



# EASING SOLAR DEPLOYMENT GLOBALLY

## NEWSLETTER

February 2024 | Volume 26

## FROM DIRECTOR GENERAL'S DESK



The International Solar Alliance (ISA) continues to stand at the forefront of energy transition, which is now not just a mere choice but an imperative. We are working tirelessly with our Member Countries to address the diverse challenges each nation faces in embracing solar energy.

However, as we progress forward, it has been apparent that there are significant disparities in the allocation of resources. While there has been considerable funding directed towards solar investment, the majority of these funds are concentrated in few countries. We must delve deeper into understanding why resources are not flowing into other developing nations, and what solutions can be formulated to drive this.

Furthermore, the issue of energy inequality persists, particularly in Africa, where a substantial portion of the population lacks reliable access to electricity. Climate vulnerability compounds these challenges, with extreme weather events increasing the demand for energy while also jeopardizing existing energy infrastructure. These realities necessitate a re-evaluation of our approach towards future energy sources and economic dynamics.

To address these challenges, the ISA is actively working on multiple fronts. We advocate for regulatory frameworks that emphasize the attractiveness and benefits of solar energy, thereby reducing investment barriers. Additionally, we provide guarantees and enhance investor confidence in developing countries while prioritizing capacity-building through training and certification programs. It is with great pride that we acknowledge the pivotal role played by the national focal points in our Member Countries, who diligently coordinate between their respective nations and the ISA. We hope to continue building up and progressing the energy transition process with our NFPs.

The recent SolarX Startup Challenge has been a testament to our commitment towards fostering innovation and inclusivity in the solar energy sector. The inaugural edition focused on Africa, resulting in the selection of 20 promising startups, with a significant representation of women entrepreneurs. These startups have received essential support to scale their operations, thus contributing to a more equitable solar energy ecosystem. We are thrilled to announce the launch of the second edition of the SolarX Startup Challenge, with a focus on the Asia Pacific region. This region, despite facing unique challenges, holds immense potential for solar energy innovation. With an estimated installation potential of approximately 1500 GW by 2030, the Asia Pacific region offers a promising solution to its energy woes.

Through the SolarX Startup Challenge, we aim to foster collaboration, encourage entrepreneurship, and catalyse investments in the solar

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energy sector across the Asia Pacific region. We invite innovators, entrepreneurs, and partners from the region and beyond to join us in this endeavor. Together, we can harness the power of solar energy to combat climate change, promote economic growth, and ensure a sustainable future for all.

**Ajay Mathur**  
Director General, International Solar Alliance

## HIGHLIGHT

# TOWARDS SOLAR POWER FUTURE: INTERNATIONAL SOLAR ALLIANCE MISSION TO CHAD

**The International Solar Alliance (ISA) joined forces with the Health Innovation Exchange (HIEEx) for a technical mission from February 19 to 22, 2024, aimed at bolstering sustainable energy access in the Republic of Chad. This mission was pivotal in identifying and developing synergies between ISA programmes and Chad's energy requirements, with a particular focus on enhancing healthcare infrastructure and rural electrification.**



Chad, as a Member Country of the ISA and classified as a Least Developed Country (LDC), has been grappling with energy challenges, prompting the nation to seek support from ISA across various solar initiatives. The government expressed interest in joining ISA programmes for scalable Solar Applications in Agriculture, the development of Rooftop Solar Projects and the establishment of the Solar Technology Application Resource Centre (STAR-C).

Moreover, responding to a request from the office of Chad's president through HIEEx, there was a specific call for assistance in electrifying key hospitals in N'Djamena, the capital city. The mission, therefore, set out to engage with Chad's government, with a focus on healthcare as a priority sector, while involving all stakeholders, particularly the Ministry of Energy.

The mission's objectives encompassed the solarisation of health centres, rural electrification via mini-grids, solar-powered water pumping systems to bolster agriculture, and the establishment of a regulatory framework supportive

of solar initiatives. The delegation, headed by the ISA, engaged with Chad's key stakeholders, demonstrating the government's commitment to providing energy access to its citizens.

Key figures including the Chief Secretary to the President, Ministers of Energy, Health, Water, Agriculture, and the Director-General of the Regulatory Authority for the Energy Sector were involved in fruitful discussions. The mission culminated in a concrete action plan covering crucial areas such as the development of a Solar Energy Roadmap, solarisation of healthcare facilities, agricultural applications of solar energy, capacity building, STAR-C establishment, and regulatory support.





Meeting with HE, Dr Abdelmadjid Abdelrehim, Minister of Health

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A significant milestone was the agreement to sign a Country Partnership Agreement



Meeting with HE Mr Keda Ballah, Minister of Agriculture





(CPA) during the upcoming Africa Regional Meeting in August 2024. This agreement will formalize the collaboration between Chad and ISA, marking the commencement of Chad's journey towards energy access through solar power. Throughout the mission, engagements were identified aligning with Chad's priorities, to be formalised through a Country Partnership Agreement (CPA) and a Country Partnership Strategy (CPS). These outcomes will be further solidified through the signing of the CPA between the Director-General of ISA and the Minister of Energy, Health, and Environment.

The mission was marked by a series of workshops, site visits to key healthcare facilities, and working sessions with Chad's Regulatory Authority. Restitution meetings with the Ministers

of Health and Energy concluded the mission, presenting findings and outlining the way forward.

The outcomes of this mission signify a significant step towards sustainable energy development in Chad, with the ISA poised to support and amplify the government's initiatives. With a commitment to empowering Chad's energy landscape, the ISA looks forward to a fruitful partnership aimed at driving positive change and fostering sustainable development in the region.



## HIGHLIGHT

# ADVANCING SOLAR TECHNOLOGY IN BANGLADESH: HIGHLIGHTS FROM ISA'S COUNTRY MISSION

**The ISA continues to drive forward its mission of solar empowerment, with recent significant strides made during its country mission to Bangladesh. In the second Project Executive Committee (PEC) Meeting and the subsequent Validation Workshop on STAR-C, held on January 30, 2024, in Dhaka, Bangladesh, key stakeholders converged to discuss and validate plans aimed at enhancing solar technology adoption and capacity building in the country.**

## Progress in Collaboration

The PEC Meeting highlighted significant progress in the collaboration between ISA and the Power Division, Ministry of Power, Energy & Mineral Resources of Bangladesh. Discussions centred around the implementation of projects outlined in the Country Partnership Agreement (CPA), focusing on solarisation initiatives in crucial sectors such as healthcare, water resources, and agriculture. Seven projects for Phase-I implementation were recommended, emphasising the commitment to scaling solar energy interventions in Bangladesh.

## Establishment of STAR-C

The Validation Workshop on STAR-C showcased the efforts towards establishing a Solar Technology Application Resource Centre (STAR-C) in Bangladesh. Undertaken by

RENAC AG, a German-based expert institution in Renewable Energy, the country assessment highlighted the need for training, testing, innovation, and knowledge generation in the solar sector. The workshop aimed to finalise the assessment report and gather stakeholder inputs for the Centre's establishment.

## Key Stakeholder Commitment

Key stakeholders, including representatives from the Government of Bangladesh and various organisations, expressed their commitment to the STAR-C initiative. Mr Nirod Chandra







Mondal, Joint Secretary of Renewable Energy, Government of Bangladesh, emphasised the contribution of STAR-C towards achieving Sustainable Development Goal 7 (SDG 7) of ensuring access to clean and affordable energy.

**Purpose and Objectives of STAR-C**

Mr Ramesh Kumar Kuruppath, Chief of Unit, Programmes of ISA, outlined the purpose of STAR-C as a dedicated resource Centre for capacity building, testing, standardisation, and incubation in the solar sector. The Centre aims to deliver expertise to government bodies, private sectors, communities, and individuals, fostering solar workforce development and advancing economic growth.

**Collaborative Efforts and Future Plans**

The workshop witnessed collaborative efforts and discussions on future plans for STAR-C implementation. Recommendations included encouraging internship programs, strategic planning, mentoring initiatives, and advisory services to maximise benefits for solar sector development in Bangladesh. Stakeholders emphasised the importance of involving relevant actors throughout the planning, development, and implementation stages.

The validation workshop marked a significant step towards realising the establishment of STAR-C in Bangladesh, leveraging collaborative efforts and stakeholder commitment. With a focus on capacity building and technology adoption, ISA’s country mission to Bangladesh underscores its dedication to advancing solar empowerment and sustainable development.

**Moving Forward**

As proposals endorsed during the PEC Meeting proceed to the Project Steering Committee for final approval, the stage is set for further collaboration between ISA and the Government of Bangladesh. The envisioned launch of STAR-C in Bangladesh promises to catalyse solar technology adoption, driving the nation towards a cleaner, more sustainable energy future.





## SPOTLIGHT

# SOLARX STARTUP CHALLENGE 2024: WORKSHOPS EMPOWER SOLAR ENTREPRENEURS IN DUBAI & BANGLADESH



## Inaugural Outreach Workshop in Dhaka, Bangladesh


The inaugural outreach workshop for the SolarX Asia Pacific 2024 Challenge took place in Dhaka on January 31, 2024, marking a pivotal moment in the pursuit of solar innovation. Over 140 participants, comprising industry leaders, venture capitalists, and aspiring entrepreneurs, graced the event with their presence.

The workshop served as a clarion call to all startups and entrepreneurs, inviting them to embark on a transformative journey towards solar excellence. With opportunities abound, participants were urged to seize the chance to propel their ventures forward.











INTERNATIONAL SOLAR ALLIANCE




INVEST INDIA  
NATIONAL INVESTMENT PROMOTION & FACILITATION AGENCY

### SOLARX STARTUP CHALLENGE: APAC 2024


Announcement of the SolarX Startup Challenge at COP28, Dubai




**January 2024**  
"Call-for-Applications" Open




**January - March 2024**  
Launch of the Challenge & Handholding Workshops for Startups




**April 30 2024**  
Closure of Applications




**May - June 2024**  
Evaluation of Applications by International Technical Committee



**July 2024**  
Declaration of Winners




**August - October 2024**  
Acceleration Program for Winners in APAC Locations




**November 2024**  
Closure of APAC Chapter


### BENEFITS/REWARDS




Cash Grants  
15,000 USD/  
Winners




Mentorship  
Opportunities



Market Access  
Opportunities



Investment  
Opportunities



APPLY NOW



Outreach Workshop in Dubai, UAE

In collaboration with Invest India, the International Solar Alliance (ISA) conducted an outreach workshop in Dubai on 26, February 2024, designed to empower startups and small business entrepreneurs within the solar energy sector. The workshop served as a platform to provide essential guidance for participants interested in joining the ongoing SolarX Startup Challenge.

Engaging with a diverse array of stakeholders, including accelerator groups and Dubai Chambers, ISA and Invest India delivered informative sessions detailing the SolarX Startup Challenge APAC. This initiative aims to foster collaboration between researchers and startups, catalysing innovation within the solar energy ecosystem.

The SolarX Startup Challenge seeks to crowdsource implementable, cost-effective, and scalable solutions to address persistent challenges in the solar energy sector. With cash grants of \$15,000 per winner, mentorship, market

access, and investment opportunities, the challenge promises significant support for budding entrepreneurs.

Notably, the first edition of the challenge focused on Africa, promoting innovation and local solutions while enhancing global stakeholder capacity. The forthcoming edition will concentrate on the Asia-Pacific (APAC) region, with a dual objective of advancing the local solar energy sector and nurturing a culture of startup innovation within regional ecosystems. With a four-fold impact aimed at promoting the solar energy sector, empowering solar entrepreneurs, boosting the startup ecosystem, and addressing energy crises, the SolarX Startup Challenge embodies a transformative vision for a sustainable and energy-efficient future.



## SPOTLIGHT

# EMPOWERING SOLAR ENERGY: INSIGHTS FROM THE ISA REGULATORY NEEDS ASSESSMENT WORKSHOP IN THE GAMBIA



The International Solar Alliance (ISA) recently convened a pivotal two-day Regulatory Needs Assessment Workshop in The Gambia, marking a significant step towards fostering sustainable solar energy deployment in the region. Held on the 21st and 22nd of February 2024, the workshop brought together key stakeholders from government, academia, development partners, and the private sector, underlining a collaborative approach to address regulatory challenges and unlock the potential of solar energy.

The workshop commenced with opening remarks from distinguished figures including Ms Amie Njie-Joof, the Permanent Secretary of the Ministry of Petroleum and Energy (MOPE) in The Gambia, Mr Kemo Ceesay, Director of Energy (MOPE), and Dr Adama Gassama Jallow, the ISA National Focal Point (NFP). Their addresses set the stage, emphasizing the importance of the workshop's objectives which centred around three key goals.

Firstly, the validation of data collected by consultants laid the groundwork for informed discussions. Stakeholders engaged in scrutinising the preliminary findings, ensuring accuracy and relevance to the Gambian context. Secondly, the workshop provided a platform to identify potential gaps and challenges within the policy and regulatory frameworks governing the solar sector. These discussions were essential in understanding the nuanced requirements for sustainable energy development in The Gambia. Lastly, stakeholders collaborated to prioritize actionable policy

or regulatory interventions, crucial for attracting investments and facilitating the deployment of viable solar projects.

The workshop's agenda spanned across two days, each tailored to address specific aspects of regulatory assessment and intervention planning. Participants were briefed on the outcomes of the initial discussions and introduced to international best practices in regulatory frameworks. The day culminated in the development and prioritisation of recommendations for potential ISA interventions, facilitated by a local Technical Committee comprising representatives from various sectors.

Looking ahead, the ISA stands poised to support the initiatives identified by Gambian stakeholders. The commitment to creating an enabling ecosystem for scalable and sustainable solar energy deployment underscores the workshop's significance. By leveraging international expertise and local insights, The Gambia is poised to chart a course towards a greener, more resilient energy future.





SPOTLIGHT

# MALTA JOINS ISA AS THE 119TH MEMBER COUNTRY



The Republic of Malta has been officially announced as the 119th Member Country of the International Solar Alliance (ISA). By signing the Framework Agreement of the ISA, Malta underscores its dedication to combatting the pressing challenges of the climate crisis through solar energy. Malta's participation will undoubtedly strengthen collaboration efforts to expedite solar deployment and address environmental concerns on a global scale.

THE REPUBLIC OF MALTA  
SIGNS THE FRAMEWORK  
AGREEMENT OF THE  
INTERNATIONAL SOLAR ALLIANCE  
(ISA)





## OPINION

# BRIDGING THE GAP: THE ROLE OF GUARANTEES IN SCALING SOLAR SOLUTIONS GLOBALLY

In the realm of renewable energy, solar power stands out as a beacon of hope for a sustainable future. However, despite its immense potential, the scaling of solar solutions faces formidable challenges, particularly in regions like Africa and Southeast Asia. As we stand at the precipice of a pivotal transition towards clean energy, it's imperative to address these barriers head-on and pave the way for widespread solar adoption. The recent overhaul of the World Bank Group's guarantee business marks a significant stride towards facilitating private sector investment in renewable energy initiatives. By streamlining processes and enhancing accessibility, these reforms signal a renewed commitment to catalysing the green transition. Yet, amidst these developments, it's crucial to recognise the nuanced challenges specific to different regions.

Southeast Asia, home to burgeoning economies and a pressing need for emissions reduction, stands as a crucible for renewable energy investment. With ambitious targets set by ASEAN nations, the demand for substantial investments in renewable infrastructure is palpable. However, the transition requires more than just governmental pledges; it necessitates a concerted effort to leverage private sector capital effectively. Blended finance models, harnessing both philanthropic funds and private investment, offer a promising pathway to bridge the financing gap and accelerate clean energy deployment.

In Africa, endowed with abundant sunlight and yet plagued by energy poverty, the potential for solar energy is immense. However, realising this potential requires overcoming multifaceted challenges. High costs, financial strains on utilities, and a lack of transparency have hindered progress in the region. Yet, amidst these obstacles, collaborative initiatives are emerging, bringing together governments, developers, investors, and activists in a unified effort to drive solar expansion.

The Global Solar Facility (GSF), of the International Solar Alliance (ISA), positioned as a catalyst for private capital

flow into underserved markets, holds the promise of transforming the solar landscape. By providing payment and insurance mechanisms as first-loss guarantees, the GSF seeks to mitigate risks and incentivise investment in regions with the greatest need.

The launch of the GSF in the Democratic Republic of Congo exemplifies a strategic approach to addressing energy poverty. By supporting projects like Nuru's utility-scale solar metro-grids, the GSF aims to deliver reliable and renewable energy to urban communities, thereby catalysing economic growth and social development.

Looking ahead, the GSF's expansion into other regions offers a beacon of hope for global solar adoption. With a focus on supporting innovative technologies and startups, the GSF has the potential to drive efficiency, implementation, and research in the solar energy sector, ultimately propelling us towards a greener, more sustainable future.

As we navigate the complexities of the energy transition, comprehensive guarantees emerge as a linchpin in unlocking private sector investment in solar solutions. By embracing initiatives like the Global Solar Facility and fostering collaborative partnerships, we can harness the power of solar energy to usher in a new era of prosperity and sustainability for all.

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**Kakul Fatima**

Consultant, Communication & Outreach





SNAPSHOTS

# EXPLORING KERALA’S SOLAR LANDSCAPE: ISA STAFF RETREAT HIGHLIGHTS



From February 7th to 9th, 2024, the International Solar Alliance staff embarked on an empowering retreat in the picturesque landscapes of Kerala. Nestled amidst the serene banks of Ashtamudi Lake, the Leela Ashtamudi welcomed ISA’s staff for a rejuvenating experience and insightful engagements.

The retreat commenced with a warm welcome and a delightful lunch, setting the tone for constructive discussions ahead. On the inaugural day, the focus was on staff welfare and fostering a collaborative environment within ISA. Colleagues engaged in discussions led by the Staff Welfare Committee, reinforcing the organization’s commitment to employee well-being.

As the retreat progressed, participants delved into strategic planning sessions, aligning with the organization’s performance plans outlined by the Director-General.

A highlight of the retreat was the field visit on February 9th, offering a firsthand glimpse into Kerala’s pioneering solar

initiatives. The itinerary included a visit to the Kayamkulam NTPC plant, where ISA staff marveled at the innovative 92 MW floating solar plant—a testament to Kerala’s commitment to sustainable energy solutions.

Interactions with the NTPC team provided valuable insights into the technical complexities and environmental considerations associated with floating solar technology. From anchoring techniques to mitigating operational challenges posed by local biodiversity and human activities, discussions were rich with learning opportunities.

During the retreat, the ISA staff had the privilege to visit Cochin International Airport Limited (CIAL), a ground breaking endeavor in sustainability. During this visit, the Director-General of the International Solar Alliance (ISA) entered into a Memorandum of Cooperation (MoC) with CIAL. This MoC is aimed at promoting renewable technologies and enhancing the solarisation of airports worldwide. CIAL stands out for its pioneering efforts in sustainability by operating the world’s first fully solar-powered airport. With an impressive cumulative installed capacity of 50 MW, CIAL generates a staggering 200,000 units of power daily, making a significant contribution to environmental preservation.

Through the signed MoC, ISA and CIAL aspire to foster an exchange of valuable insights, facilitate capacity building initiatives, and advocate for policies conducive to the adoption of solar energy and other renewable technologies among ISA Member Countries.

The visit underscored the significance of collaboration and innovation in advancing renewable energy agendas. Despite challenges, the potential of floating solar technology to harness clean energy sources was evident. ISA staff left inspired, armed with knowledge and renewed determination to drive sustainable change.



Signing of the MoC with CIAL



# ISA'S ENGAGEMENT AT THE ECONOMIC TIMES MIDDLE EAST ENERGY LEADERSHIP SUMMIT, 2024



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SNAPSHOTS

# DRIVING TOWARDS SUSTAINABLE MOBILITY: IESA-ISA COLLABORATION AT BHARAT MOBILITY GLOBAL EXPO 2024

In collaboration with the International Solar Alliance (ISA), the India Energy Storage Alliance (IESA) conducted joint learning sessions as part of the “Future Mobility Learning Centre (FMLC)” during the Bharat Mobility Global Expo 2024 held in New Delhi from February 1st to 3rd, 2024.

This global event gathered the entire mobility value chain, showcasing the latest technologies and future vehicles that are reshaping the transportation landscape worldwide. With over 800 exhibitors and attracting more than 80,000 trade

visitors, the expo served as a convergence point for the foremost automotive and mobility leaders across the globe.

Through collaborative efforts, the IESA-ISA sessions contributed significantly to fostering discussions and advancements in sustainable mobility solutions, further propelling the agenda of clean energy and environmental sustainability.



### IESA-ISA FUTURE MOBILITY LEARNING CENTRE

Date: 1<sup>st</sup> to 3<sup>rd</sup> February, 2024

#### SESSION LEADERS



**Pawan Mulukutla**  
Executive Director,  
Integrated Transport,  
Ministry of Road Transport and Highways, India



**Gurusharan Dhillon**  
Business,  
Mobility Services, CES



**Dr. Yashodhan Gokhale**  
CTO, Bharat



**Vipul Shah**  
General Manager,  
Fuel Cells, Bosch



**Abhishek Singh**  
CEO & Director, Fuel Bridge



**Tyag Dharmik**  
Director, Global Electronics



**Tarique Wahid**  
General Manager, Product



**Nikhil Haveli**  
Analyst, Battery, CES



**Lucky Mahendru**  
2024 Business & Product  
Development, Bosch



**Rahul Pataballa**  
Senior Manager,  
Hydrogen, NTPC

#### SESSIONS

**Feb 01, 2024**

- Powertrain and EV Components
- EV Batteries - New Technologies

**Feb 02, 2024**

- Lithium-Ion Battery Fire Hazards and Solutions
- Basics of EV Charging and Swapping
- EV Service and Maintenance
- EV Charging Infrastructure
- Power Electronics and Digitization of Future Mobility

**Feb 03, 2024**

- Hydrogen for Mobility
- Alternate Fuels for Mobility

Powered by: 

Supporting partners: 

<https://indiaesa.info/events/ongoing-upcoming-events/future-mobility-learning-centre-fmlc>







### IESA-ISA Future Mobility Learning Centre

Date: 1<sup>st</sup> to 3<sup>rd</sup> February, 2024

Venue: Hall 4 FF, Bharat Mobility Show, Bharat Mandapam, Pragati Maidan, New Delhi

Session	Date	Time (IST)
Powertrain and EV Components	Feb 01, 2024	1500 – 1600hrs
EV Batteries – New Technologies	Feb 01, 2024	1630 – 1730hrs
Lithium-Ion Battery Fire Hazards and Solutions	Feb 02, 2024	1030 – 1100hrs
Basics of EV Charging and Swapping	Feb 02, 2024	1100 – 1130hrs
EV Service and Maintenance	Feb 02, 2024	1200 – 1300hrs
EV Charging Infrastructure	Feb 02, 2024	1500 – 1600hrs
Power Electronics and Digitization of Future Mobility	Feb 02, 2024	1630 – 1730hrs
Hydrogen for Mobility	Feb 03, 2024	1030 – 1130hrs
Alternate Fuels for Mobility	Feb 03, 2024	1200 – 1300hrs

#### PROGRAM HIGHLIGHTS

- Participation Certificates
- Complimentary E-learning Modules

#### WHO SHOULD ATTEND?

- Researchers
- Post-doctoral fellows
- Early career working professionals
- Managers
- Students
- Teaching faculty, trainers

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<https://indiaesa.info/events/ongoing-upcoming-events/future-mobility-learning-centre-fmlc>



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SCAN TO REGISTER



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## SNAPSHOTS

# ISA'S PARTICIPATION AT OSLO ENERGY FORUM 2024



Dr Ajay Mathur, DG ISA, participated in the Oslo Energy Forum (OEF) held from February 13 to 15, 2024. The OEF serves as a crucial platform connecting leaders in the global energy-related industry with representatives from various sectors influencing regulatory frameworks and opportunities. Through open and trust-based discussions, the Forum fosters collaboration between companies and authorities to develop sustainable solutions for a low-carbon society.

One of the key sessions at the OEF was "Business as a Tool to Solving Social Needs and Creating a Just Transition – Moving Money at Scale for the Green Transition." DG ISA's involvement in this session underscored the pivotal role of businesses in addressing societal needs and driving a just transition towards sustainability.

The panel discussion, moderated by Sven Mollekleiv, Managing Director of Oslo Energy Forum, featured prominent speakers including Ajay Mathur, General Director of the International Solar Alliance, Evelina Olago, Managing Director of Just Climate, and Tellef Thorleifsson, CEO of Norfund. DG ISA's representative engaged in insightful dialogue emphasizing the urgency of mobilizing significant

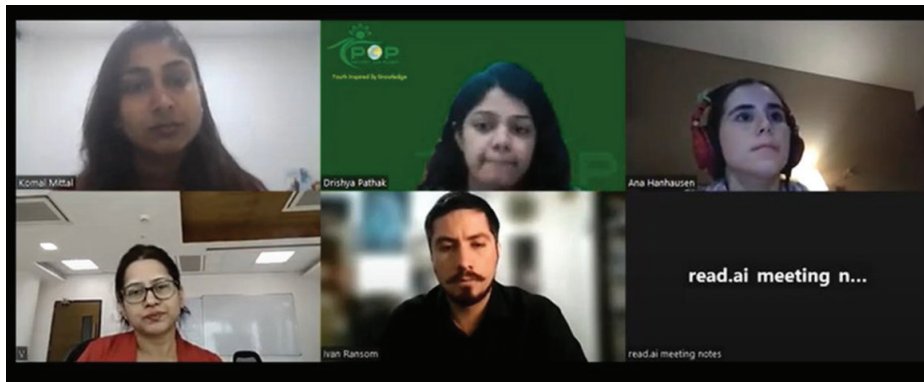


resources for the green transition. The Oslo Energy Forum provided an enriching environment for knowledge exchange, networking, and the exploration of tangible business opportunities with real value for advancing sustainability goals. ISA's active participation demonstrated its commitment to driving global initiatives for a sustainable and equitable energy future.



## SNAPSHOTS

# EMPOWERING YOUTH LEADERSHIP: ISA'S 'SOLAR FOR SHE' INITIATIVE AND YOUTH ENGAGEMENT



The POP (Protect Our Planet) Movement has been at the forefront of fostering youth leadership and addressing pressing environmental challenges through its Climate Leadership Conversations. Since 2021, these conversations have honored the legacy of Dr. R.K. Pachauri, former Vice-Chairman of the Nobel Peace Laureate Organization, the Intergovernmental Panel on Climate Change, by engaging global leaders in discussions on leadership strategies and examples.

In its latest installment on February 27, 2024, the Movement engaged in a conversation with Vardhani Ratnala from the International Solar Alliance (ISA). The focus of the discussion was ISA's commitment to 'Just Energy Transition' and its innovative approach through the 'Solar for She' initiative, aimed at inclusivity, particularly for marginalized groups like women and youth.

Vardhani emphasized the need for comprehensive leadership at various levels to accelerate just energy transition. This includes global leadership from multilateral and bilateral organizations, national-level leadership from policymakers, corporate leadership from CEOs, and community-level leadership from young people and NGOs.

Recognizing that youth represent around 16 percent of the global population and are the leaders of tomorrow, Vardhani outlined key actions for youth engagement in accelerating the global energy transition:

**Building STEM Skills:** Youth are encouraged to develop skills in Science, Technology, Engineering, and Mathematics (STEM) to become part of the renewable

energy workforce, contributing directly to the transition towards sustainable energy.

**Climate Advocacy:** Youth can play a crucial role as climate advocates, raising awareness about the harmful impacts of fossil fuels and advocating for the adoption of renewable energy solutions at local, national, and global levels.

**Community Engagement:** By working within their communities, young people can promote the adoption of renewable energy technologies, fostering grassroots support for sustainable energy solutions and driving meaningful change from the ground up.

ISA's 'Solar for She' initiative exemplifies a proactive approach to ensuring gender equality and youth inclusion in the transition to renewable energy. By empowering youth with the necessary skills, knowledge, and platforms for advocacy and action, initiatives like these pave the way for a more sustainable and equitable future for all.

The full conversation can be viewed at: <https://www.youtube.com/watch?v=IhniugsDezE>



SNAPSHOTS

# GHIC STEERING COMMITTEE MEETING: ADVANCING GREEN HYDROGEN INNOVATION

The International Solar Alliance (ISA) recently hosted the Green Hydrogen Innovation Centre (GHIC) Steering Committee kick-off meeting on January 29, 2024. This virtual gathering brought together an esteemed group of experts and leaders from various ISA member countries, international organizations, and leading industries. The objective? To propel the green hydrogen agenda forward.

Representing a diverse mix of nations, the GHIC Steering Committee for 2024 includes Egypt, Morocco, Brazil, Chile, India, Japan, Australia (Observer), Denmark, and Spain. Additionally, the committee boasts participation from key multilateral development banks such as the World Bank, Asian Development Bank, and West African Development Bank. Noteworthy organizations like the International Energy Agency (IEA), National Renewable Energy Laboratory (NREL) USA, and the Green Hydrogen Organization, Geneva, also play pivotal roles.

Further enriching the committee’s expertise are industry giants like HDF Energy, HyDeal Espania, Greenstat, Siemens Energy, NTPC, and Tata Steel. This collaborative effort underscores a global commitment to accelerating the adoption of green hydrogen technologies.

During the meeting, participants reviewed the progress of the GHIC platform and outlined priorities for the upcoming year. Discussions centered around a strategic action plan for 2024, which includes initiatives such as certified training series,

startup search processes within the Green Hydrogen sector, addition of country insights, readiness assessments for the Green Hydrogen ecosystem, integration of GH toolkits, AI chatbot feature upgrades, and the launch of the GHIC’s flagship report on Green Hydrogen.

Emphasizing collaboration and collective action, the meeting showcased the dedication of the international community towards advancing the green hydrogen agenda. It served as a testament to the shared vision of creating a sustainable future powered by clean energy.

Looking ahead, the GHIC Steering Committee has committed to meeting once every quarter, ensuring regular progress updates and sustained momentum towards achieving its objectives. As the world increasingly turns towards renewable energy solutions, initiatives like the GHIC play a crucial role in driving innovation, fostering partnerships, and paving the way towards a greener, more sustainable future.



## GREEN HYDROGEN INNOVATION CENTRE STEERING COMMITTEE MEETING



**Country Insights**  
(Country-level announcements, missions and targets)



**GH Community**  
(Live interactive platform for global hydrogen community)



**Live Chatbot**  
(AI and ML supported robotic bot for quick support & address queries)



**Skill Development**  
(Certified e-learning courses, podcasts, industry expert interview etc.)



**Global Startup Program**  
(Platform to support startups and provide opportunities to connect with financiers)



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## SNAPSHOTS

# DELEGATION VISITS TO ISA SECRETARIAT



On 22 February 2024, the International Solar Alliance (ISA) Secretariat welcomed a delegation consisting of young members of the Indian Diaspora. This group, aged between 21 to 35 years, comprised individuals from various countries, including Fiji, Mauritius, Trinidad & Tobago, Malaysia, Suriname, Myanmar, South Africa, and Guyana.

The purpose of their visit was to facilitate collaboration and exchange of ideas in the field of renewable energy, with a particular focus on solar energy initiatives. The delegation brought together individuals with diverse backgrounds and

experiences, enriching discussions at the ISA Secretariat.

This visit followed a prior delegation on 16 February 2024, which included 36 IFS Officer Trainees from the 2023 batch along with 2 diplomats from Bhutan. These visits demonstrate the ISA's commitment to engaging with a broad spectrum of stakeholders to advance its mission of promoting global solar energy adoption.





#IDEASTHATHAVEWORKED: SOLAR IMPACT STORIES FROM AROUND THE GLOBE

# SOLAR BIOPANELS – A SUSTAINABLE SOLUTION FOR SOLAR PV MODULES



The disposal of large volumes of end-of-life solar PV modules is projected to be a major undertaking in the years and decades to come, largely due to the material used in mainstream solar panels. Researchers around the world have been working on cost-effective methods to recycle or otherwise dispose of end-of-life solar modules. Researchers are also engaged in finding a way to manufacture solar modules that will be easier to recycle at the end of their useful lives or will leave little in the form of residues or both. Greenfluidics, a Mexican company, has been working on “Solar Biopanel” since 2018 and has succeeded in developing a more sustainable solution. The company’s patented “Intelligent Solar Biopanel” technology combines microalgae and nanotechnology to generate electricity, oxygen, and biofuel. The company received the “Innovator of the Year” award in 2019’s Latin American Innovators under 35 LATAM for the design.

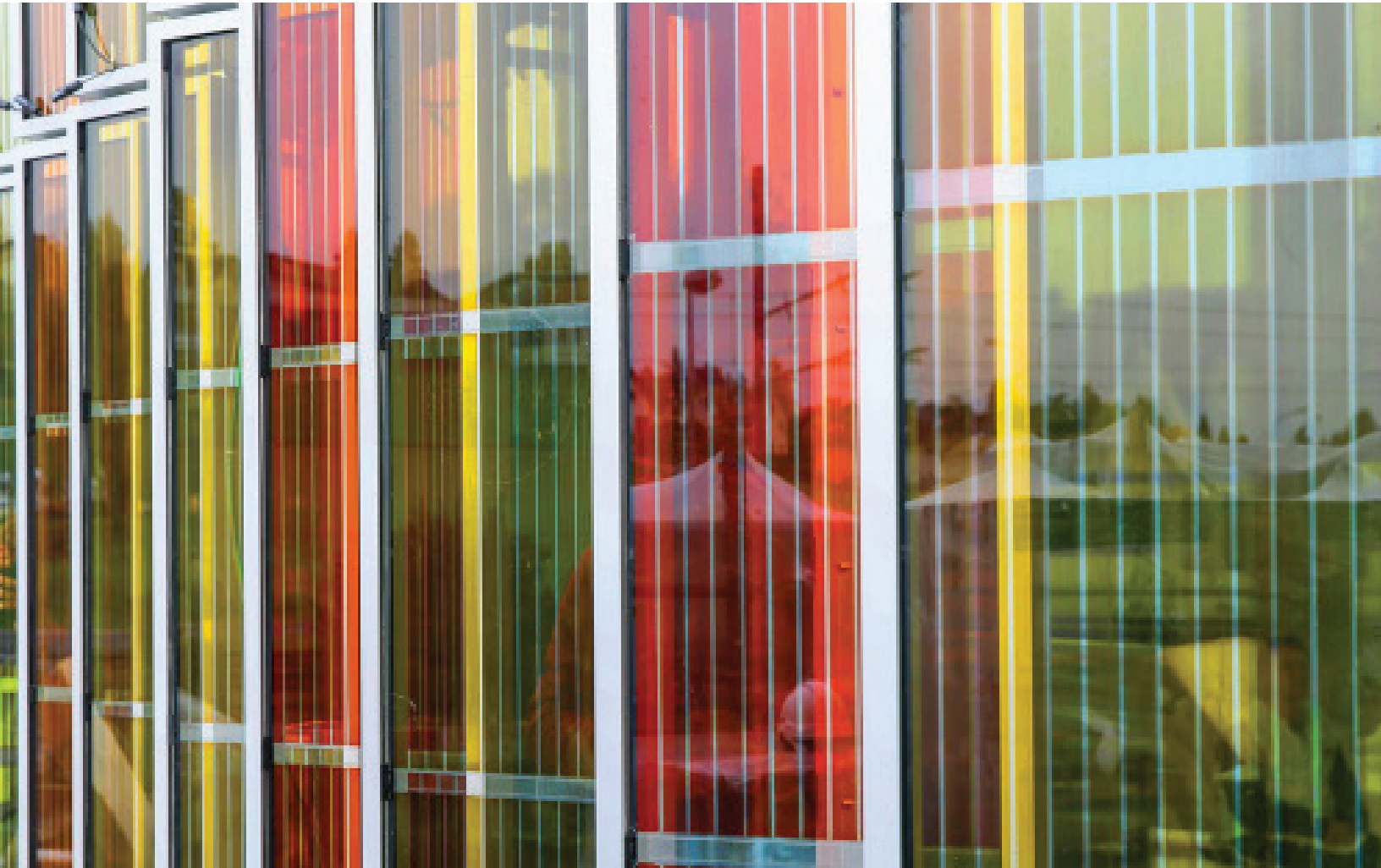
Each biopanel is triangular, measuring 1m on each side, and could be placed on roofs, windows, walls, or any surface that received sunlight. The panels are infused with water-

containing strains of algae that absorb carbon dioxide and generate oxygen. For every kg of algae in the panel, up to 2kg of CO<sub>2</sub> can be captured. Electricity is produced by heat transfer. As the panel is exposed to sunlight, it absorbs heat, which is then transferred by the water to a thermoelectric generator. According to the company, each biopanel can generate 328 kWh/m<sup>2</sup> per year. The water also has a cooling effect on buildings, saving up to 90 kWh per m<sup>2</sup> of energy annually, assuming that the building would otherwise have been air-conditioned. The biomass in the panels can be filtered periodically and used as biofuel or fertiliser. The company continues its work on the design and has been exploring the possibility of astronauts’ using the biopanel on other planetary bodies.



#IDEASTHATHAVEWORKED: SOLAR IMPACT STORIES FROM AROUND THE GLOBE

# ELECTRICITY GENERATING SOLAR WINDOWS



Energy-generating windows made from transparent solar cells have been on the market for several decades. These cells are made from photo-sensitised dye applied to the surface of a semiconductor to convert visible light into energy. They are called Grätzel cells or dye-sensitised solar cells (DSCs) and rely on direct sunlight. However, DSC-based windows often have limited capacity to generate electricity compared to traditional solar cells.

After over 12 years of research, a group of scientists from the École Polytechnique Federale de Lausanne found a way to make transparent solar cells (DSCs) more efficient. The researchers developed special filters that could be applied to the glass panels, enabling them to reflect certain wavelengths of the visible spectrum while absorbing the rest to be converted into energy. The researchers can define the colour of their solar panels, such as brick red, royal blue, golden yellow, or sea green, by applying various oxides in nanometric layers varying from three to 13 layers to meet the solar power requirements. According to the scientists, "the panels thus become architectural features in their own right." However, the efficiency was still lower compared to a conventional solar panel.

EPFL formed a joint venture with Emirates Glass to mass produce tinted solar glass (DSC). The window pane is

produced as one large piece of 3.0 x 6.0 metres, 4 mm thick, and then cut to the architects' specifications. In 2017, the Copenhagen International School inaugurated its new building, which has approximately 12,000 blue-hued but transparent solar panels that use the same DSC technology. It is claimed by the researchers that these DSCs generate around 300 megawatt hours (MWh) of electricity per year, and meet over half of the school's annual energy needs.

The team continued to research the DSC design, and in 2022, succeeded in a new "molecule design," that achieved a power conversion efficiency of "beyond 15 per cent in direct sunlight and up to 30 per cent in ambient light conditions." To put this in perspective, a conventional solar panel operates at about 20% efficiency. These new DSCs also demonstrate "long-term operational stability" of at least 500 hours.