Centre for Public Policy Research

EVENT REPORT

Energy Samvad Dialogue 5

SOLAR ENERGY INFRASTRUCTURE: NAVIGATING THE EVOLUTION AND TRENDS

14th September 2023

Platform: Zoom

ABOUT THE EVENT

The India Energy Samvad includes a series of webinars and dialogues on ‘Energy’ with the scientific community, industry experts, academia, and think tank professionals in a global and domestic context to produce actionable policy inputs and recommendations. The series aims to deliberate on key themes and issues relating to (but not limited to) understanding how energy policies, in general, must be modified in current scenarios to meet the demands and challenges of the sector. The deliberations will have the background of COP26 Glasgow (2021) and many learnings from the global energy crisis.

The deliberations of the series will focus on how the energy market has changed over the last few decades, the long and short-term competition among energy providers, and operators in the market encompassing private providers. Few of the deliberations will focus on the Indian policies that govern energy sources, pricing, and usage, the tariff and regulation policies, and the like. This webinar series is a timely intervention for the visibly pressing issues of the energy market, global and local challenges, and country commitments, and to engage with relevant stakeholders and policymakers.

SPEAKERS

Dr Madhu P Pillai
Advisor (Special), Industry & Energy, CPPR

Dr Madhu Pillai is a Project Management Expert with more than 38 years of broad-based Oil & Gas, Petrochemical, and Power industry experience in Operations and Project Management in India, Nigeria, the USA, Bahrain, Qatar, and Saudi Arabia. Dr Pillai is an Engineer with a post-graduation in Management and a PhD in Strategic Project Management. He is a Fellow of many leading international organisations. Dr Pillai has spoken in more than 40 international conferences and also chaired many. He has also been part of the global director board of many leading non-profit professional organisations.

Adv Megha Arora
Partner, JSA Advocates & Solicitors

Adv Megha primarily focuses on the projects and energy sector and has over 18 years of experience in this vertical. She has assisted clients in all aspects of project development and operations, including setting-up of greenfield and brownfield projects. Her experience includes project/energy related joint ventures, mergers & acquisitions and cross-border investments, bid advisory, and advising on energy/project contracts. In the renewable energy sector Megha regularly advises solar and wind energy players on key legal issues in acquisitions and investments. In the banking and finance sector, she has led several project finance transactions for power, refinery and city gas distribution related projects. In the construction space, Megha has advised on several turnkey projects, infrastructure projects and other heavy engineering works. Her focus areas also include Smart Cities and Urban Infrastructure.

Dr Vinod Tiwari
Regional Mentor of Change (Gujarat) India, Atal Innovation Mission Official

Dr Vinod Tiwari served as an Engineering Director of the Telectron Group, a specialised engineering company provider of products and services including designing, installation, testing and storage infrastructure including- Solar Power System, Network power Batteries, Industrial UPS system and DC Power. In 2019, Dr Tiwari got appointed as a 'Regional – Mentor of Change' for Gujarat State by NITI Aayog, AIM Team to support the Indian Government flagship initiative of Atal Tinkering Lab. A true veteran in the engineering industry, Dr Tiwari has been leading the UAE market since 2012. His charismatic leadership, technological know-how and operational expertise have transformed the company into a truly significant entity in ADNOC and Telecom Industry. He possesses two and a half decades of a chronicle success thereby having a background of Electronics and Telecommunication Engineering.

Dr Debajit Palit
Faculty at NTPC School of Business

Dr Debajit Palit has more than 25 years of experience working in the field of renewable energy and energy transition, clean energy access (SDG7), electricity policy and regulation, rural electrification, decentralised electricity solutions, energy-gender-poverty nexus, and water-energy-food nexus. He has been listed in the Top 2% World's Scientists (last 3 years in a row) by Stanford University and Elsevier BV. Before joining the NTPC School of Business in April 2022 as faculty, Dr Palit was associated with The Energy and Resources Institute (TERI), an independent global research and policy think-tank, from 1998 to March 2022.

SUMMARY OF THE DISCUSSION

- Abundance of Solar Power: Dr. Tiwari eloquently highlighted how India's geographical location blesses it with an abundance of solar power, making it a critical player in the clean energy transition. This vast potential has the power to decentralise electricity generation and pave the way for a more sustainable and inclusive energy future. The reduction in carbon emissions through solar adoption adds a greener hue to India's energy landscape.

- Economic Benefits and Job Opportunities: The discussion shed light on the profound economic benefits that the development of solar infrastructure brings. Beyond clean energy generation, solar projects create extensive job opportunities, touching various facets of the industry from manufacturing to installation and maintenance. This economic stimulus not only fosters growth but also bolsters livelihoods, particularly in rural areas.

- Material Efficiency: Dr Palit's insights underscored the often-overlooked aspect of material efficiency in solar infrastructure. This perspective suggests optimising material usage in solar technologies can substantially drive the sector's future growth. India can craft a sustainable solar ecosystem by curbing wastage and enhancing resource efficiency.

- Industry Focus: The burgeoning focus on the solar industry is a testament to its potential. Key stakeholders, including governmental bodies and private developers, increasingly recognise solar energy's economic and environmental advantages. The discussion hinted at the need for the Indian government to provide industrial incentives and a conducive environment for solar companies to thrive, innovate, and expand their footprint.

- Policy and Legal Support: Adv. Megha Arora's insights emphasised the indispensable role of stable policy and legal frameworks in the solar sector. The dynamic nature of the industry, driven by private sector participation, necessitates predictable regulatory landscapes to attract investments and maintain investor trust. Uninterrupted policy support ensures the sustainability of solar projects in India.

- Manufacturing Capacity: India's ambitious vision of achieving a manufacturing capacity of 65 GW per year symbolises its resolve to become self-reliant in the solar sector. The active involvement of state regulatory commissions and incentives for solar parks reiterates the nation's commitment to scaling up solar production. Domestic manufacturing can enhance energy security, reduce costs, and create jobs.

- Incentives and Global Commitments: The discussion spotlighted incentive schemes like KUSUM, designed to foster solar adoption, particularly in rural areas. These incentives bolster India's commitment to renewable energy growth. Moreover, India's active participation in international forums like G20 underscores its dedication to global clean energy objectives, establishing the nation as a leader in renewable energy.

- Financing Challenges: The availability of affordable, long-term financing and efficient dispute resolution mechanisms emerged as critical factors for the sustainability of solar projects. Accessible financing options can mitigate investment risks, making solar projects more attractive to investors. Streamlined dispute resolution processes ensure the viability of solar ventures.

- Green Financing: The prioritisation of green financing, especially by institutions like the RBI, marks a significant step towards sustainable solar growth. Aligning financing with green energy goals encourages financial institutions to invest in clean energy ventures, ultimately driving growth and propelling India towards a greener future.

- Decentralised Grids: Dr Palit's emphasis on decentralised grids resonates, particularly in urban areas. Decentralised grids hold the promise of enhanced energy access and reduced transmission losses, resulting in more reliable and efficient energy distribution. This approach aligns with India's urbanisation trends and sustainability aspirations.

- Resolution of Disputes: Adv. Megha Arora's insights underscore the importance of timely conflict resolution in solar projects. Delays and disputes can undermine project viability and investor confidence. Establishing dispute resolution committees streamlines this process, ensuring speedy resolutions and promoting investor trust.

- R&D and Public Awareness: The discussion advocated increased research and development in renewable technologies to foster solar innovation. Skill development and public awareness campaigns were identified as catalysts for driving consumer acceptance and widespread solar adoption, contributing to a cleaner and more sustainable energy landscape.

- Key Role in International Commitments: India's active participation in international forums like G20 reinforces its commitment to global renewable energy goals. By aligning its clean energy targets with international commitments, India contributes to the worldwide effort to combat climate change and positions itself as a renewable energy leader.

- Rationalisation Policies: The discussion acknowledged the importance of balancing increased import duties on solar panels with promoting local manufacturing. Such rationalisation policies are crucial to ensuring a steady supply of solar panels while supporting domestic production and achieving energy security.

- Innovative Technologies and Hybrid Models: Mr Vinod Tiwari's insights into hybrid models and blockchain technology herald a new era for solar power. These innovations promise increased efficiency, transparency, and reliability in solar energy generation and transactions. India's focus on R&D and technology adoption will be instrumental in realising these benefits and advancing its clean energy agenda.

KEY TAKEAWAYS

1. India possesses vast solar resources and should harness them efficiently. Emphasis should be placed on material efficiency in producing solar infrastructure to optimise resource utilisation.

2. To succeed in solar projects, industry and developers should prioritise solar infrastructure development. This requires a solid commitment to project execution and adherence to industry best practises.

3. Policies and legal frameworks play a crucial role in ensuring the success of solar projects. Adequate support and regulations are essential for a conducive environment.

4. Expanding manufacturing capacity for solar components is vital. Additionally, securing financing options, especially for long-term projects, is necessary to support the growth of solar initiatives.

5. Decentralised grids can enhance energy distribution and make energy accessible in urban areas. Improved irrigation systems can ensure efficient water usage, aligning with sustainable energy practises.

6. While there have been improvements in dispute resolution mechanisms, further enhancements are needed for speedy and efficient resolution of solar project-related disputes.

7. Public awareness campaigns and training programs are crucial for educating the masses about the benefits of solar technology. This can drive adoption, generate economic opportunities, and reduce carbon emissions.

8. India's active participation in international forums, like the G20, underscores its commitment to global renewable energy goals and promotes collaboration on sustainable energy solutions.

9. The government should consider rationalisation policies to address the demand-supply gap in solar panels. This can ensure a balanced market for solar components.

10. Embracing innovative technologies like blockchain and hybrid solar-concentrated grids can usher in a new era of efficiency and transparency in solar power generation and distribution.

11. Solarizing agriculture feeders and adopting context-specific approaches can significantly benefit farmers and promote sustainable energy practises in rural areas.

12. Delivering electricity at subsidised prices is a strategic move to fund and scale the energy transition, making clean energy more accessible to the masses.

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