



SPECIAL EDITION ISACCOP28 DECEMBER 2023

THE SOLAR HUB EASING SOLAR DEPLOYMENT GLOBALLY

At COP28 in Dubai, held from November 30 to December 12, 2023, ISA showcased its efforts to facilitate global solar deployment through various programs, partnerships, collaborations, and discussions at its pavilion, The Solar Hub.

The purpose of the focused discussions and special sessions was to build a stronger consensus among stakeholders to promote and adopt solar energy at an accelerated pace and on a larger scale. ISA's interventions at COP28 emphasised solar as the preferred energy of choice, aimed to expedite partnerships and collaborations among all stakeholders, and advocated for prioritised action across countries, organizations, and consortiums worldwide.

To enhance participation, the sessions were live streamed to a global audience throughout the event, ensuring the broad reach and impact of ISA's initiatives.



The current trajectory of global emissions is cause for concern, as projections indicate only a 4% reduction by 2050, falling significantly short of the required 43% reduction by 2030 to prevent catastrophic consequences and limit global warming to under 2.4 degrees. The repercussions of climate change are already evident through regional variations in extreme temperatures, a doubling of sea levels, and a fivefold increase in disasters from 1970 to 2019, resulting in huge economic losses. Despite the Paris Agreement, greenhouse gas emissions have increased from 2015 to 2022, necessitating a global shift towards renewable energy. High-income countries contribute more than 60% of emissions, and additional action, particularly beyond national boundaries, is imperative. Developing nations encounter challenges in emissions, climate risks, and solar capacity, requiring private financing and innovative financial instruments.

Navigating the complexities of these global energy transition demands addressing existing disparities in renewable energy adoption. The International Solar Alliance (ISA) is dedicated to ensuring no community is left behind in the journey towards a cleaner, more sustainable future. Recognizing the need for a fair and inclusive global shift towards cleaner energy, ISA acknowledges the unique challenges faced by nations at different stages of development,

FROM DIRECTOR GENERAL'S DESK

particularly in regions like Africa, where 660 million people lack access to electricity.

The ISA addresses these challenges through a threepronged approach. In the financial domain, the focus is on improving climate finance accessibility for Low-Income Countries (LICs) and Small Island Developing States (SIDS), reducing financing costs through blended finance and risk guarantees, and minimizing project costs through demand aggregation. A significant milestone was marked in this aspect, with the operationalisation of the inaugural pilot project under the Global Solar Facility (GSF). This project, in collaboration with Nuru, a leading solar power company in the Democratic Republic of the Congo (DRC), aims to develop 15 megawatts (MW) of solar metro grid capacity across three provinces in the Eastern Congo.

On the technological front, ISA aims to diversify solutions, promote off-grid options and storage systems and foster innovative solar ecosystems. ISA's SolarX Startup Challenge for the Asia-Pacific region, launched at COP28, aims to foster entrepreneurship in the solar sector, with 20 startups receiving a cash grant of USD 15,000 each, totalling USD 300,000 for the winners. Capacity building is integral to our strategy, with knowledge and training provided to over 3,911 individuals as of November 2023, and Solar Technology Application Resource Centres (STAR-C) established in Ethiopia and Somalia. In the pursuit of universal access to energy, ISA actively works to bridge gaps, supporting the deployment of solar technologies in Least Developed Countries (LDCs) and Small Island

Developing States (SIDS) through comprehensive programs covering diverse aspects of solar technology.

In terms of policy, the alliance advocates for a tailored green policy handbook, encourages results-based carbon financing, and conducts extensive training and awareness programs, particularly targeting financial institutions. Collaborating with the Long Duration Energy Storage (LDES) Council, ISA envisions achieving 75,000 gigawatts of solar capacity by 2050. Recent reports, including "Watts To Waste" and "Tripling **Global Renewable Energy** Capacity by 2030," emphasize the critical role of solar power in advancing economic, social, and environmental equity.

ISA's global impact is evident with Romania joining as the 118th member country, and strategic partnerships, such as the MoUs with the Eastern Africa Power Pool and Climate Parliament, demonstrating a commitment to innovative solutions to global challenges.

As the climate urgency intensifies, immediate action is crucial for a 43% reduction in global emissions by 2030. To this end, ISA emphasizes the critical role of the renewable energy transition and offers common solutions for the Global South, focusing on finance, technology, and policy.

Your dedication to the cause of solar energy and a sustainable future is deeply appreciated. Let us continue to work hand in hand, advancing the mission of a just and inclusive energy transition for the benefit of all.

Ajay Mathur Director General International Solar Alliance

GLIMPSES FROM ISA



PAVILION @COP28



LAUNCHED @COP28

6

SOLARX STARTUP CHALLENGE FOR Asia-pacific region unveiled at COP28

Taking a significant step towards promoting sustainable energy solutions, ISA launched the SolarX Startup Challenge for the Asia-Pacific region at COP28. This initiative, following the success of 20 solar startups in Africa, aims to foster entrepreneurship in the solar sector and contribute to global energy transitions.

The SolarX Startup Challenge is a pioneering effort that seeks to develop scalable and replicable business models, addressing energy and investment gaps. The primary goal is to accelerate solar deployment by catalyzing entrepreneurship. The initiative envisions not only providing financial support but also creating a transformative platform for innovative ideas and strategic networking.

Twenty startups from the Asia-Pacific region will be selected to participate in the SolarX Startup Challenge, each receiving a cash grant of USD 15,000, totaling USD 300,000 for the winners. This commitment to excellence underscores the ISA's dedication to nurturing entrepreneurial success. Successful startups will benefit from an intensive acceleration program and mentorship from seasoned professionals in the industry.

Dr Ajay Mathur, Director-General of ISA, emphasized the significance of the SolarX Startup Challenge in advancing solar deployment in the Asia-Pacific region. He stated, "ISA has established a Global Solar Facility to unlock investments, and by cultivating entrepreneurs, we aim to foster locally relevant business models and create a robust project pipeline." Dr Ajay Mathur highlighted the potential for a transformative shift in energy transition through entrepreneurship, finance, and increased investments. He expressed optimism, saying, "Our vision is to nurture a new generation of leaders shaping the future of solar energy and contributing to global climate action. I look forward to witnessing these entrepreneurs achieve levels of success that rival the impact and innovation of Amazon and Google." The Sequoia Climate Foundation is a key supporter of the SolarX Challenge in the Asia-Pacific region. Christie Ulman, President of Sequoia Climate Foundation, conveyed the Foundation's commitment to partnering with ISA in championing the widespread deployment of clean, affordable energy solutions. Ulman stated, "To that end, we are excited to partner with ISA to launch the Asia Pacific edition of the SolarX Challenge, which supports solar scale-up and capacity building in the Asia Pacific region and beyond."

Building on the success of the Africa edition of the SolarX Startup Challenge, which received a remarkable response, the Asia-Pacific region is poised to contribute significantly to the solar energy sector. The ISA anticipates that the initiative will usher in a sustainable and low-carbon future, driven by entrepreneurship, innovation, and increased investments in clean energy solutions. The call for applications is now open, and the ISA looks forward to attracting diverse and impactful solutions that will shape the future of solar energy in the Asia-Pacific region and beyond.



LAUNCHED @COP28

ISA UNVEILS REPORT ON "UNLEASHING THE ROLE of solar in advancing economic, social and environmental equity" at COP28

The International Solar Alliance (ISA) took center stage at COP28 with the release of a comprehensive report titled "Unleashing the Role of Solar in advancing Economic, Social and Environmental Equity" on leveraging solar power for global equity and urgent climate action. Held at its dedicated pavilion, 'The Solar Hub,' ISA's report outlines the critical role of solar power in advancing economic, social, and environmental equity while addressing global energy challenges.

The report, a collaborative effort with the Boston Consulting Group, emphasizes the urgent need for tailored solutions to fast-track universal energy access, reduce global emissions by 43% this decade, and tackle energy poverty by 2030.

Dr Ajay Mathur, Director-General, International Solar Alliance (ISA), on the occasion of the launch said, "Ensuring global energy access, especially in underserved regions, is imperative. Our examination uncovered disparities among countries. Traditional rural electrification faces challenges; our findings support a shift to solar mini-grids, cost-effective for those over 10 km away. Today, we release a report, in collaboration with Boston Consulting Group, highlighting challenges across income groups—a crucial step in our mission for Energy Access for All through renewables, particularly solar. Thanks to all for contributing to this discussion and report release, setting the stage for impactful action in the pursuit of universal energy access." Aligned with international commitments, including the G20 New Delhi Leaders Declaration and IPCC's call for net-zero emissions by mid-century, the COP 28 presidency has set the ambitious goal of trip ling global renewable energy (RE) capacity by 2030. ISA is actively supporting its member countries in accelerating the adoption of solar energy to achieve these targets.

Solar energy emerges as a global success story, with installed solar PV capacity reaching approximately 1.2 terawatts in early 2023. The report highlights the scalability, cost-effectiveness, and minimal carbon footprint of solar power. The need for accelerated solar deployment is



underscored by the goal to reach 600 GW/year from 2023 to 2030 and 1000 GW/year from 2030 to 2050.

However, regional variations in solar adoption pose challenges, with the Asia Pacific region leading in capacity additions. To meet tripling goals, substantial efforts are required, including investments in grid infrastructure, promoting domestic manufacturing, streamlining project development processes, and facilitating technology transfer.

The report stresses the importance of increased investments in solar, estimating a required annual increase to \$500 billion by 2030. Innovative financing tools, green bonds, dedicated climate funds, and commitments from commercial financial institutions are essential to unlock these investments.

Encouragingly, only 19% of the total 195 Parties have quantified solar capacity targets in their Nationally Determined Contributions (NDCs). The report suggests aligning policies with NDC targets, developing standardized NDC formats, and providing guarantees to attract private sector investments in medium and high-risk geographies.

The ISA report also addresses the need for solar technology advancements, emphasizing the implementation of novel technologies such as Tunnel Oxide Passivated Contact (TOPCon) and Hetero Junction (HJ). Integrating solar panels into various sectors, including vehicles, building facades, and agrovoltaics, is highlighted as a strategy for enhancing solar technology potential.

Furthermore, the tripling of RE capacity provides a unique opportunity for job creation. ISA estimates the potential for around 10 million additional jobs, emphasizing the importance of aligning workforce planning, identifying skill gaps, and investing in education and training programs.

ISA's report charts a course toward a sustainable future powered by solar energy. With a focus on global collaboration, innovative financing, and technological advancements, the international community can work together to achieve the ambitious goal of tripling global renewable energy capacity by 2030.



LAUNCHED @COP28

UNLEASHING SOLAR POTENTIAL: A VISION FOR 75,000 GW BY 2050 WITH LONG DURATION STORAGE



An insightful report, "Solar And LDES: Critical Partners to Ensure 24/7 Reliable Renewable Energy", released by the International Solar Alliance (ISA) and the Long Duration Energy Storage (LDES) Council envisions a future where solar energy takes center stage, with the crucial support of long-duration storage. The report, unveiled at COP 28 in Dubai, sets an ambitious target of achieving 75,000 gigawatts of solar capacity by 2050, highlighting the indispensable role of Long Duration Energy Storage in fully realizing the potential of solar installations for comprehensive decarbonization.

Transformative Vision for Renewable Energy

The joint report showcases the transformative potential of combining solar energy with LDES, emphasizing the need for a continuous, reliable, and affordable renewable energy supply. With long-duration storage capacity, the projected solar potential by 2050 skyrockets to an impressive 75 thousand gigawatts.

KEY FINDINGS OF THE REPORT

Solar Energy Targets

The report boldly sets a target of 75,000 gigawatts of solar capacity by 2050. It underscores the necessity of LDES to unlock the full potential of these solar installations, paving the way for complete decarbonization.

Economic Viability in Isolated Regions

A case study presented in the report focuses on isolated island utilities in the US, illustrating the financial viability of LDES in regions with limited interconnectivity and high local fuel costs. The combination of solar, wind, and LDES emerges as the most cost-effective solution for achieving 100% renewable energy.

Global Market Potential

The LDES Council estimates that the LDES industry will burgeon into a \$4 trillion sector by 2040, with an installed capacity potential of 8 terawatts (TW). This growth is deemed essential for enabling solar energy to meet global electricity demands affordably and reliably.

Barriers and Solutions

The report identifies barriers hindering the widespread adoption of solar and LDES, including regulatory challenges, financing issues, and technical limitations. It also proposes comprehensive solutions to overcome these hurdles.

Insights from Industry Leaders

Dr Ajay Mathur, DG - ISA, noted, "Solar, already the most economical source of new electricity globally, will further strengthen its competitive advantage. Combined with Long Duration Energy Storage, solar becomes a continuous, reliable 24/7 energy source."

Julia Souder, Chief Executive Officer of the LDES

Council, emphasized, "Developing long duration energy storage is the best pathway to full decarbonization for economies worldwide. LDES provides the scaffolding for reliable, resilient, around-the-clock renewable energy for industry and the electric grid."

Policy Recommendations

The report concludes with a set of policy recommendations, urging increased global targets for

solar and LDES, streamlined permitting processes, enhanced research and development (R&D), and the reallocation of fossil fuel subsidies to renewable sources and energy storage. These recommendations aim to ensure an equitable transition to renewable energy, accompanied by green job creation and local economic recovery.

Economic Benefits and Sustainable Development

Highlighting the substantial economic benefits of solar and LDES, the report underscores the creation of green jobs, local economic recovery, and resilience against climate challenges. It emphasizes the pivotal role of these technologies in providing affordable and primary energy sources, particularly in emerging economies.

Call to Action

The ISA and LDES Council call upon global leaders, policymakers, and industry stakeholders to recognize the transformative role of solar and long duration energy storage in facilitating a just and equitable energy transition. The alliance emphasizes that the partnership of solar energy and LDES is not merely a pathway to achieving net-zero targets but also a driver of economic growth and sustainable development on a global scale.

About LDES Council

The Long Duration Energy Storage Council is a global nonprofit advancing decarbonization by facilitating the accelerated deployment of long-duration energy storage. The executive-led organization convenes members, publishes research, and serves as an advocate to advance the goals and objectives of the energy companies, equipment manufacturers, financial institutions, and technology innovators it represents.

Scan here to read the complete report



LAUNCHED @COP28

WATTS TO WASTE – NAVIGATING INDIA'S Solar Waste Landscape: Insights from ISA Report at COP28



The International Solar Alliance (ISA) has taken a significant stride in addressing a crucial concern amid the global solar surge with the release of its groundbreaking report titled "Watts To Waste - Exploring India's Solar Waste Landscape." Presented during COP28, this report, a collaborative effort with support from the United Nations Environment Programme (UNEP), delves into the challenges and opportunities of managing solar waste in India.

Solar Growth Challenges:

India's commendable progress in solar energy installations has brought to the forefront a pressing issue – the management of solar waste. The report critically examines the challenges associated with the efficient disposal of solar modules, especially in cases of premature decommissioning. With solar PV modules having a lifespan of 20-25 years, the issue of end-of-life management becomes paramount.

Regulation Update:

A notable development highlighted in the report is the inclusion of solar modules under the newly implemented E-Waste Management Rules, 2022. This update emphasizes the need for robust policies and disposal infrastructure for proper management of solar waste. The regulatory framework is crucial in ensuring responsible and sustainable practices in the solar sector.

Informal Impact:

The report sheds light on the informal sector's role in solar waste management, where modules often end up being crudely dismantled. Recognizing the need for improved disposal practices, the ISA report emphasizes the importance of developing strategies that prevent waste modules from entering the informal sector.

Global Tech Gap:

Despite recycling policies in place globally, the report underscores the existing struggle in solar tech recycling. It highlights the necessity for technological advancements to optimize recycling processes, particularly for cost-effective recovery of highpurity materials. The global challenge in solar tech recycling emphasizes the need for collaborative efforts to bridge the technology gap.

ISA's Strategic Role:

The ISA report goes beyond identifying challenges and presents strategic approaches for solar waste management, projecting waste volumes until 2040. It outlines the pivotal role that the International Solar Alliance can play in shaping effective waste management strategies for India. The ISA's commitment to fostering international cooperation, knowledge sharing, and capacity building is crucial for the sustainable growth of solar energy.

As the world embraces solar energy as a key solution to combat climate change, the responsible management of solar waste becomes paramount. The ISA report serves as a comprehensive guide, offering insights into India's solar waste landscape, outlining challenges, proposing strategic solutions, and highlighting the crucial role of international collaboration in achieving sustainable solar energy growth. The release of this report during COP28 marks a significant step towards a cleaner, greener, and more prosperous future powered by solar energy.

> Scan here to read the complete report



LAUNCHED @COP28

ISA REPORT UNVEILS AMBITIOUS PLAN TO TRIPLE Global Renewable Energy Capacity by 2030

At COP28, ISA launched a report titled "Tripling Global Renewable Energy Capacity by 2030: Solar Leading the Way". The report underscores the critical imperative of achieving net-zero emissions by mid-century, as outlined by the IPCC. It highlights the G20 New Delhi Leaders Declaration, which advocates for tripling global renewable energy (RE) capacity and doubling energy efficiency by 2030, aligning with the COP 28 presidency's mission.

The International Solar Alliance (ISA) plays a pivotal role in supporting member countries to accelerate solar energy adoption, a key component of achieving the ambitious RE capacity goals. The report emphasizes the significance of solar energy, particularly its scalability, cost-effectiveness, and minimal carbon footprint.

The document underscores regional disparities in RE capacity, with some regions needing to nearly triple their capacities. It emphasizes the necessity for 16 times the current energy storage capacity and sector coupling to meet tripling goals. Barriers to solar energy adoption, including storage integration, regulatory support, and financial incentives, must be addressed through collaborative efforts involving governments, industries, and communities.

To achieve the target of tripling global RE capacity, the report suggests annual investments in solar reaching \$500 billion by 2030, requiring innovative financing tools, commitment from commercial financial institutions, and mobilization of institutional investors. It also advocates for transitioning subsidies from fossil fuels to solar energy.

The report emphasizes the importance of national commitments, urging countries to include solar-specific targets in their Nationally Determined Contributions (NDCs). Only 19% of the 195 Parties currently have quantified

solar capacity targets in their NDCs, highlighting the need for standardized formats and guarantees to attract private sector investment.

Unlocking solar technology potential is crucial, with a focus on emerging technologies like TOPCon and HJ. The integration of solar panels into various applications, including vehicles, building facades, and agrovoltaics, is recommended. Additionally, Concentrated Solar Power (CSP) integration with existing coal plants is explored as a viable option.

The report concludes by highlighting the potential for generating approximately 10 million additional jobs through the tripling of RE capacity. It underscores the importance of education, training, and capacity building programs to align the workforce with the demands of the renewable energy sector, including reskilling and upskilling initiatives for vulnerable communities and those in fossil fuel industries.



Scan here to read the complete report

HIGHLIGHTS

ROMANIA JOINS THE INTERNATIONAL SOLAR Alliance as its 118th member country, Pledging a bright future with solar energy

In a significant move to bolster the global transition to solar energy, Romania has officially become the 118th member country of the International Solar Alliance (ISA). This development underscores Romania's commitment to promoting solar energy and actively participating in worldwide efforts to combat climate change.

Under the leadership of H.E. Mr. Klaus Werner Iohannis, President of Romania, the nation formally signed the framework agreement of the ISA. President Iohannis expressed his enthusiasm, emphasizing Romania's dedication to becoming a carbon-neutral country by harnessing renewable energy sources. He stated, "I'm very glad that Romania joins the International Solar Alliance today. This shows Romania's firm commitment to becoming a carbonneutral country by using renewable sources of energy."

President Iohannis highlighted the strategic significance of this decision in bolstering Romania's energy security. He also pointed to Romania's ambitious solar energy targets outlined in the National Energy and Climate Plan, aiming to install over 8 gigawatts of solar energy capacity by 2030, constituting 24% of the gross final consumption of electricity from renewable sources.



Moreover, the President emphasized the broader and deeper cooperation with India and other countries facilitated by joining the International Solar Alliance. Romania envisions scaling up its solar energy capacity and improving national access to solar power at affordable prices through global alliances focused on solar, finance, technology development, and capacity building.

Dr Ajay Mathur, DG - ISA, welcomed Romania to the alliance, expressing optimism about the collaboration. Dr. Mathur highlighted Romania's potential to become a significant exporter of electricity from renewable sources, particularly solar. He outlined the ISA's commitment to working closely with Romania on solar deployment, capacity building, and regulatory training programs.

H.E. Mr. Sebastian-Ioan Burduja, Minister of Energy, Romania, underscored the country's substantial solar potential in Southeast Europe. He emphasized Romania's commitment to a clean energy transition and noted the remarkable growth in the solar sector. Minister Burduja stated, "Romania has the largest solar potential in southeast Europe. Study after study proves that we could exploit up to 20 GW of solar power."

He also mentioned a nationwide campaign called "Energy for Life, Let's turn on the Light," targeting over 50,000 households without electricity. The campaign aims to involve the private sector and civil society to ensure that no child has to study by candlelight in Romania.

Romania's framework agreement with the ISA aligns with our key interventions, focusing on readiness, enabling activities, risk mitigation, and innovative financing instruments to promote and deploy solar technologies in target markets. As Romania joins this global solar movement, it heralds a promising future marked by sustainable and clean energy practices.

HIGHLIGHTS



GLOBAL SOLAR FACILITY IS NOW Operational in the democratic republic of Congo, Marking a Significant leap in global solar energy efforts

In a historic development, the International Solar Alliance (ISA) has marked a major achievement with the commencement of the inaugural pilot project under its Global Solar Facility (GSF). This groundbreaking initiative is realized through a strategic collaboration with Nuru, a leading solar power company in the Democratic Republic of the Congo (DRC). The project aims to construct and develop 15 megawatts (MW) of solar metro grid capacity across three provinces in the Eastern Congo.

Dr Ajay Mathur, DG - ISA, highlighted the transformative potential of Nuru's approach in addressing the energy challenges faced by the DRC. With less than 20% of the population having access to energy and a growing energy demand on the horizon, Nuru's innovative approach to renewable energy access is poised to unlock vast market potential across the country.

The ISA, through its GSF, is providing crucial support to Nuru by partnering with the Multilateral Investment Guarantee Agency (MIGA) of the World Bank Group. This collaboration, unveiled at the G20-Clean Energy Ministerial meeting in Goa in July 2023, is dedicated to fostering new investments in solar power generation. The goal is to increase access to clean energy and enhance energy security, particularly in countries with the most urgent needs.

Jonathan Shaw, CEO and Co-Founder of Nuru, expressed his enthusiasm for the ISA's support, **"Nuru is delighted to be implementing the first project to receive International Solar Alliance support. The**



ISA is providing critical and catalytic support to ensure that we can manage complex risks in the places we work while also maintaining affordable pricing for our clients."

Nuru's comprehensive plan includes the deployment of an additional 39 MWs in subsequent phases, with the ambitious target of providing power to up to 5 million people by 2025. In a country where only 19% of the population has access to electricity, Nuru's innovative approach, supported by ISA's GSF, holds immense promise for fostering climate resilience and sustainable development.

Nuru's utility-scale solar metrogrids, equipped with cuttingedge technology and services, are designed to deliver 24/7 reliable and renewable energy to urban communities in the DRC. Despite the challenging electrification rate, Nuru's metro grids are poised to have a substantial impact on economic activity and market demand.

ISA-MIGA Partnership: Mitigating Risk, Unlocking Potential

The ISA-MIGA partnership is playing a pivotal role in mitigating risks and unlocking the full potential of solar power investments. By leveraging the expertise and support of MIGA, the ISA aims to facilitate secure and sustainable investments in solar projects, driving economic growth and energy security in partner countries.

Global Solar Facility (GSF): Catalyzing Solar Investments Across Africa

ISA had previously allocated \$35 million in funding for the GSF, aimed at stimulating investments in solar power projects. The GSF seeks to catalyze solar investments in underserved segments and geographies across Africa, unlocking commercial capital in the process.

Shri R K Singh, Minister of Power and New & Renewable Energy, Government of India, emphasised the GSF's objective to raise \$100 million USD during the 6th Session of the ISA Assembly. This funding is crucial to providing security to investments and accelerating the transition to solar energy in Africa.

Dr Ajay Mathur, DG – ISA, stressed the GSF's significance as a critical mechanism for addressing the urgent global need for universal energy access and a clean energy transition, "The world requires an investment of \$12.5 trillion in renewable energy and \$23 billion in offgrid solar by 2030. The GSF will further our vision of addressing the urgent need for universal energy access and a clean energy transition."

Expanding Reach: Beyond Africa

After making strides in Africa, the GSF has plans to expand its reach to regions such as Asia, Latin America, and the Middle East. Tailoring Regional Facilities to meet specific requirements, the GSF envisions investments in innovative technologies, support for startups, and exploration of emerging solar energy sectors in its mission to enhance global solar energy efficiency. HIGHLIGHTS

16

MoU with East African Power Pool

At COP 28, the International Solar Alliance signed an MoU with the Eastern Africa Power Pool (EAPP), a 13 countries grouping coordinating cross-border power trade and grid interconnection. Together they have the largest solar potential in the world. This partnership will help provide solutions to the grid challenges and to accepting the variable energy in the grid. ISA will work with EAPP on training, grid stability, planning for grid expansion, and knowledge exchange.

MoU with Climate Parliament

Climate Parliament and ISA join forces to tackle climate challenges through a strategic MoU. This collaboration will focus on key areas like an investors forum and capacity building for regulators. Together, we're forging a path towards a sustainable and resilient future.

SESSIONS@THE SOLAR HUB

To watch the session proceedings, click here https://www.youtube.com/@internationalsolaralliance/streams







GREEN HYDROGEN: IS IT A GAME-CHANGER FOR HIGH ENERGY-INTENSIVE SECTORS?

In Collaboration with ADB, Green Hydrogen Organisation & The Africa Green Hydrogen Alliance

Context -

Harnessing renewable energy potential and the green hydrogen economy offers opportunities for developing and emerging markets to develop clean energy-intensive industries while helping decarbonize hard-to-abate sectors. The International Solar Alliance (ISA) and the Asian Development Bank (ADB), along with the Green Hydrogen Organization and the Africa Green Hydrogen Alliance, hosted an event at COP28 on green industrialisation opportunities in developing and emerging economies and the role of solar energy and green hydrogen. The session aligned well with the ISA's plans on green hydrogen road mapping and ecosystem readiness assessment and support to its Member Countries through the virtual Green Hydrogen Innovation Centre (GHIC) launched by the International Solar Alliance in partnership with the G20 India Presidency 2023.



Session Objectives -

- Showcase renewable energy and green hydrogen energy projects to high energy-intensive industries and end users.
- Demonstrate policy and regulatory instruments available to support the growth of green industrialization in developing and emerging economies.
- High energy-intensive industries and hydrogen customers that will serve as the renewable energy and green hydrogen dem and anchor such as green manufacturing, hydrogen/ ammonia, fertilizer, steel, synthetic fuels, sustainable aviation fuels, mining, and energy storage.
- Create a forum for sharing best practices and emerging early lessons in technology, Policy and Regulations and enhance collaboration towards the realization of renewable energy and green hydrogen potential for green industrialization.

- Andrew Jeffries, Advisor, Just Energy Transition Partnership, Asian Development Bank (ADB)
- Jonas Moberg, CEO, Green Hydrogen Organization, Geneva
- H.E. Yonis Ali Guedi, Minister of Energy in Charge of Natural Resources, Djibouti
- Araceli Fernandez Pales, Head of Technology Innovation Unit, International Energy Agency (IEA)
- Dr Martin Keller, Director, National Renewable Energy Lab (NREL), USA
- Mathieu Geze, Director Asia, HDF Energy, Indonesia
- Nangula Nelulu Uaandja, Chief Executive Officer, Namibia Investment Promotion and Development Board, Namibia

EMERGING FINANCING MODELS AT THE Intersection of climate, health and equity: Building climate-resilient and equitable Health innovation ecosystems

In Collaboration with Health Innovation Exchange & Sustainable Energy For All

Context -

Visioning the Climate Change, Health Innovation Equity Fund (CHIEF)

CHIEF is a partnership that brings key stakeholders from the public and private sectors, multilaterals, academia and civil society organisations committed to building climate resilient and equitable health innovation ecosystem. Convened by the Health Innovation Exchange (HIEx), in partnership with the International Solar Alliance, CHIEF brought together a select group of global experts to vision the financing models for climate resilient health systems. CHIEF has an ambitious vision of mitigating the direct impacts of Climate Change on Health and Equity on the most vulnerable populations. It aims to build convergence between health and climate financing instruments to unlock billions of public and private capitals into trillions of self-sustaining and self-regenerative financing flows into climate-benefiting and equitable healthcare solutions. Working closely with global forums such at the G-7, G-20, BRICS etc., CHIEF aims to catalyse and enable cross-sector and country-owned strategies for expanding funding at this intersection, prioritizing vulnerable populations, and building sustainable and fit-for-purpose responses to Climate Change's impact on Health and development.

The Time for Action is Now

The looming specter of climate change presents an existential threat to our planet. The rise in global temperatures, driven by greenhouse gas emissions, has brought about a cascade of consequences. Melting ice caps, extreme weather events, and shifting climate patterns disrupt ecosystems, displace communities, and threaten global food





security. The consequences of climate change extend far beyond environmental concerns, impacting human health directly and indirectly. The rising frequency of heatwaves, the expansion of disease vectors, and the exacerbation of air quality issues all bear a significant toll on public health, hitting the most vulnerable populations hardest.

Concurrently, our world grapples with an ongoing series of health crises, exemplified most prominently by the COVID-19 pandemic. These crises have underscored the vital role of robust healthcare systems, equitable access to care, and the importance of data-driven, agile responses. However, they have also magnified the pre-existing inequalities within and among nations, affecting vulnerable populations disproportionately. The solutions to these challenges are not isolated or linear. Rather, they necessitate a holistic approach that recognizes the interdependencies of climate, health, and equity. This journey calls for innovative strategies, data-driven decision-making, and collaboration across sectors and borders. It compels us to acknowledge the urgency of our times and the moral imperative to create a future where the three pillars of climate resilience, public health, and equity are built upon a foundation of collective responsibility and shared prosperity.



Session Objectives -

The session's objective was to hear diverse voices and insights on how to position CHIEF as a powerful global instrument in the fight against climate change accelerated threats to human health, and equity. It explored the following areas, to help sharpen the inception, operationalisation, and scaling of CHIEF.

- 1. The Need: The critical need for global financing instruments that catalyzes state of the art innovation to counter the threat that climate change presents to global human health and equity.
- 2. Priority Climate Change, Health & Equity Innovation Impact Areas: Where and how CHIEF might prioritize health innovation investment areas to maximize impact considering the key role of sustainable energies, particularly solar, in building climate resilient health systems.
- **3. Financing Models & Scaling:** How CHIEF might best leverage innovative health venture and equity financing instruments and mechanisms.
- **4. Partnerships:** How partners can engage with CHIEF and amplify its impact.

- H.E. Shakti Bahadur Basnet, Minister, Ministry of Energy, Water Resources and Irrigation, Nepal
- Patrick L. Osewe, Director, Human and Social Development, ADB
- Luc Severi, Programme Manager, Powering Healthcare, SEFOrAll
- Harish Hande, Founder & CEO, SELCO Foundation
- Kay van der Horst, GHSS/ Paula Navajas, HIEx
- Karlee Silver, CEO, Grand Challenges Canada
- Benjamin Bellegy, Executive Director, WINGS
- **Dr Buddy Shah,** CEO, Clinton Health Access Initiative
- Josh Karliner, Director of Global Partnerships, Health Care Without Harm

MISSION ENERGY ACCESS FOR A JUST AND SUSTAINABLE FUTURE FOR ALL

Context -

Despite efforts to enhance energy access, there were about 675 million people worldwide who had no access to electricity and about 2.3 billion people who have no access to clean cooking facilities. Furthermore, in the absence of additional efforts and measures, as many as 660 million people (mostly in the least-developed countries and in sub-Saharan Africa) will remain without access to electricity and 1.9 billion people will still be dependent on polluting fuels and technologies for cooking in 2030. This is a betrayal of the global commitment to ending energy poverty by 2030.

Access to clean energy, although it is a worthy end in itself, has several knock-on benefits across the development spectrum. The lack of access to clean energy adversely affects human health, the availability of decent work, access to education, gender equity and the ability to move out of poverty. Provision of clean household cooking energy has implications for the United Nations Sustainable Development Goals 1, 3, 4 and 5. Similarly, enhancing access to electricity contributes to the achievement of Sustainable Development Goals 1, 2, 3, 4, 5, 6 and 8.

Access to clean and modern energy also enables countries and peoples to reduce — and to eliminate — greenhouse gas emissions. At the same time, the revolution in modern and clean energy technologies, especially the performance gains and cost reductions in renewable energy and energy storage, can also substantially advance electricity access goals while also delivering gains in the form of avoided emissions.

For example, of the 21,500 mini-grids that serve 48 million people worldwide, half are solar-photovoltaicbased; and of the almost 30,000 mini-grids that are planned, 99% will be solar photovoltaic. A recent study by the International Solar Alliance indicates that solar-photovoltaic- and battery-based mini-grids provide cheaper electricity than from the grid if the grid has to be extended by more than ten kilometres.

This alignment of development and climate benefits through access to energy highlights that action to enable universal access to clean and modern energy needs to be accelerated, so that it is achieved as soon as possible, and certainly by 2030. Much of the focus currently has been on mitigating the impacts of the shift away



from fossil fuels. However, we cannot ignore the enormous number of people who continue to live without access to electricity or clean cooking energy and who played only a small part in warming our planet, even as the impacts of climate change affect them most severely.

A mission-mode approach on energy access, therefore, is urgently required now to accelerate our efforts to ensure universal energy access by 2030. To achieve this objective, programme, the ISA also released a report titled **"Unleashing Renewables in Advancing Economic, Social, and Environmental Equity",** which brings together a holistic perspective on the Global Energy Transition (including that of the Global South).



this approach would need both to greatly enhance the development of innovative and affordable solutions for enabling access to clean and modern energy and its productive uses, and to drive the accelerated large-scale deployment of these solutions. This, in turn, will require not just strengthening innovation relating to clean energy access but also other activities that support these clean-energyaccess programmes. This will require paying attention to the interplay of the technology, finance, policy and socioeconomic sectors. A successful mission would help to deliver a triple dividend of increasing energy access, enhancing social and economic benefits, and advancing climate goals.

An article in Nature Energy, co-authored by Ambuj D. Sagar, Ajay Mathur, Fatih Birol, Yacob Mulugetta, Damilola Ogunbiyi, Youba Sokona & Achim Steiner highlights the essence of access to clean energy to sustainable human development. The authors say "We have a responsibility and an opportunity to meet the global goal of ending energy poverty by 2030", and have proposed the creation of a new Mission Energy Access programme to support this aim.

This session engaged with the authors who were from a broad spectrum of organization and expertise. During the

- Dr Gauri Singh, DDG, IRENA
- Ambuj D. Sagar, School of Public Policy, Indian Institute of Technology - Delhi
- Fatih Birol, Executive Director, International Energy Agency
- Yacob Mulugetta, Professor of Energy and Development Policy, University College London

WATTS NEXT? SOLAR + STORAGE TO Provide 24/7 Clean Energy



In Collaboration with Global Renewable Alliance

Context -

Combining solar energy with long duration energy storage paves the road to industrialization without carbonization for the world's fastest growing economies. The targets for solar energy are clear, with 75,000 gigawatts of generating capacity to be installed by 2050. Funding pathways to reach these estimates are also clear — if mired in the politics of fossil dependence.

However, these solar installations will not yield full decarbonisation without the means to store the electricity they generate for long durations. Developed economies are beginning to take steps to encourage long duration energy storage development and deployment, but it is in the rapidly growing economies around the globe where long duration energy storage — combined with solar — may be most effective.

These economies can leapfrog fossil infrastructure through the deployment of solar and storage in the same way that the mobile revolution obviated the need for land based telecommunications across continents. Untethering from 20th Century energy infrastructure creates opportunities for a more economical, resilient, reliable, and secure engine to power the continued development and growth of the markets where this new energy is needed most. It allows these elevating economies to flourish without the same sunk costs as their counterparts.

During the session, a ISA-LDES Council White Paper on 24/7 Power from Solar+ LDES, titled, **"Unleashing the Role of Solar in advancing Economic, Social and Environmental Equity"** was launched. The session brought together key technology providers from around the world to help illustrate the technologies that are already ready to fully decarbonize the grid. Finally, it provided concrete recommendations to policymakers on how to promote solar + LDES to make both electricity and heat more affordable, reliable, secure and sustainable.

Session Objectives -

- To promote technical understanding of future and existing technologies for 24/7 power from solar and other renewables
- Launch White Paper on Solar + LDES to provide 24/7 Power to encourage policymakers to undertake specific policy actions to promote solar + LDE

- Julia Souder, Long Duration Energy Storage Council
- Frank Wouters, Reliance
- Mathieu Geze, Director Energy, HDF Energy Additional LDES Member (Long Duration Heat)
- Raghav Kanoria, CEO and MD, India Power/E2S Power

GLOBAL SOLAR FACILITY: UNLOCKING Investments for Solar





Context -

In 2022, ISA Secretariat approved the formation of the Global Solar Facility (GSF) in Africa, later it was announced at COP27 in Sharm-el-Sheikh on Nov 10, 2022. The GSF will stimulate high potential solar technologies by attracting private capital to flow into the underserved markets in Africa while ensuring a payment and insurance mechanism as a first loss guarantee, as approved by the Fifth Session of the ISA Assembly. The Solar Facility would be operationalised to crowd in investments from various donors across the globe. The solar facility will consist of three funds (the payment guarantee fund, the insurance fund and the investment fund). Projects proposed in Africa could purchase payment guarantees or partial insurance premia from these funds. The GSF will provide:

- Payment guarantee fund- guarantee mechanisms to ensure payment guarantees;
- Insurance fund- provide mechanisms to mitigate project risks; and
- Investment fund- allow Technical Assistance for addressing gaps in the regulatory framework

It could also help in catalysing project development and reducing currency risks – all aimed at the following objectives:

- A. Provide clean and reliable source of energy to all people across the globe who today do not have access to electricity. Thereby ensuring Green Growth for the world
- B. Enable deeper innovation and capacity building for solar power development

- C. Open up solar markets across the world
- D. Accelerate transition to net zero, by helping catalyse part of the USD12.5 trillion needed for solar installations globally

The GSF is being proposed for an efficient implementation and giving a strong foundation to the Africa Solar Facility itself. Expert feedback and market research has suggested using a balanced approach for the Africa Solar Facility. This includes, outsourcing to an Investment Manager, building in-house capacity, and ability to leverage the Africa experience. This approach will bring several long-term benefits and create large-scale impact.

Session Objectives -

The session aimed to sensitise about the Global Solar facility and foster discussions between the investor groups, Member Countries, and various donors & partners, for successfully operationalizing the facility.

- Representative from
 Bloomberg Philanthropies
- Representative from Multilateral Investment Guarantee Agency (MIGA)
- Representative from AFRICA50
- Representative from Edhina Advisory
- Representative from Intellecap Advisory
- Representative from Nuru Energy Company



SOLARX: PROMOTING ENTREPRENEURSHIP For Solar Across the globe

Context -

26

In the realm of solar energy, the pursuit of innovation holds paramount significance as we strive to combat global climate change, foster economic growth, bolster international competitiveness, and eradicate the scourge of energy poverty. Yet, it is disheartening to witness the sluggish pace at which low-carbon technologies are being developed and disseminated across various sectors and nations, especially in the developing economies, including the Least Developed Countries (LDCs) and Small Island Developing States (SIDS), impeding our collective efforts to stabilize the climate and achieve sustainable development goals.

To address these challenges, the International Solar Alliance (ISA) has taken a significant step forward by successfully launching the first leg of the SolarX Start-up Challenge at the 27th Conference of Parties (CoP27) in Egypt in November 2022. With SolarX, ISA aims to crowdsource innovative solutions to the persistent challenges faced by member countries in their respective solar sectors. The challenge is designed to identify and promote implementable, cost-effective, and scalable solutions that address the pressing issues of the solar industry in ISA member countries. By creating a pool of entrepreneurs and start-ups in the solar energy sector, the challenge aims to foster a 3-fold benefit in technology, finance, and innovation, thereby building on the start-up ecosystem within the solar energy sector. This initiative spans across all ISA member countries, with different editions held annually in different regions. The first edition was held for the African Continent. The African leg attracted a remarkable number of startups with over 180+ applications from 28 countries, showcasing the international interest and potential for innovations in driving advancements in solar energy.

Building on this momentum, ISA is excited to announce and launch the second leg of the SolarX Start-up Challenge (i.e. the SolarX Startup Challenge 2.0) during the 28th Conference of Parties (CoP28) in Dubai. This eagerly anticipated phase will focus on the Asia Pacific region, recognizing its immense potential as a hub for solar energy advancement. This initiative presents a unique opportunity to foster collaboration, encourage entrepreneurship, and catalyze investments in the solar energy sector in the region.

Session Objectives -

- Sensitize about the overall framework of the challenge
- Launch the SolarX Startup Challenge
 2.0 for Asia Pacific (including the digital launch of th webpage and "Call for Applications")
- Foster discussions among the key stakeholders on "Need for boosting the solar startup landscape and driving innovative solutions in emerging geographies"

- Representative of Sequoia Climate Foundation
- Representative of Salpha Energy CeO (Startup)
- Representative of Climate Investment Coalition
- Representative of Commonwealth Secretariat
- Representative of Climate Collective Foundation
- Representative of The Government of Malawi

GLOBAL SOLAR STOCKTAKE: SOLAR ENERGY MEETING THE AMBITION OF TRIPLING RENEWABLE ENERGY BY 2030

Context -

While 2023 being a global stock take year providing a comprehensive assessment of progress since adopting the Paris Agreement, ISA intends to complement the efforts of the global community by undertaking a global stock take on solar energy transition and making solar energy transition a key element of enhanced NDCs to achieve the Paris Agreement goals. This is the first year for solar energy stock take with preliminary results. Going forward ISA intends to institutionalize the process of a detail stock take in collaboration with ISA partners.

By harnessing the potential of solar energy, countries in the Africa, Latin America and Asia-Pacific region can make substantial progress towards achieving SDG 7 and its targets, while simultaneously addressing other sustainable development goals related to climate change, health, poverty eradication, and economic growth.

Of the total 195 countries, 137 countries have Energy-related NDCs. Of which 131 have some level of RE commitments but only 60 have solar-specific targets/ commitments. Even within the 60 countries there is no standardized format for the NDCs and therefore they are difficult to compare (apple-to-apple). While some countries have "% share of installed capacity of RE", others may have "GW of installations in X years/annually", "development of solar parks". The study is



collecting the latest data and undertaking analysis on the status of the Solar Energy adoption globally and a projection till 2030. Taken together, these indicators allow us to track global progress of the solar energy transition and provide an assessment of where we are now, and the trajectories we are on to achieve the Paris Agreement Goals.

An annual Global Stock take on Solar energy can help to determine benchmarks for enhanced ambition on solar energy by the countries. Global Stock take of solar energy transition will assess that effect accelerated solar energy deployment will have on reducing global temperature; determine what additional measures are necessary on solar energy transition and transform opportunity into action contributing to Paris Agreement's long-term temperature goal.

Session Objectives -

Institutionalizing an annual stock take process to make solar energy transition a key element to achieve enhanced NDCs in ISA Member Countries.

- Dr Lidice Vaillant Roca, Head of Solar PV Research, University of Havana, Cuba
- Abdifatah Abshir Ibrahim, Head of Solar Technologies, Ministry of Energy and Water Resources, Government of Somalia
- Ashish Chaturvedi, Head Action for Climate and Environment, UNDP India
- Davinah Milenge Uwella, Principal
 Programme Coordinator, AfDB and Africa
 NDC Hub
- Karma Tshewang, Ministry of Energy and Natural Resources, Government of Bhutan
- Dinesh Jagdale, Ministry of New and Renewable Energy, Government of India
- Rushikesh Muthyal, KPMG



ONE SUN, ONE WORLD, ONE GRID (OSOWOG)



The One Sun, One World, One Grid (OSOWOG) initiative is rooted in the vision put forth by the Hon'ble Prime Minister of India Narendra Modi at the First Assembly of the ISA in October 2018. Driven by the mantra "The Sun Never Sets", the OSOWOG initiative envisages the interconnection of all forms of renewable energy (solar, wind, hydro, and green hydrogen) generators, storage, and loads across continents with a trans-continental power transmission grid - One Grid for One Sun in One World.

Since its announcement, the OSOWOG initiative has gained traction worldwide, addressing challenges posed by intermittent renewable sources. It aims to interconnect regional grids and facilitate the transmission of clean energy on a global scale. OSOWOG strives to establish international electricity networks by combining various renewable sources. Governments, financial institutions, and associations collaborate to ensure a reliable, resilient, and affordable global supply of clean energy.

The International Solar Alliance (ISA) plays a pivotal role, supporting member countries and overcoming political and financial hurdles through inter-governmental cooperation. The ISA, with World Bank support, is conducting a technical study for pilot interconnections under the OSOWOG initiative.

Session Objectives -

The session focused on sharing the technical study outcomes and initiate inter-governmental discussions. The aim was to identify paths for global collaboration, encouraging the building of an interconnected and resilient electricity grid. Governments, institutions, and sectors were urged to collaborate for a sustainable and interconnected energy future, reducing reliance on fossil fuels.

Speakers -

- Dr Subir Sen, Executive Director (POWERGRID), Head of Task Force (OSOWOG)
- H.E. Thoriq Ibrahim, Minister for Climate Change, Environment and Energy, Republic of Maldives

Chandrasekar Govindarajalu, Lead Energy Specialist, Energy Climate Finance at The World Bank

Jyoti Parikh, Executive Director, IRADE (Integrated Research and Action for Development)

J**ames K. Wahogo,** Secretary General, East Africa Power Pool (EAPP)

Rajiv Kumar Porwal, Director (System Operation), Grid India

Mamby Doumbouya, National Director, Ministry of Energy, Hydraulics and Hydrocarbons, Republic of Guinea



ISA's ENGAGEMENTS @COP28

The International Solar Alliance (ISA) actively participated in various engagements at COP28, making significant contributions to discussions on sustainable development, energy transition, and climate action. One noteworthy event was the participation in the SDG Global South Pavilion panel discussion on "Advancing People-Positive Energy Transition in India & the World" organised by the Global Energy Access Partnership Program (GEAPP). At the UNFCCC Action Lab, ISA engaged in a panel discussion on "Financing Local Energy Transitions," where the Dr Ajay Mathur, DG - ISA moderated the dialogue. The panel included sub-national leaders, including Mayors, highlighting the importance of local leadership in driving energy transitions. The event was supported by Bloomberg.

A Stakeholder Consultation on 'Advancing People-Positive Energy Transition in India & the World' took place at the Hilton Palm Jumeirah, featuring discussions and dinner facilitated by GEAPP. Here, ISA emphasised the significance of collaborative efforts in achieving sustainable energy goals. The ISA also participated in a discussion followed by breakfast at the GRA Pavilion, focusing on "From Talk to Action: Removing bottlenecks for Mobilizing Finance for the Energy Transition." This session, organised by ReNew, emphasised practical steps to overcome obstacles in financing the transition to renewable energy. **Energy Transition Council Secretariat**



organized a panel discussion on "Just Energy Transitions and SDGs: Tools and Enablers." DG - ISA highlighted the need to mobilise finance for Africa through various financial mechanisms, including payment guarantees, during this insightful session organized by TERI. ISA contributed to the GCC Pavilion's panel discussion on "Recognizing the importance of crediting renewables in achieving the net-zero future." The DG -ISA emphasised the necessity of robust and credible carbon credits from solar energy, urging for a streamlined process to ensure accessibility without imposing excessive costs and time constraints. This event was organized in collaboration with the Global Carbon Council.

ISA also participated in the CEEW-CII Leaders' Dialogue, where the DG - ISA emphasised the need for simplifying access to technologies. Drawing on historical examples, such as the patent pool introduced during World War I, ISA highlighted the importance of collaborative approaches to technology sharing. Finally, at Conrad Dubai, ISA engaged in discussions on "Mechanisms to Accelerate Climate Financing in Emerging and Developing Markets," organized by the World Climate Foundation. These discussions aimed to explore effective strategies for accelerating climate financing to support sustainable development goals.









Digital Highlights



www.isolaralliance.org