SUMMARY NOTES

EEAP WEBINAR 21

Industrial Energy Transitions in South Asia: Policies, Impacts, and Future Pathways

On September 12, 2025, the Energy Evaluation Asia Pacific (EEAP) hosted its 21st webinar, focusing on the topic of 'Industrial Energy Transitions in South Asia: Policies, Impacts, and Future Pathways'.

The session featured two distinguished speakers:

- **Dr. Shyamasree Dasgupta,** Associate Professor School of Humanities and Social Sciences, Indian Institute of Technology Mandi Himachal Pradesh, India
- **Dr. Firuz Ahamed Nahid,** Post Doctoral Researcher, SMARTS, Asian Institute of Technology, Thailand

Edward Vine introduced EEAP's mission to strengthen energy evaluation across Asia Pacific, emphasizing the importance of data-driven approaches and collaboration. He highlighted the industrial sector's role in energy transition and the need for rigorous evaluation of related policies.

Dr. Shyamasree Dasgupta examined India's industrial energy policies, focusing on the Perform, Achieve, and Trade (PAT) scheme. She discussed its positive impact on energy efficiency and at the same time the challenges related to target setting, monitoring and transparency, calling for stronger evaluation systems.

Dr. Firuz Ahamed Nahid presented Bangladesh's industrial energy landscape, showcasing efficiency opportunities and modeling results from SMARTS. He demonstrated how integrating demand-side solutions can reduce costs, emissions, and land use while boosting jobs.

The webinar offered a timely and insightful exploration of industrial energy efficiency in South Asia, with a focus on India and Bangladesh. It brought together perspectives on policy evolution, evaluation frameworks, and modeling approaches to highlight how industrial sectors can contribute meaningfully to energy transition goals. Presentations emphasized the importance of data-driven evaluation, market-based mechanisms, and integrated planning to reduce emissions, improve cost-effectiveness, and support sustainable development. The session provided valuable guidance for policymakers, evaluators, and practitioners working to design impactful, scalable, and equitable energy programs in the region.

This document summarizes the key discussion points from the webinar.

Webinar Agenda

Time (IST)	Sessions/Speakers
8:30-8:35 AM	**Welcome Remarks & Context Setting** ***Edward Vine**, Affiliate, Lawrence Berkeley National Laboratory (LBNL) and Steering Committee Member, Energy Evaluation Asia Pacific (EEAP)*
8:35-9:10 AM	**Presenters** ***1.*** **Dr. Shyamasree Dasgupta,** Associate Professor, School of Humanities and Social Sciences, Indian Institute of Technology Mandi, Himachal Pradesh, India ***Discussion Topic: "An evolution of industrial energy policies in India and their impacts on sustainable energy use"*** ***2.*** **Dr. Firuz Ahamed Nahid,** Post Doctoral Researcher, SMARTS, Asian Institute of Technology, Thailand ***Discussion Topic: "Industrial Energy Efficiency in Bangladesh: Assessing the journey and looking ahead"***
9:10-9:25 AM	**Moderated Audience Q&A** Moderated by ***Edward Vine,** Affiliate, Lawrence Berkeley National Laboratory (LBNL) and Steering Committee Member, Energy Evaluation Asia Pacific (EEAP)*
9:30 AM	**Concluding Comments & Vote of thanks** ***Edward Vine**, Affiliate, Lawrence Berkeley National Laboratory (LBNL) and Steering Committee Member, Energy Evaluation Asia Pacific (EEAP)*

Introduction and Context Setting

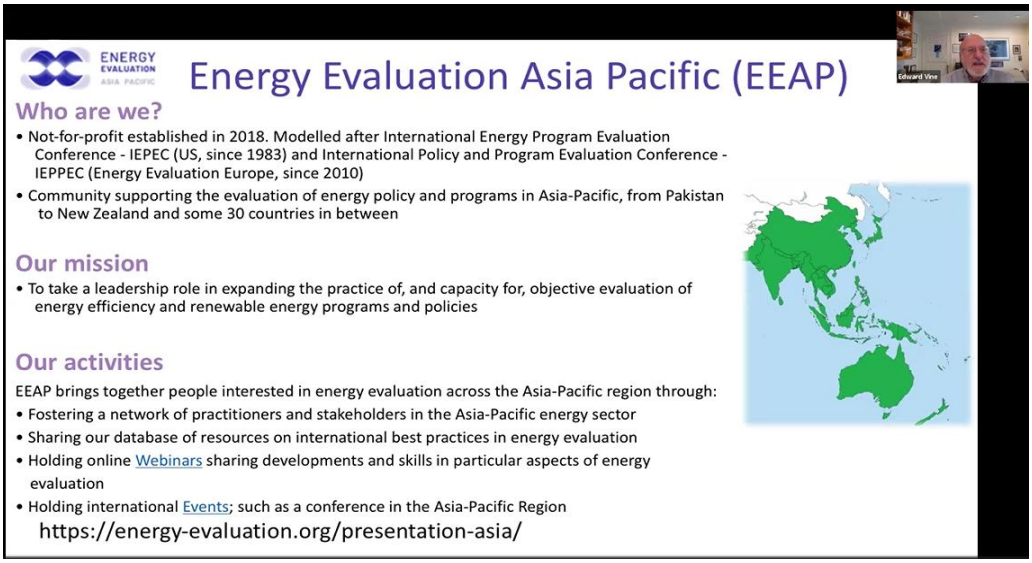
Edward Vine, Affiliate, Lawrence Berkeley National Laboratory (LBNL) and Steering Committee Member, Energy Evaluation Asia Pacific (EEAP)

Ed greeted the participants and speakers, introduced EEAP and provided a context for the webinar.

Introduction to Energy Evaluation Asia Pacific (EEAP)

Ed introduced EEAP to the participants. Established as a non-profit organization in 2018, and modelled after IEPEC (US, since 1983) and IEPPEC (Europe, since 2010), EEAP is focused on expanding the practice of objective evaluation in the Asia Pacific region. EEAP's mission is to lead in expanding evaluation practices, building capacity, and understanding the impact of energy efficiency and renewable energy programs and policies, aiming to provide a strong evidence basis for continuous improvement in these areas.

EEAP fosters exchange and interaction among evaluators, NGOs, government agencies, and academics to promote the value of energy evaluation and capacity building. EEAP offers a database of resources on best practices, holds webinars on various topics, and organizes international events and conferences, particularly in relation to the Sustainable Development Goals (SDGs). EEAP brings stakeholders together to support data-driven decision-making in the energy sector. One of its main objectives is capacity building, especially in the rapidly growing Asia Pacific region.



Additionally, he referenced a recent report by the International Energy Agency on the multiple benefits of energy efficiency, encouraging attendees to explore it for global insights.

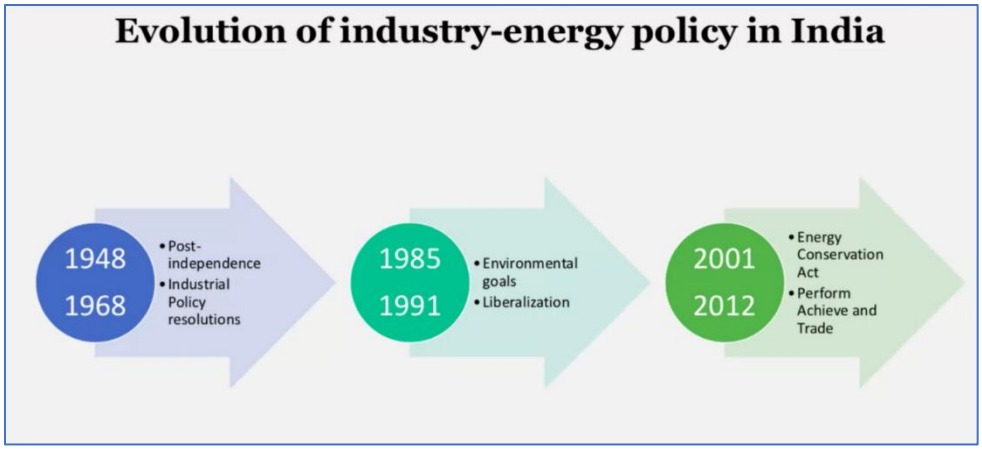
Ed shared that that the focus of this particular webinar was on the industrial sector's role in energy transition, especially in India and Bangladesh. Vine underscored the significance of evaluating industrial energy policies to reduce greenhouse gas emissions and improve energy efficiency. He introduced the two keynote speakers and set the stage for a deeper dive into country-specific experiences and strategies.

Presentation by Speakers

1. **"An evolution of industrial energy policies in India and their impacts on sustainable energy use"**

Dr. Shyamasree Dasgupta, Associate Professor School of Humanities and Social Sciences, Indian Institute of Technology Mandi Himachal Pradesh, India

Dr. Shyamasree Dasgupta presented a comprehensive overview of India's industrial energy policies and their evolution over time. She began by contextualizing India's energy consumption and economic structure, noting that the industrial sector contributes 25% of GDP while consuming 40% of the country's energy. This figures highlight the sector's potential for energy efficiency improvements without compromising economic growth.



She traced the historical trajectory of industrial policy from post-independence to the present, noting a shift from growth-centric strategies to sustainability-focused policies. The landmark Energy Conservation Act of 2001 and the National Mission on Enhanced Energy Efficiency (2008) marked significant policy shifts. The Perform, Achieve, and Trade (PAT) scheme introduced a cap-and-trade mechanism targeting energy intensity in industrial units, incentivizing efficiency through tradable energy-saving certificates through a market mechanism.
Dr. Shyamasree discussed the positive impacts of PAT in further reduction in energy intensity in Indian industries, and at the same time, the challenges in implementing PAT, including the complexity of benchmarking diverse industrial units and the need for robust monitoring and evaluation. She presented data showing declining energy intensity in key sectors like cement and steel, attributing improvements to both policy and market-driven factors like energy prices. However, she cautioned that transparency and accountability remain issues and emphasized the need for trained evaluators and better market mechanisms.

Main Takeaways:

- India's PAT scheme is a pioneering effort in industrial energy efficiency but requires stronger evaluation and transparency mechanisms.
- Energy efficiency gains are influenced by both policy and market forces and must be contextualized within broader economic activity.

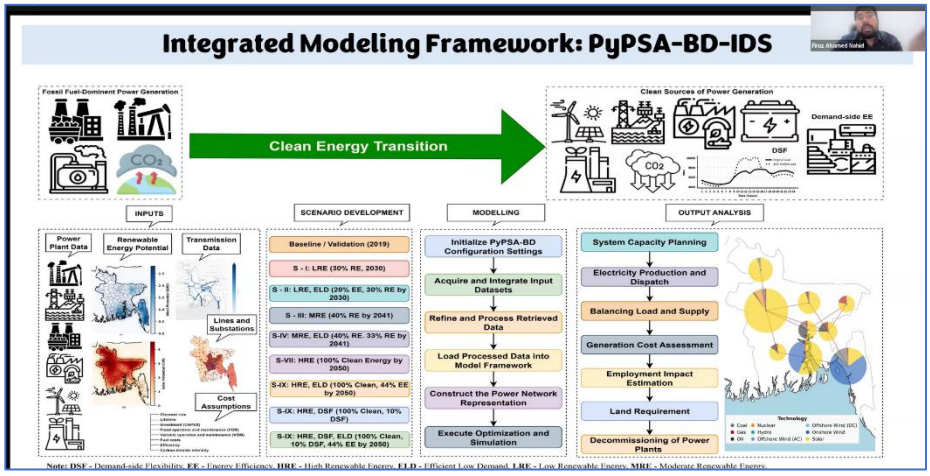
2. "Industrial Energy Efficiency in Bangladesh: Assessing the journey and looking ahead"

Dr. Firuz Ahamed Nahid, Post Doctoral Researcher, SMARTS, Asian Institute of Technology, Thailand

Dr. Firuz Ahamed Nahid focused on Bangladesh's industrial energy landscape, highlighting its role in the country's development goals. With industries consuming 27% of electricity and contributing over 21% to GDP, energy efficiency is both a necessity and an opportunity. He identified six key sectors: textiles, steel, cement, chemicals, ceramics, and agro-industries, with significant untapped efficiency potential ranging from 5% to 30%.

He outlined Bangladesh's policy framework, including the Energy Efficiency and Conservation Master Plan (2016) and the Integrated Energy and Power Sector Master Plan (2023), which set

ambitious targets for reducing energy intensity and decarbonizing the power sector. Nahid emphasized the importance of integrating demand-side solutions like energy efficiency and flexibility into national energy models to reduce system costs, land use, and emissions.



Using the SMARTS modelling framework, he demonstrated how higher energy efficiency targets could significantly reduce the need for capacity expansion, lower investment requirements, and create millions of jobs. He also discussed barriers to implementation, such as lack of skilled manpower, institutional coordination, and private sector investment. Despite these challenges, he stressed that energy efficiency is the first and most cost-effective step toward a sustainable energy future.

Main Takeaways:

- Energy efficiency in Bangladesh's industrial sector can reduce costs, emissions, and land use while boosting employment.
- Strategic implementation of efficiency measures requires coordinated policy, skilled workforce, and private sector engagement.

Presenters' Bio

Dr. Shyamasree Dasgupta, Ph.D

Associate Professor School of Humanities and Social Sciences, Indian Institute of Technology Mandi, India

Shyamasree Dasgupta is an Associate Professor at the School of Humanities and Social Sciences in the Indian Institute of Technology Mandi, India. She is an economist by training, and energy economics is one of her core research interests. She obtained a PhD from Jadavpur University, Kolkata, as a SYLFF Fellow. She was visiting researchers at the Utrecht School of Economics in the Netherlands, the Joint Global Change Research Institute at Pacific Northwest National Laboratory in the USA, and the University of Stavanger in Norway. Her work on industrial energy use is published in reputed peer-reviewed journals, including Energy Economics, Energy Policy, and the Annual Review of Resource Economics. She was a Contributing Author in Working Group III (Industry Chapter) to IPCC AR5.

Dr. Firuz Ahamed Nahid,
Post Doctoral Researcher, SMARTS, Asian Institute of Technology, Thailand

Dr. Firuz Ahamed Nahid is a postdoctoral researcher at the SMARTS Center, Asian Institute of Technology, Thailand. His work focuses on power sector decarbonization, with a special emphasis on modeling electricity systems, developing national and regional power sector scenarios, assessing the socio-economic impacts of energy transitions, and building open-source models tailored to the developing Asian context. He obtained his PhD in Sustainable Energy Transition from the Asian Institute of Technology and has professional experience spanning both academia and the energy industry.

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