to help them transition to cleaner sources of energy. International Solar Alliance has been conceived with the same idea of tackling climate change through deployment of solar energy solutions to help meet clean electricity access challenge cost-



He also spoke on India's achievement and roadmap ahead while exhorting the international community to address the issue of storage, lack of manufacturing capacity and supply chain diversification collectively towards Net Zero.

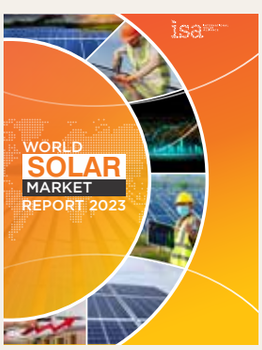
On the occasion, he released two reports: **'Second edition of Global Solar Reports on Technology, Investments & Markets' and 'ISA ADB NEDO Report- A Roadmap for Developing and Scaling the Green Hydrogen Ecosystem.'** The Hon'ble Minister was joined on the dais by Shri Bhupinder Singh Bhalla, Secretary, MNRE, Dr Ajay Mathur, Director General, ISA, Mr Kenichi Yokoyama, DG, South Asia Department, Asian Development Bank and Dr Dave Renné, President, International Solar Energy Society.

SPOTLIGHT

AT A GLANCE: WORLD SOLAR REPORTS 2023

Solar energy is crucial for global sustainability. However, in Least Developed Countries and Small Island Developing States, lack of knowledge about solar technology, markets, and investments hinders climate change mitigation. The International Solar Alliance's Global Solar Reports provide vital information on tech, markets, and investments, helping nations and leaders accelerate their solar transition.

The World Solar Technology Report covers global technology-related advancements, achievements, and challenges. It reviews the current technologies available at all the steps of the value chain, the main technological trends, including system design and solar thermal solutions, advancements in various technological applications, and supply chains in manufacturing and deployment. This report focuses on solar photovoltaics (solar PV), highlighting the remarkable advancements in crystalline silicon technology. Over the past decade, research efforts have boosted efficiency and power output significantly, solidifying crystalline silicon PV as the top choice for various applications. Solar PV has experienced exceptional growth, expected to capture 56.4% of total renewable energy share by 2050. Crystalline silicon technology dominates the market with a 98% share, particularly monocrystalline and emerging technologies like organic PV and perovskite PV hold promise for the future.



The World Solar Market Report covers market trends of different applications. It investigates factors driving the markets in different regions/countries, the role of the market so far in solar energy replacing fossil fuels, and global political dynamics impacting the market. Over the past two decades, solar technology, particularly solar photovoltaics (PV), has witnessed explosive growth. Starting with just 1,600 megawatts (MW) of global installed PV capacity in the early 2000s, the adoption of PV technology soared with feed-in tariff programs in countries like Japan and Germany. Initially popular on residential rooftops, PV's versatility and cost reductions later led to large-scale solar PV power plants. By spring 2022, the world had reached a monumental 1,000 gigawatts (1 terawatt) of installed PV capacity. This report offers a comprehensive analysis of the solar market's evolution from its European origins to its current leadership in the Asia-Pacific region, highlighting a remarkable 37% compound annual growth rate, significant market expansion in 2022, and changing regional dynamics in solar adoption.

The World Solar Investment Report assesses the transition needed for the financial sector to fulfil the solar industry's investment requirements in the near future. The report undertakes a detailed assessment of the investment required to transition to mainstream solar energy in the energy mix; measures to speed up capital reallocation from fossil fuels to solar assets. It investigates steps undertaken by financial institutions and institutional investors to prioritise solar project lending. Risk and mitigation measures adopted in the past to safeguard investments by various countries have been highlighted in the report, in addition to a brief analysis of new financial instruments successfully adopted and institutionalised for upscaling the deployment of solar energy. This report highlights the surge in global solar investments in 2022, exceeding $300 billion (a 36% increase from 2021). Asia Pacific and Europe & North America led the way, with China, Germany, and the USA as top investment destinations. To ensure a robust solar future, we must invest in grid infrastructure and storage, diversify supply chains, and prioritise emerging markets for inclusive energy transition toward Net Zero by 2050.

SPOTLIGHT

THE INTERNATIONAL SOLAR ALLIANCE'S STRATEGIC ROADMAP FOR GREEN HYDROGEN: A GAME-CHANGER IN CLEAN ENERGY TRANSITION

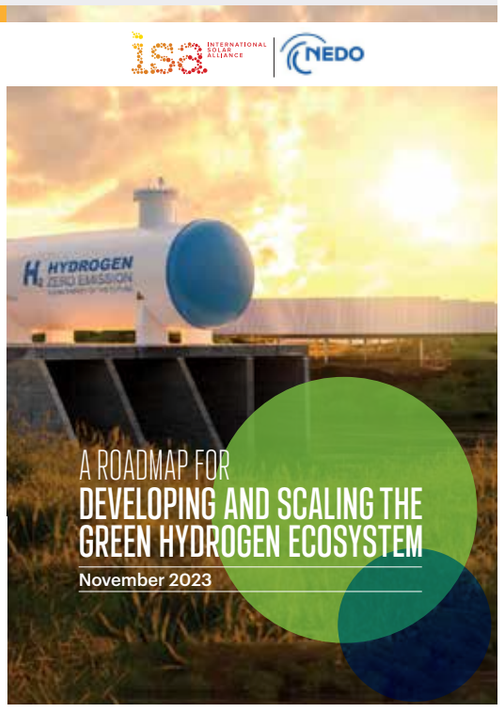
In a ground breaking move towards fostering sustainable energy solutions and bolstering global efforts to combat climate change, the International Solar Alliance (ISA) recently unveiled a comprehensive roadmap for advancing and expanding the green hydrogen ecosystem. The report, titled "A Roadmap for Developing and Scaling the Green Hydrogen Ecosystem," was launched in New Delhi on November 1, 2023, on the side lines of the Sixth Annual Assembly of the ISA. Developed in collaboration with the Asian Development Bank (ADB) and the New Energy and Industrial Technology Development Organisation (NEDO), the report signifies a crucial step towards propelling the world into a cleaner and more sustainable energy future.

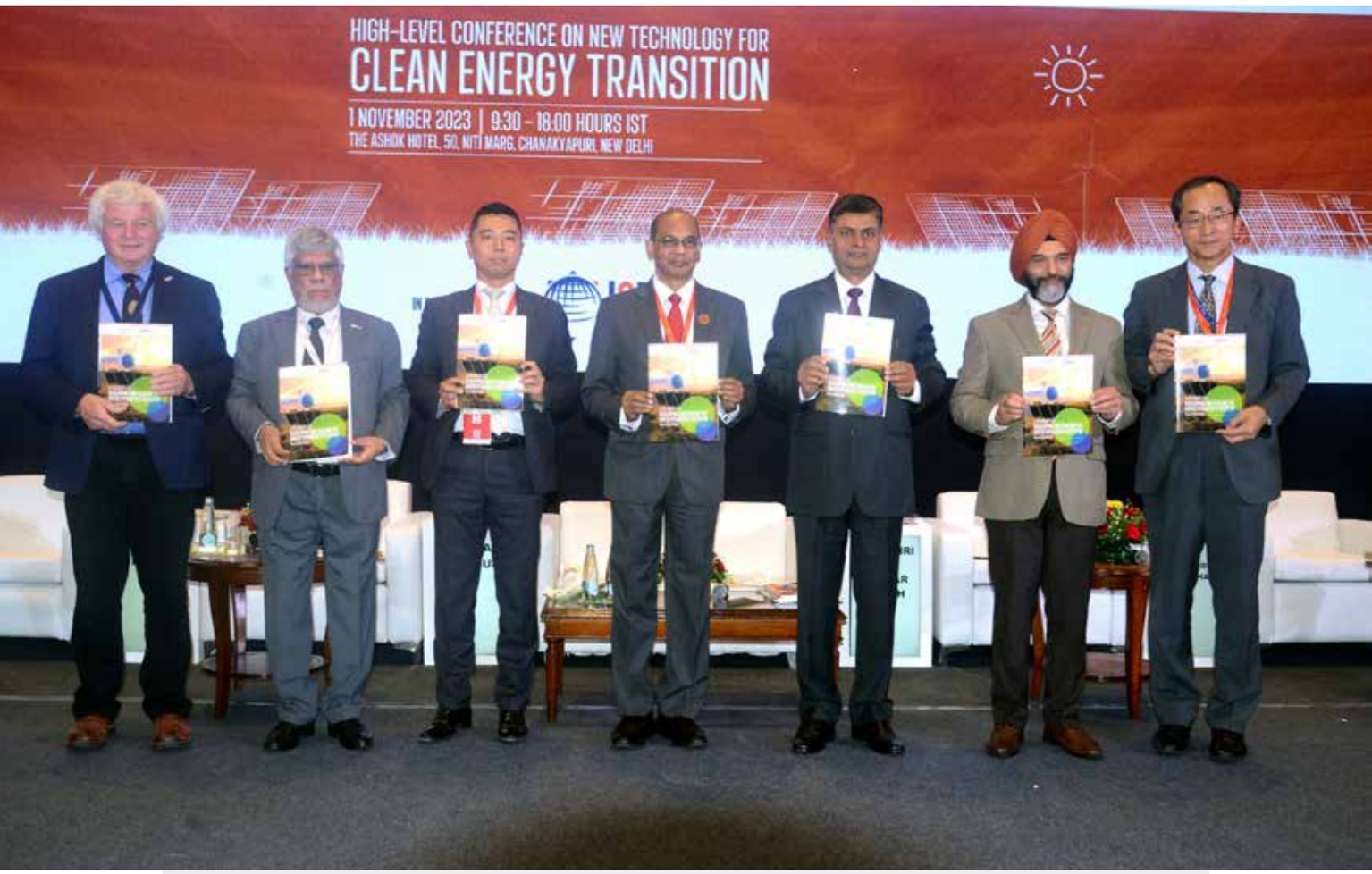
India's Commitment to Green Hydrogen

Emphasising India's commitment to promoting and adopting green hydrogen, Shri Raj Kumar Singh, Hon'ble Minister of Power and New and Renewable Energy, and President of the ISA Assembly, stated, "India is an emerging Power. With our single unified grid and large Renewable capacity, India can produce the cheapest Green Hydrogen in the world. We will do everything in our power to make India be competitive in producing green hydrogen and to achieve the targets set out in the National Green Hydrogen Mission (NGHM)." Mr. Singh highlighted the importance of hydrogen in mitigating climate change and urged industries and communities to embrace it as a pivotal player in the ongoing energy transition. In a special address, Shri Bhupinder Singh Bhalla, Secretary of the Ministry of New and Renewable Energy, asserted that India is poised to become a leader in the green hydrogen sector. He stressed the importance of producing green hydrogen cost-effectively while leading in technology and safety standards. This acknowledgment of India's potential leadership role underscores the country's commitment to driving innovation and excellence in the green hydrogen sector.

The Role of ISA in Advancing Green Hydrogen

Dr Ajay Mathur, Director General of the International Solar Alliance, highlighted the necessity for a knowledge repository to track global progress and provide up-to-date information and learning as countries develop green hydrogen ecosystems. He announced the establishment of the Green Hydrogen Innovation Centre, facilitated by the ISA as an International Partner Organisation to India's G20 Presidency. This Centre aims to accelerate the production, utilisation, and trade of green hydrogen across Member Countries and beyond. Dr Mathur emphasised that the Green Hydrogen Report not only delves into recent technological advancements but also provides insights into emerging regulations, standards, and market assessments, creating a pathway for the development of the green hydrogen supply chain.





Global Significance of Green Hydrogen

The report underlines the growing significance of green hydrogen in global decarbonisation efforts. By 2040, green hydrogen, produced using renewable energy, is anticipated to play a pivotal role in supporting the decarbonisation goals outlined in the Paris Agreement and enhancing energy portfolio diversity. Despite currently constituting a small fraction of global hydrogen production, its promising future is fueled by decreasing renewable energy costs.

While acknowledging challenges such as workforce shortages and operational costs, the report identifies critical levers for the green hydrogen sector's success. These include increased investment, government support, and technological advancements. The report makes a compelling case for green hydrogen as a sustainable energy solution that not only provides economic opportunities but also contributes significantly to mitigating climate change on a global scale.

The International Solar Alliance's release of the comprehensive roadmap marks a significant milestone in the global transition towards cleaner and more sustainable energy solutions. With India taking a leadership role and international collaborations shaping the future of the green hydrogen ecosystem, the world is on the cusp of a transformative era in energy production and consumption. As the global community rallies behind the promising potential of green hydrogen, the ISA's strategic roadmap provides a valuable guide for countries to navigate the challenges and seize the opportunities presented by this ground breaking technology.

SPOTLIGHT

TECHNICAL SESSION – I: NOVEL TECHNOLOGIES IN SOLAR ENERGY SESSION

Special Address: Mr Lalit Bohra, Joint Secretary, Ministry of New and Renewable Energy, Government of India
Session Chair: Prof Juzer Vasi, Professor Emeritus, IIT Bombay
Moderator: Mr Jiwan Acharya, Principal Energy Specialist, ADB

Panelists:
1. Dr Nancy Haegel, Director, National Center for Photovoltaics, NREL, USA
2. Dr Claudio Capiglia, Head, Sr. Vice President, Reliance New Energy
3. Dr Abhinav Mathur, Advisory Board Member, Attero Recycling Pvt. Ltd.
4. Mr Nishant Arya, Vice Chairman and MD, JBM Group and Chairman of Linde Wiemann GmbH, Germany
5. Mr Sturle Pedersen, Chairman of Board, Greenstat Ltd

Session objectives:
1. Exchange of expert viewpoints on technological innovations in the solar and other renewable sectors
2. Identify opportunities for ISA Member Countries to support the economy-wide clean energy transition, including hard-to-abate sectors.
3. Identification of investment options for Clean Energy developers and financiers

The thematic session on "Novel Technologies in Solar Energy" focused on emerging technologies and applications in solar and related sectors poised for large-scale commercialisation. The session included discussions on next-generation solar cells, novel applications of solar technologies, advancements in solar manufacturing processes, and evolving sectors like next-generation batteries, green hydrogen, and solar-charged E-mobility.

One of the main challenges in converting sunlight to electricity via photovoltaic cells is to reduce the cost per watt of delivered solar electricity through significant improvements in conversion efficiency. Devices operating above the existing performance limit will require developing new materials and new concepts for solar photoconversion. New battery chemistries need to be explored, which can provide cheaper and more efficient storage options for the renewable energy sector. Green Hydrogen (GH) is being seen as one of the key enablers for achieving global climate targets and realising net-zero greenhouse gas emissions. Electrolysers are an essential component of GH production. At present, the electrolyser industry is facing challenges related to low efficiency, short life span, lack of manufacturing capability and certain supply chain issues related to raw materials. Solar-powered EV charging is a promising solution for reducing carbon emissions and promoting sustainable transportation. However, several technical challenges must be addressed to make it a viable option. Materials are one of the critical solutions to the many pressing issues in energy generation, transport, and utilisation, as well as more general issues in sustainability. In many cases, longterm solutions to these problems will depend on breakthrough innovations in materials.

SPOTLIGHT

TECHNICAL SESSION–II: SOLAR PV RESILIENT SUPPLY CHAINS: NEED FOR INTERNATIONAL COLLABORATION IN SOLAR MANUFACTURING SESSION

Special Address: Mr Dinesh Jagdale, Joint Secretary, MNRE
Session Chair: Mr Bartosz Przywara, European Union Delegation to India
Session Chair and Moderator: Subrahmanyam Pulipaka, CEO NSEFI

Panelists:

1. Dr Priyantha Wijayatunga, Senior Director, Asian Development Bank (ADB)
2. Dr Ming-Tsun Kuo, Deputy Division Director, Industrial Technology Research Institute
3. Mr Sujoy Ghosh, Country Director, First Solar
4. Ms Vasanthi Sreeram, Chief Technical Advisor, Websol Energy
5. Mr Sukumar Madugula, General Manager, RCT Solutions
6. Mr Vaibhav Singh, Executive Director, PwC in India

Session objectives:

1. The session will highlight and give insight on the pathway for measures that can be taken for resilient supply chain.
2. The Session will highlight how the international solar community and states can collaborate together for solar PV manufacturing.

Over the last decade the global solar PV manufacturing capacity has gradually moved from Europe, Japan and USA to China and have been concentrated in one country. Today, with the growing solar energy demand the solar PV manufacturing is getting highly monopolised and there is a need for resilient supply chain as with concentration of PV supply chain is bringing vulnerabilities, delays in imports, pricing and ultimately posing potential challenges for the energy transition. Hence, in order to meet international energy and climate goals the global deployment for solar PV is and will grow on an unprecedented scale. Therefore, there is demand for a major additional expansion in manufacturing capacity, and concentration of PV manufacturing is raising concerns about the world's ability to rapidly develop resilient supply chains. Today, the world almost completely relies on China for supply of solar panels and this level of concentration in any global supply chain would represent a considerable vulnerability where solar PV is no exception. Additionally, in the pathway of net zero emissions Solar PV's demand for critical minerals and it will play a dominating role in solar PV manufacturing and its resilient supply chain. Hence, today it is need for the hour to cooperate and collaborate for critical minerals and solar PV manufacturing.

SPOTLIGHT

TECHNICAL SESSION III: STORING THE FUTURE: GLOBAL ADVANCES IN HYBRID (RENEWABLE PLUS STORAGE) BUSINESS MODELS

Special Address: Ms Gabriela Elizondo Azuela, Practice Manager, ESMAP, World Bank

Session Chair and Moderator: Dr Rashi Gupta, Managing Director, Vision Mechatronics

Keynote Presentation and Launch: Report on Hybrid Renewable Projects by Mr Amit Jain, Senior Energy Specialist, World Bank

Panelists:

1. Dr Bill Tumas, Associate Laboratory Director, Materials, Chemical and Computational Science, NREL 2. Ms Julia Souder, CEO, LDES Council and Chair, Global Renewables Alliance (Virtual)
3. Representative from ReNew Power
4. Mr Hiren Pravin Shah, Founder Executive Director & CEO - Replus Engitech Pvt. Ltd.
5. Ms Sanskriti Dubey, Senior Manager, Fluence

Session objectives:

The Session will focus on hybrid storage innovations worldwide and how integrating storage is vital to optimally leverage solar resources while enabling grid integration.

Renewable energy transitions are rapidly unfolding across many countries, and integrating energy storage has been critical in these developments. As renewables play an increasingly central role in global energy production, storage is necessary to enable effective grid integration. Using solar and storage in hybrid projects has emerged as a key trend in recent years. Many countries are deploying large-scale solar projects utilising storage to enhance reliability and stability.

Such hybrid projects store excess energy when demand is low and discharge when high, enabling a more consistent supply. These projects are being implemented worldwide, from Australia to the Middle East to the United States. As country-level renewable transitions continue, solar plus storage hybrids will likely remain an important focus area for energy system evolution.

Integrating storage is vital to optimally leverage wind and solar resources while enabling grid integration. This not only bolsters resilience but also improves reliability, stability, and power quality - all critical for productive energy utilisation. Storage systems can absorb surplus renewable generation, avoiding curtailment, while discharging stored electricity during peak times. Replacing diesel generators with storage offers a rapid way to build distributed energy storage and flexibility needed to integrate more renewables.

Advanced batteries like lithium-ion, having higher density and lifespan, are increasingly deployed in large hybrid projects. Artificial intelligence and machine learning are also emerging, with algorithms analysing consumption patterns and forecasts to optimise storage systems, reduce costs, and boost stability. Finally, hybrid systems combining multiple storage technologies, like batteries and pumped hydro, are gaining interest by providing greater flexibility and resilience to enable the sustainability transition. As renewable adoption expands, hybrid storage projects will likely remain an important focus area globally.

SPOTLIGHT

SITE VISIT TO AKSHARDHAM TEMPLE, 2 NOVEMBER 2023, NEW DELHI

On the side lines of the 6th Assembly, the International Solar Alliance organised a visit to the Akshardham temple complex on 2nd November 2023 for the visiting delegates. The temple complex uses environmental friendly technologies, including the use of solar power. It houses captive rooftop solar power plant of 1MW capacity which provides green power to meet the daily requirement of the complex. The solar panels are strategically placed on rooftops and open areas to maximise exposure. In addition, the temple complex incorporates various energyefficient technologies and practices, such as LED lighting and energy-saving appliances, to further reduce its overall energy consumption. The delegates got the opportunity to take a look at the 1350 kW rooftop solar plant, gaining insights into how it generates and utilises solar power.

HIGHLIGHT

INTERNATIONAL SOLAR ALLIANCE'S GLOBAL SOLAR FACILITY SECURES $35 MILLION CAPITAL BOOST FOR CLEAN ENERGY REVOLUTION

The International Solar Alliance (ISA) has announced a significant stride in advancing global solar investments with the Global Solar Facility (GSF) set to receive a capital contribution of $35 million. This initiative comes at a crucial juncture, as the world faces a staggering $12.5 trillion gap in renewable energy investments, with the GSF targeting underserved regions to bridge this divide.

GOVERNMENT OF INDIA'S KEY ROLE

A substantial portion of this capital injection is poised to come from the Government of India, contemplating a $25 million investment as a capital contribution to the GSF. In addition, the ISA itself is committing $10 million, demonstrating a strong commitment from the Indian government and the ISA to the success of the GSF.

GLOBAL SUPPORT FOR A SUSTAINABLE FUTURE

Bloomberg Philanthropies and the Children's Investment Fund Foundation (CIFF) have also thrown their weight behind the GSF, emphasising the global collaborative effort required to drive clean energy initiatives. The significance of this backing is particularly pronounced amidst a global investment gap and the pressing need to stimulate investments in off-grid solar projects in underserved areas.

THE GSF'S STRATEGIC FOCUS

The GSF is strategically designed to catalyse solar investments in underserved segments and geographies, with a particular emphasis on Africa. Recognising the immense potential of the continent in deploying solar energy capacities, the GSF aims to attract private capital into off-grid solar projects, rooftop solar projects, and productive use solar projects. This financing vehicle, fortified by payment guarantees, insurance, and investment funds, seeks to mitigate project risks, address regulatory gaps, and reduce uncertainties in the solar energy sector.

GOVERNMENT OF INDIA'S VISION AND INVITATION

Shri R K Singh, Minister of Power and New & Renewable Energy, Government of India, and the President, International Solar Alliance Assembly said,

> ***Global Solar Facility aims to leverage investments to accelerate transition to solar energy. The target for the GSF is to raise 100 million USD. Africa has immense potential in deploying solar energy capacities, yet due to risks in investments, the region has not been able to leverage its potential. The GSF aims to address this challenge and provide security to investments. India is a good example of development due to private sector investments. It has no sovereign risks and has a strong legal and security framework with a dispute mechanism and a security of payments, which has enabled India to attract investments. In the years to come, we will look at globalising the GSF. I invite all the Member Countries and organisations to partner with us in making this Facility a catalyst for the transformative change that we all are working towards.***

ISA'S TARGETS

Director General of the International Solar Alliance, Dr Ajay Mathur, outlined the GSF's target to raise $100 million, emphasising its potential to bring clean energy access to millions of households in Africa by 2030. Dr Mathur highlighted the urgent need for global investment, with the GSF aiming to address the stark disparities in renewable energy investments between developed and developing regions.

Dr Ajay Mathur, commenting about why the GSF is needed, said,

> ***The world requires an investment of $12.5 trillion in renewable energy and $23 billion in off-grid solar by 2030. The ISA through its Global Solar Facility is stepping up as current global solar investment falls woefully short, constituting only 10% of the required amount for achieving net-zero emissions. Additionally, there is profound disparity in investments — with developing countries, home to over 50% of the global population, receiving just 15% of 2022's renewable energy investments. Sub-Saharan Africa's per capita renewable energy investment has plummeted by 44% from 2015 to 2021. In stark contrast, investments in North America are 41 times higher, and in Europe, they are 57 times greater. The GSF will further our vision of addressing the urgent need for universal energy access and a clean energy transition.***

GLOBAL RECOGNITION AND COMMITMENT

CIFF's Chief Executive Officer, Ms Kate Hampton, expressed their commitment to seed funding the GSF, acknowledging its role in unlocking critical institutional and private sector investment. Bloomberg Philanthropies echoed this sentiment, emphasising the potential for African countries to lead in solar power with the right capital injection.

Ms Kate Hampton, said,

> ***We are thrilled to announce CIFF's commitment to seed funding the International Solar Alliance's Global Solar Facility, which will unlock critical low-cost institutional and private sector investment for solar in ISA Member Countries. Here and in all our work, CIFF is resolute in its commitment to championing clean, affordable energy, to driving the global energy transition, and to securing a livable planet for children and young people around the world.***

Antha Williams, who leads environment programs at Bloomberg Philanthropies, said,

> ***African countries are positioned to be global leaders in solar power but lack the capital necessary to unlock their untapped potential. Bloomberg Philanthropies looks forward to continuing its partnership with the International Solar Alliance through the Global Solar Facility to help facilitate the widespread deployment of solar energy projects across the continent not only to help solidify the continent as a global leader on clean energy but also address the twin challenges of energy poverty and the climate crisis.***

DIVERSIFYING INVESTMENTS FOR A SUSTAINABLE FUTURE

The ISA emphasised the need to diversify solar energy investments in Africa, a continent with vast solar potential but only 1.3% of the world's installed solar capacity. The GSF, following its launch at COP27, has been actively engaging with potential investors, development finance institutions, and regional partners.

FUTURE ENDEAVORS AND EXPANSION PLANS

Looking beyond Africa, the GSF envisions expanding to regions such as Asia, Latin America, and the Middle East. Regional Facilities will be tailored to meet specific requirements, and the GSF plans to invest in innovative technologies, support startups, and explore emerging solar energy sectors, further solidifying its role in the global clean energy transition.

OPINION

EMPOWERING TOMORROW: THE EVOLUTION FROM RENEWABLE ENERGY TO INTEGRATED RE + STORAGE PROJECTS

Sanskriti Dubey
Senior Manager -Market Growth & Communications
Fluence India

Rupam Raja
Chief Commercial Officer,
Fluence India

Alexander Hogeveen Rutter
Private Sector Specialist
ISA

Solar and wind energy, while abundant, are intermittent sources. Though they are substantially cheaper than fossil fuels in most countries, they require a balancing resource such as energy storage to be considered "firm" capacity that can be used to meet fully reliable, dispatchable load.

In India, the Solar Energy Corporation of India (SECI) had taken the lead on grid-scale solar tenders, hosting auctions with winning bids as low as Rs. 1.99/kWh (USD $0.024/kWh). However, the infusion of wind and solar on the Indian grid has necessitated an evolution to tenders for firm or peaking power supply, typically including energy storage.

In 2019, SECI announced a groundbreaking. 1200 MW tender that mandates projects to provide assured peak power supply, and meet peak demands of distribution utilities, by integrating energy storage systems (ESS) and renewable energy (RE) components such as solar, wind, or hybrid systems.

This tender required renewable energy to provide an 85% monthly peak commitment using energy storage, a task traditionally reliant on thermal assets. This shift signifies a significant blow to coal-powered energy generation, aligning with India's commitment to greener and more affordable power supply.

Under the SECI tender, projects are eligible for two-part tariffs. Peak tariffs, determined through e-reverse auctions, ensure the demand is met daily during peak periods. Both winning developers used a combination of wind and solar, with the 300 MW winner using battery storage and the 900 MW winner using pumped hydro. The 300 MW developer won by quoting a peak tariff that was discovered as Rs. 6.85/kWh ($0.082) and the Off-peak tariffs, fixed at Rs 2.88 ($0.035), apply for the remaining 18 hours, promoting the use of renewable energy throughout the day.

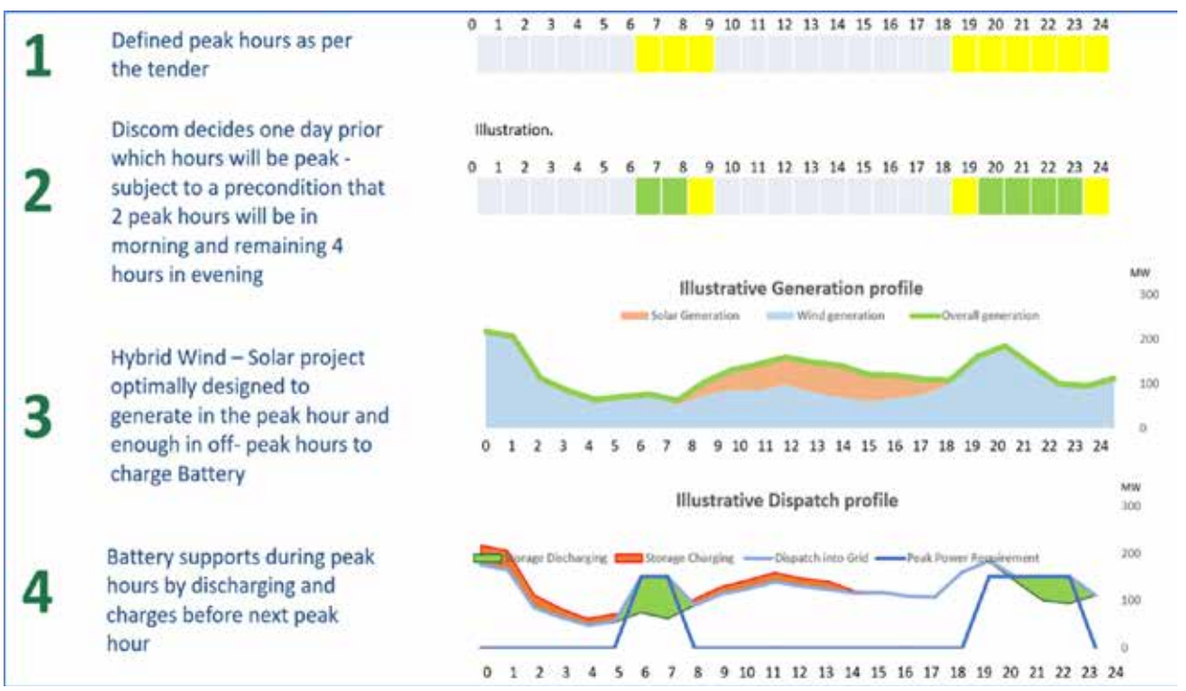
This translates to an effective weighted average tariff of Rs 4.30 /kWh ($0.052), signed for a 25-year period. These tariffs significantly undercut recent thermal power projects where costs ranged from Rs 5-7 / kWh ($0.06-$0.085), signaling a substantial change for consumers and DISCOMs

The primary offtakers for the power will be distribution utilities in Goa and Haryana. The average purchase price for new power in the past 10 years has been Rs. 6.32/kWh ($0.076) in Goa* and Rs. 6.24/kWh ($0.075) in Haryana*. These means these DISCOMs will save approximately 226 and 216 Crore per year respectively ($27 Million/year for Goa and $26 Million/year for Haryana) by purchasing from these RE + storage projects rather than new conventional supplies.

Furthermore, by purchasing RE + storage instead of new coal power generation, the Goa and Haryana DISCOMs will save approximately 1.1 million tonnes of CO2 emissions per year.

The following figures show the typical solar and wind generation profile, and how storage is used to absorb surplus solar during the day and wind at night to meet the morning and evening peaks.

Illustration of Generation & Dispatch profile for Contracted Capacity of 150 MW for each of the Discom



A configuration of 322 MW of Wind, 81 MW of Solar, and 75 MW,2 Hours of Battery Energy Storage co-located with Solar was developed for that project and will be connected at 33/220 kV Pooling Substation. The 75 MW/150 MWh Battery Energy Storage is deployed by Fluence using Gridstack technology, which is flexible in architecture, highly scalable, and features the highest level of safety.

While the PPA duration for the project is 25 years, the battery energy storage performance is guaranteed for a 20-year period with a single-cycle use case including the augmentation requirements for the project.

The battery energy project will primarily be used to meet assured peak power commitment, as a mandatory requirement it will follow the Grid code standards that define and approve the usage of battery energy storage for meeting secondary ancillary reserves. With the latest guidelines of CEA mandating RE projects to have the necessary means of reducing the reactive power, the developer could also utilize the project for meeting the reactive power compensations.

Post the award of contract from the Developer to Fluence, and keeping aside the time taken to place the procurement orders and integration of the solution in a dedicated assembly line, it took exactly 2 months of timeline to place the modular solutions on the ground post delivery of the cubes to the site. The battery energy project is anticipated to be commissioned onto the grid within an additional 30-40 working days, demonstrating the rapid deployment potential of such projects within a guaranteed targeted span of 12- 15 months.

To meet the India's growing demand and economic targets, plain solar and wind will not deliver the firm reliable power required. Storage is an essential element to support grid balancing and ensure the solar and wind can be both affordable and meet the reliability needs of developing countries..

The SECI tender stands as a testament to India's commitment to renewable energy, affordable electricity and grid stability. By seamlessly integrating storage solutions with renewable sources, this initiative not only fosters economic growth but also paves the way for a greener, more sustainable energy future.

* The plants commissioned within last 10 years that shares power with Goa includes Solahpur Thermal Power Plant ,Gadarwara Thermal Power Plant, Lara Thermal Power Plant ,Khargone Thermal Power Plant, Mouda I & Mouda II
* The plants commissioned within last 10 years that shares power with Haryana includes Unchhahar ,Kol,Tanda Thermal Power Plants.

SNAPSHOTS: COUNTRY MISSIONS

EMPOWERING CAMBODIA'S SOLAR FUTURE: ISA'S PIONEERING MISSION AND COLLABORATIVE ROADMAP

In October 2023, the International Solar Alliance (ISA) embarked on a ground breaking Technical Mission to Cambodia, marking a pivotal step in advancing solar energy initiatives and fostering international collaborations. This mission, aimed at engaging key stakeholders and government officials, particularly with the Ministry of Mines and Energy (MME), unveiled a roadmap for scaling solar interventions in Cambodia.

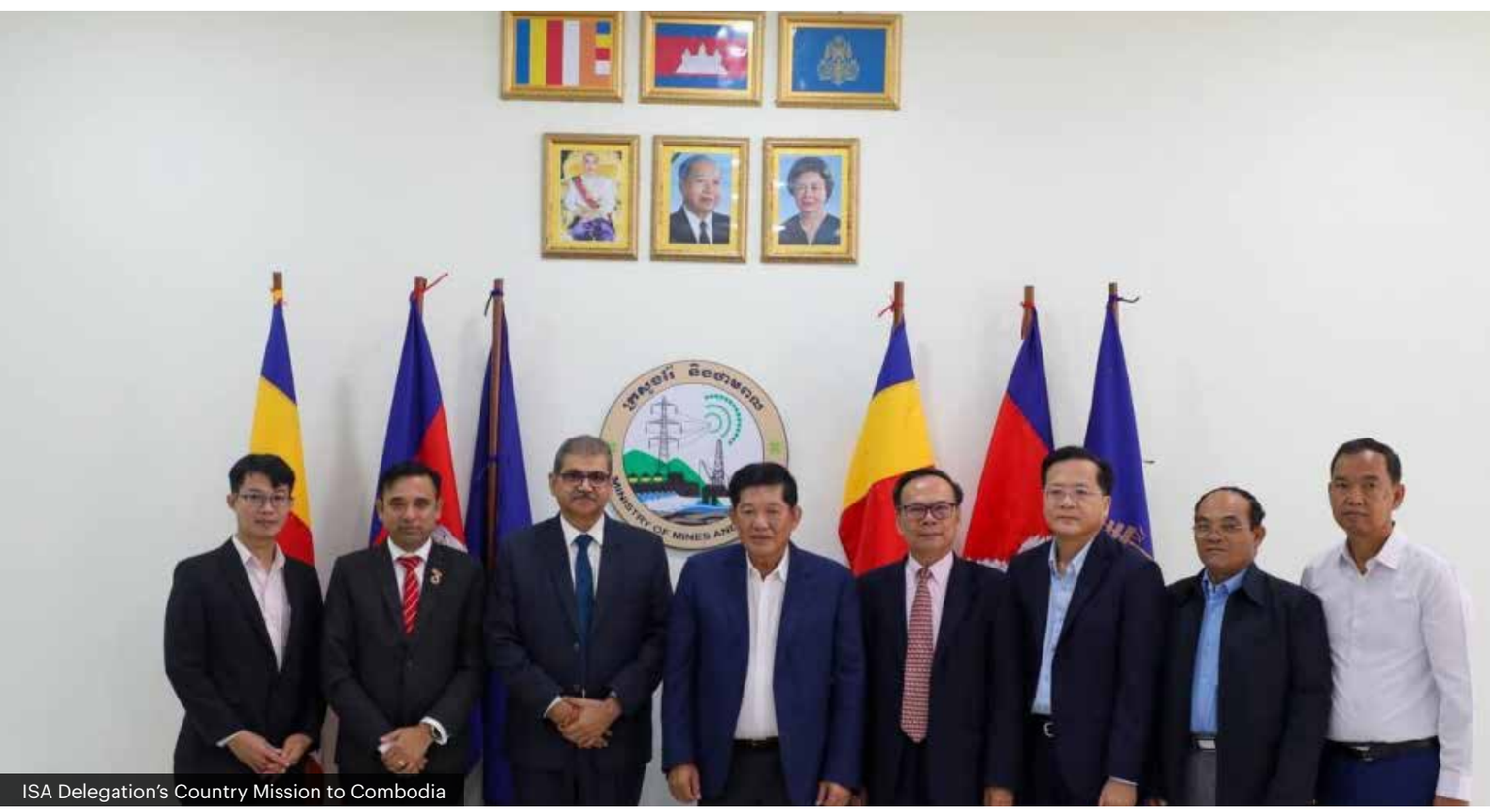
The primary objective of the mission was to consult with relevant stakeholders, including bilateral meetings with the Ministry of Environment and the MME, to understand Cambodia's solar sector needs and priorities. The outcomes were encapsulated in a draft Aide-Memoire, currently under MME review, outlining priority areas for immediate implementation and potential collaborations.

Bilaterial Meetings & Consultations, 4-6 October, 2023

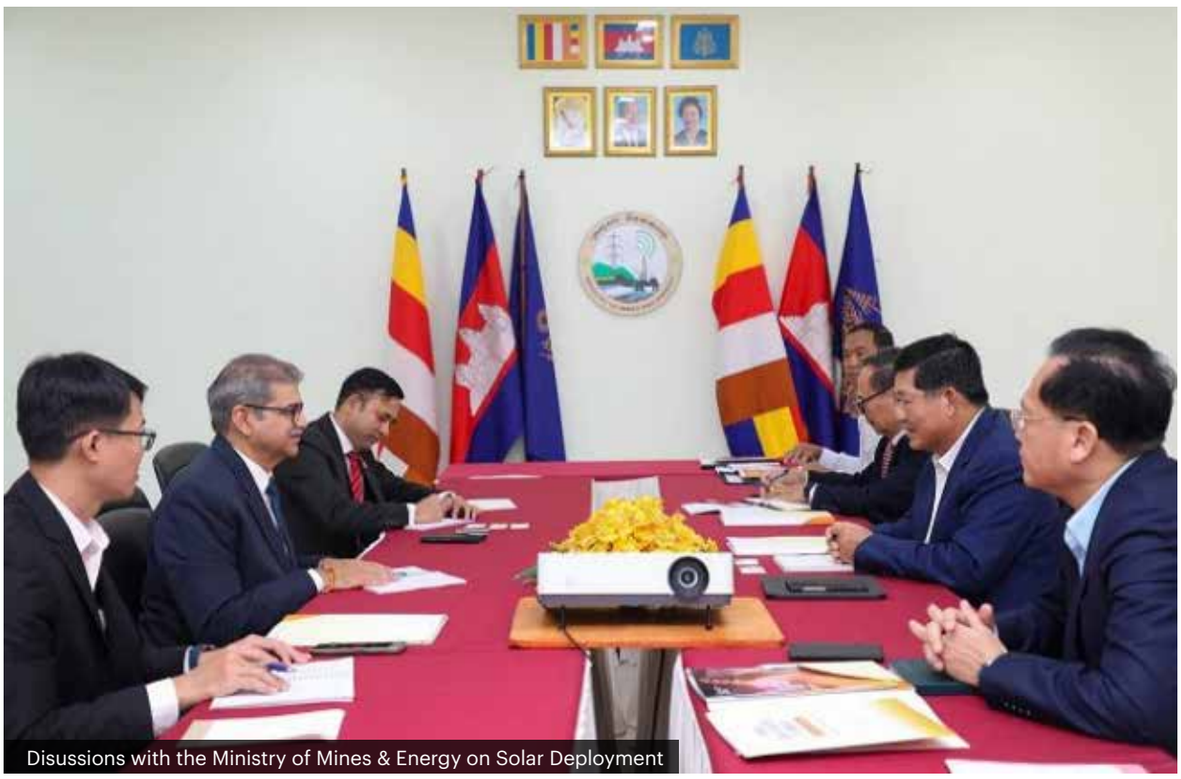
The identified areas for collaboration spanned solar mini-grids, solar applications for agriculture, and capacity-building programs. Future collaborations were discussed for solar rooftops, floating solar PV projects, and solar heating and cooling systems. Cross-cutting issues related to policy, regulation, and institutional capacity were also on the agenda to support the growth of the solar sector in Cambodia.

The multifaceted mission had three primary goals:

Engaging with Senior Government Officials: The mission aimed to gain an in-depth understanding of Cambodia's



ISA Delegation's Country Mission to Combodia



Disussions with the Ministry of Mines & Energy on Solar Deployment

solar deployment priorities, especially in the context of solar mini-grids. Demonstration Project: Deliberating the details of a significant demonstration project aimed at solarising a school with the support of a $50,000 ISA Grant. Exploring avenues for diversifying and scaling up various solar technologies through collaboration with the Ministry of Environment.

Fostering Collaborative Partnerships: Through bilateral discussions with international agencies and partner organisations, including UNDP and CAPRED.

The mission identified priority areas for immediate implementation, such as solar mini-grids, solar irrigation and drinking water technology, and capacity-building programs. Proposed areas for future collaboration included regulatory support, solar rooftops, solar-powered cold chains, and the establishment of a Solar Technology Application Resource Centre (STAR-C).

Bilateral Meeting with UNDP

The mission laid the groundwork for further collaboration, with action plans outlined in a draft Aide-Memoire awaiting MME's review. The nomination of a new National Focal Point (NFP) to ISA is in progress, and a high-level country mission, tentatively led by H.E. Dr Ajay Mathur, Director General of ISA, is planned for December 2023 or the first quarter of 2024.

In conclusion, ISA's Technical Mission to Cambodia signifies a crucial step towards strengthening partnerships and collaboration with MME, MoE, and other stakeholders. The identified interventions and areas for future cooperation aim to harness the benefits of solar energy, contributing to Cambodia's sustainable development and climate resilience pathways. The anticipated signing of the Country Partnership Agreement (CPA) and Country Partnership Strategy (CPS) will formalise these outcomes, propelling Cambodia towards a brighter, more sustainable energy future.

SNAPSHOTS: COUNTRY MISSIONS

EMPOWERING PACIFIC ISLANDS: INTERNATIONAL SOLAR ALLIANCE'S MISSION TO ACCELERATE SOLAR ENERGY ADOPTION


ISA Delegation with Hon. Minister, RO Filipe Tuisawau from Fiji

Many Pacific countries, primarily comprised of islands, face the challenge of limited access to traditional energy sources. The importation of fossil fuels places a significant financial burden on these nations, impacting their overall development budget. Recognising the urgent need for sustainable and decentralised energy solutions, the International Solar Alliance (ISA) embarked on a crucial mission to Pacific countries in October. This mission aimed to analyse the barriers and opportunities for solar energy adoption and formulate strategies to support Member Countries in financing, technical aspects, regulations, and capacity building.

Analysing Energy Dependency

Import costs of energy, especially in the form of diesel, weigh heavily on the economies of ISA Member Countries in the Pacific region. This dependency hampers overall development, as a substantial portion of public revenue is allocated to address energy needs. The ISA mission focused on alleviating this burden by promoting solar power as a viable alternative, reducing dependence on imported fossil fuels.

Comprehensive Mission Approach

ISA's mission included a diverse team of experts in knowledge management, regulatory affairs, financing, project implementation, and partnerships. This multidisciplinary team visited Samoa, Fiji, and New Zealand, engaging with government officials, industry professionals, and other stakeholders.

Capacity Building Initiatives

One key aspect of the mission was exploring the establishment of Solar Technology Application Resource (STAR) Centres. These Centres would serve as hubs for enhancing the skills and knowledge of government officials and industry professionals. The experts engaged in discussions to formulate training programs covering the design, installation, operation, and maintenance of solar energy systems.

Regulatory Workshops and Government Collaboration

In Fiji, a regulatory workshop was organised to provide insights into supportive policies and regulations necessary for creating an enabling environment for solar energy development. The mission team also met with government officials in all three countries to discuss various business models that could facilitate investments in solar projects without straining national budgets.

Demonstration Projects and Collaborations

The team identified a community residential building in Fiji for a solar rooftop system installation as a demonstration project. This initiative aims to be scaled up through a government-led program in other residential areas. In Samoa, the Ministry of Natural Resources and Environment expressed keen interest in scaling up the Solar Lighting Programme funded by ISA and establishing a STAR Centre at the National University of Samoa. Additionally, discussions with the Ministry of Foreign Affairs and Trade (MFAT) in New Zealand aimed to strengthen collaboration for jointly implementing projects and engaging with small Pacific Island countries to enhance energy access through solar energy.

Key Agreements and Future Plans

The overall mission was successful in reaching key agreements with Member Countries. A comprehensive work plan with clear roles and responsibilities was established, outlining the path forward in the coming months. The collaborative efforts of ISA and Pacific countries signify a step toward a more sustainable and resilient energy future for the region.

ISA's mission to Pacific countries underscores the importance of international collaboration in addressing energy challenges. By focusing on solar energy adoption, the alliance aims to reduce the economic burden of fossil fuel imports, promote sustainable development, and empower Pacific nations to chart a cleaner and more sustainable energy future.

ISA IN NEWS

October - November 2023

Oct 25

International Solar Alliance to release report on global adoption of solar technology in November

The Hindu

Oct 30

International Solar Alliance Gathers to Accelerate Solar Energy Adoption and Green Transition

Energetica India

Oct 31

India hosts sixth session of International Solar Alliance Assembly in New Delhi

pv magazine India

Oct 31

India hosts the 6th Session of the International Solar Alliance Assembly in New Delhi

PIB

Oct 31

India Hosts 6th Session of the International Solar Alliance Assembly in New Delhi

United News of Bangladesh (Wires)

Oct 31

As head of International Solar Alliance, India calls for derisking climate finance to boost energy transition

CNBC TV18

Oct 31

Renewable Energy Sources Can Meet 90% Global Supply By 2050: RK Singh

NDTV

31 Oct

Renewable Energy Sources Can Provide 90% Of World's Total Electricity By 2050, Says Union Power Minister

ABP Live

31 Oct

Will raise viability gap funding to 35% for RE: Int'l Solar Alliance

Business Standard

Oct 31

International Solar Alliance to increase viability gap funding for solar projects to 35%

Mint

Oct 31

Tripling of renewable energy is a goal based on national situation: Minister Singh

Hindustan Times

Oct 31

International Solar Alliance to raise viability gap funding to 35 pc for RE projects: President R K Singh

PTI

1 Nov

Renewable energy sources can meet 65% of world's power supply by 2030: Union Minister

The Pioneer

1 Nov

ISA's global solar facility gets $35 mn boost: Targets clean energy access for 200 mn Africans by 2023

ET Energy World

1 Nov

ISA to share India's successful practices with developing countries

DD News