



A bi-monthly newsletter featuring CSTEP commentary, publications, events, and other developments

Science and Technology for Society

Discussion Series: We kickstarted the CSTEP Discussion Series on the Role of Science and Technology in Society with a discussion on *From Temples to Turbines: An Adventure in Two Worlds* by Dr VS Arunachalam, former Scientific Advisor to the Defence Minister and founder of CSTEP. In the book, Dr Arunachalam recalls his experience in academics and government, where he understood that it would be difficult to separate science from political and social considerations. His experience led to the establishment of the Center for Study of Science, Technology and Policy – a think tank with the mandate of using science and technology to inform policy decisions for building a sustainable and inclusive society. Dr SV Ranganath (former Chief Secretary to the Chief Minister of Karnataka) and Dr Kota Harinarayana (Chief Designer of Tejas – the light combat aircraft) were the special guests at the discussion.



Click on the image to play the [video](#)

A Unique Platform

Solutions for Energy Transformation: The India Energy Transformation Platform (IETP) successfully concluded its one-year study to identify transformative technologies to achieve a non-linear transformation of India's energy systems. Results emerging from the studies – on decentralised energy systems, renewable energy technologies, energy efficiency in industrial process heating, and urban space cooling – can guide India's developmental pathways and bolster policymaking. [IETP](#) – a multi-stakeholder platform of experts in energy, technology, and policy – is supported by the Shakti Sustainable Energy Foundation (SSEF) and the Swiss Agency for Development and Cooperation.



Discussions on energy transitions focused on non-linear technologies to transform India's energy sector

Lighting up the Darkness

An Award for Electrification: Our [solar mini-grid project](#) at Kudgaon in Odisha won the India Smart Grid Forum Innovation Awards 2020 for the Best Smart Grid Project in India by a Technology Company. The mini-grid brought electricity to the remote village, opening up new avenues for development. We take this opportunity to thank Good Energies Foundation, Switzerland, for their financial support and congratulate our implementation partner, SunMoksha.



Dr Mridula Dixit Bharadwaj (Sector Head-Materials & Strategic Studies, CSTEP) is seen with women of Kudgaon (pic 1) - a remote village in Odisha that CSTEP and SunMoksha helped electrify (pic 2)

An Understanding for Research

Collaboration with VIT: CSTEP signed an MoU with the Vellore Institute of Technology (VIT), establishing major collaborative programmes and prototype-demonstration units in environmental engineering. A major focus of the initiative is Health Impact of Air Pollution, along with transport, technology, and other areas of scientific policy.



Dr K Sathiyarayanan (Registrar, VIT) and Dr Jai Asundi (Director-Communications and Research, CSTEP) signed an MoU for collaborative research

Calibrate your Sensors

Accurate Air Pollution Monitoring: CSTEP is offering a unique opportunity citizen groups and researchers to calibrate low-cost sensors with a reference-grade instrument – the Beta Attenuation Monitor (BAM). Low-cost sensors have emerged as a game changer in air-pollution monitoring. However, these sensors require periodic validation and calibration with a reference-grade instrument such as BAM. To know more about the programme, please reach out to the [Centre for Air Pollution Studies \(CAPS\)](mailto:caps@cstep.in) at caps@cstep.in .

Calibrate your low-cost sensor

at CSTEP!



Sensors being calibrated against CSTEP BAM facility

The Air Pollution Lab at CSTEP has Beta Attenuation Monitor

The Write Path!

Read about our Research: CSTEP published a study – [Sustainable Alternative Futures for India](#) – on India's energy and emission implications of meeting a desired quality of life.

CSTEP published the findings of its exploratory study on [App-Based Shared Mobility Services in India](#). Also, read the [Policy Imperatives](#) of the study for key policy recommendations on improving the services.

We concluded our preliminary study on a comparative [life-cycle assessment of zero-budget natural farming \(ZBNF\) and conventional farming](#) in Andhra Pradesh, comparing water and energy consumption, GHG emissions, cost of cultivation, yield, and net revenue.

Read the findings of our [study](#) to understand the challenges faced by e-rickshaw operators across Patna.

Our researchers assessed the impact of India's economic-growth trajectories on climate goals using a [CGE-TIMES framework](#).

Read the findings from Senior Research Engineer Dr Vignesh Prabhu's [study](#) on atmospheric aerosols and inhalable particle count during Diwali in Dehradun.



Read about our research on www.cstep.in

CSTEP IN NEWS

Nature India has reviewed CSTEP founder and former Scientific Advisor to the Raksha Mantri, Dr VS Arunachalam's book, *From Temples to Turbines- An Adventure in Two Worlds*, in this article titled [*The Inside Story of India's Light Combat Aircraft Tejas*](#).

Citizen Matters published articles by two of our researchers. Research Analyst Trupti Deshpande wrote on how [*Metro stations can be key to seamless connectivity in Bengaluru*](#), and Senior Research Engineer Harikrishna KV wrote on [*how power outages can be avoided when solar generation is erratic*](#) (against the backdrop of the recent solar eclipse).

Sustainability Outlook published an article by our Senior Research Analyst Shramana Dey, titled [*Dark Side of the Sun: Clean Energy's Wasteful Impact*](#); in the article, she looks at the policies and guidelines essential to manage solar PV waste.



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