



August 2021

Featured Story



The article '[Pumped Hydro: Money Matters](#)', written by Mr Aniket Baregama from the Energy and Power sector, is the featured article for the month of July. The article explores the pumped-hydro energy storage (PHES) funding mechanisms being used worldwide and discusses how they can be adapted to the Indian context.



CSTEP Changemakers

Developing countries are faced with the challenge of ensuring that their climate action and ambitions do not interfere with development. We built 'Sustainable Alternative Futures for India' (SAFARI), a user-interactive simulation model, to explore this conundrum for India. SAFARI estimates the energy, emissions, and resource footprints of achieving specific development goals and allows users to create various alternative scenarios through the use of policy, technology, and behavioural levers.

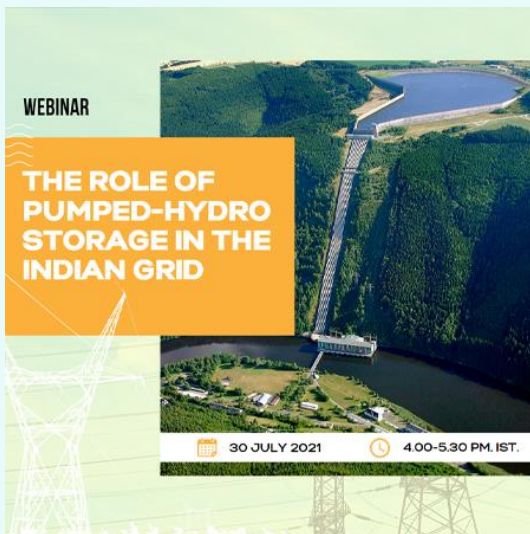
– Ms Ramya Natarajan - Climate, Environment and Sustainability Sector

Solutions

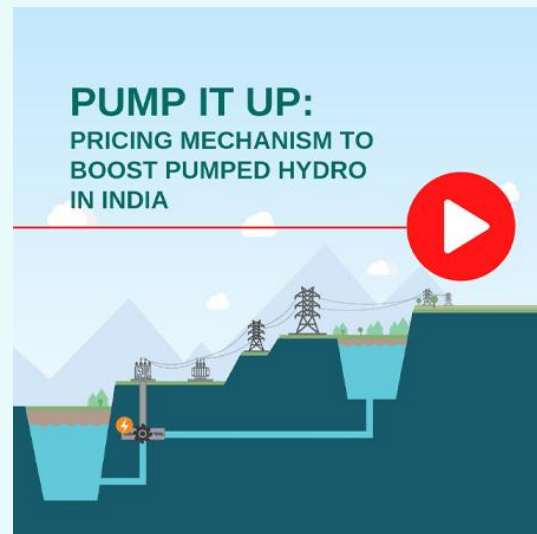
In the coming decades, India has to meet several developmental challenges, including bridging the housing shortage; improving healthcare and education infrastructure; providing 24/7 electricity and clean water; and maintaining food security. It also has to live up to its commitment to climate action. Our Sustainable Alternative Futures for India (SAFARI) model aims to provide an analytical framework that helps identify sustainable long-term development strategies for India. This user-interactive system dynamics simulation model employs a bottom-up approach where demands arising from achieving various development goals—food, housing, healthcare, education, power, water, and transport—are the main drivers of growth. It can be used to build long-term scenarios for low-carbon development.



Events



On 30 July, CSTEP organised a webinar on 'The Role of Pumped-Hydro Storage in the Indian Grid'. The webinar had two sessions: the first consisted of a panel discussion on ***The Need for Pumped-Hydro Storage in the Indian Grid***, and the second had a presentation on the CSTEP study '[The Pricing Mechanism of Pumped-Hydro Storage](#)', by Dr Ammu Susanna Jacob from the Energy and Power sector, followed by a panel discussion on ***Pricing Mechanism for PHES***. The event was well attended.

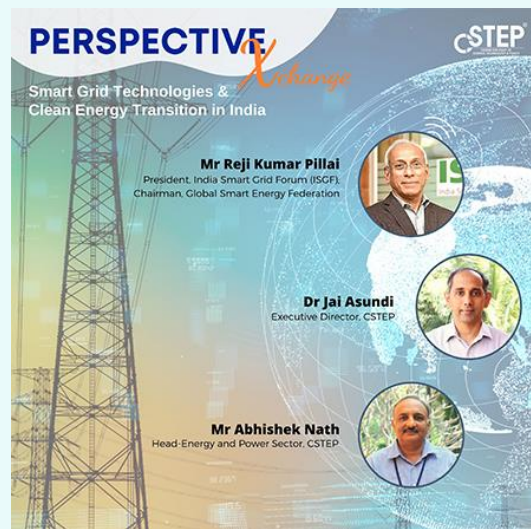


To build up the momentum for the event, we posted a new video titled '[Pump it up](#)' as part of our 'Science Says' series. We also published some blogs around the topic of the event, written by researchers from the Energy and Power sector. The first blog, titled '[Pumped Hydro: Pushing the Needle Forward on Clean Energy](#)', was written by Mr Mallik EV, and the second blog titled '[PHES: A Multifunctional and Cost-Effective Energy Storage System](#)' was written by Mr Hanumanth Raju GV.

In July, we published two episodes in our Perspective Xchange podcast series.



The 9th episode, titled '[Clean Energy Transition & India's Power Sector](#)', had Dr Jai Asundi, Executive Director, CSTEP, and Mr Vipul Tuli, Managing Director of Sembcorp Energy India Limited (SEIL) – the Indian subsidiary of Sembcorp Group, and Chair of the Power Committee at FICCI, discussing the challenges in charting a clean and green energy path.



The next episode, titled '[Smart Grid Technologies & Clean Energy Transition](#)', had Dr Jai Asundi, along with Mr Abhishek Nath, Sector Head, Energy and Power, CSTEP, in conversation with Mr Reji Kumar Pillai, President of the India Smart Grid Forum, on how a clean energy future can be enabled through a modern grid system.



The 3rd edition of CSTEP's annual flagship event India Clean Air Summit (ICAS) will be held on 26 and 27 August. The event will bring together policymakers, industry leaders, scientists, researchers, students, and citizen activists to discuss air pollution and its health linkages. Spread over two days, the virtual summit will provide a platform for key stakeholders to engage in debates on various topics related to air pollution. Additionally, ICAS 2021 will have two expert sessions exclusively for college students. The event [concept note](#) is available on the CSTEP website. Registrations are now open for [Day 1](#) and [Day 2](#).

FRI, 16 JUL 2021
7:00 PM – 8:00 PM

Jumpstarting a Solar Revolution
How Bangalore Can Show the Way

SPEAKERS

Jai Asundi
Executive Director, CSTEP

Dr Jai Asundi, Executive Director, CSTEP, spoke at a webinar organised by Bangalore International Centre on '[Jumpstarting a Solar Revolution - How Bangalore Can Show the Way](#)'.

Dr Indu K Murthy, from the Climate, Environment and Sustainability sector, was invited as a speaker at several webinars in the month of July.

ADAPTATION FUTURES 2020
SUSTAINING ECONOMIC GROWTH

2nd July 2021
1600-1800 IST | 1234-1433 CDT | 09:30-11:00 EST

Pre-Conference Webinar

SAPCC: Driver of Mainstreaming Climate Change Adaptation into Sub-national and Local Planning

Dr Indu Murthy
Principal Research Scientist
CSTEP

Sponsored by:

At a webinar organised jointly by GIZ and Ministry of Environment, Forests and Climate Change (MoEFCC) on State Action Plans on Climate Change (SAPCC) as a driver for mainstreaming climate change adaptation into sub-national and local planning, Dr Murthy spoke on '**Academic Perspective: Approaches and Tools for Mainstreaming Climate Change**'.

ENVIRONMENTAL MANAGEMENT AND POLICY RESEARCH INSTITUTE

Organizing Webinar on

"Science of Climate Change - Adaptation and Mitigation"
ON
12th July 2021, 11:00 AM to 01:00 PM

Register and Meeting Link:
<https://us02web.zoom.us/j/617DssGKwURBqzeaoPG5LWxnQFJAX>

Feedback Form Link: <https://forms.gle/a76XyoQDuN8KcsAz5>

RESOURCE PERSON

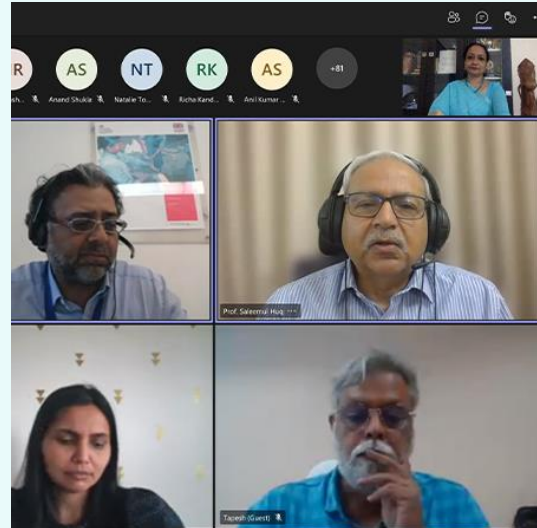
Dr. Indu K Murthy
Principal Research Scientist
CSTEP, Bengaluru

E-Certificate Will be Provided

She also spoke at a webinar organised by Environmental Management and Policy Research Institute (EMPRI) on '**Science of Climate Change – Adaptation and Mitigation**'.



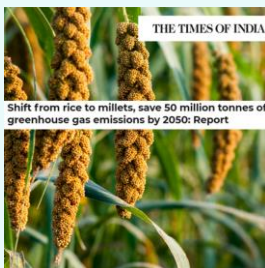
Further, Modern Education Society (MES) College of Commerce, Sirsi, invited Dr Murthy as a resource person for their state-level webinar to deliver a talk on **'Climate Change: Risks, Impacts and Solutions'**, while at a webinar organised by United India Anthropology Forum (UIAF) in collaboration with Indian Institute of Bio-Social Research and Development (IBRAD), she spoke on **'Nature Conservation-Based Sustainable Livelihoods'** as a guest speaker.



She was also part of a panel discussion at the **COP26 Dialogue on Prioritising Adaptation and Resilience in India's Climate Action**, organised by the British High Commission in partnership with UNDP India.

In the News

In July, CSTEP was featured **eight** times in the media. This includes **seven** mentions of CSTEP studies and comments made by our researchers, published by leading print and digital news platforms.



[The Times of India](#) mentioned the findings of the recently-released CSTEP report, ['Energy and Emissions Implications for a Desired Quality of Life in India via SAFARI'](#), in an article titled *'Shift from rice to millets, save 50 million tonnes of greenhouse gas emissions by 2050: Report'*. The article also quoted Ms Shweta Srinivasan from the Climate, Environment and Sustainability sector on how the SAFARI model aims to start a conversation around achieving economic development without compromising on climate goals, by putting forth some plausible scenarios.



[Carbon Copy](#) interviewed Dr Jai Asundi, Executive Director, CSTEP, on India's energy landscape. In the interview, titled *'DISCOM Participation Essential for Decentralised Energy Scaling in India'*, Dr Asundi observed that participation of distribution companies can enable economies of scale for wider adoption of decentralised RE.



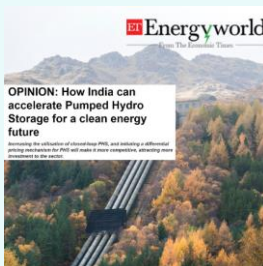
An article published in *Hindustan Times* carried comments from Dr Pratima Singh from the Climate, Environment and Sustainability sector. She stated that negligence in handling solid waste can cause damage not only to the environment, but also to the marginal communities residing near the landfills.



In another article published in *Hindustan Times*, Dr Indu Murthy from the Climate, Environment and Sustainability sector was quoted. She commented that recycling of waste will minimise environmental and climate impacts, and lead to substantial resource savings.



Another article, published in *The Hindu*, quoted Mr Saptak Ghosh from the Energy and Power sector extensively on the benefits of the CREST (CSTEP's Rooftop Evaluation for Solar Tool) tool and how it can help Bengaluru meet the new ambitious target of 300 MW of solar power, set by the Ministry of New and Renewable Energy (MNRE).



ET EnergyWorld also published an article titled 'How India can accelerate pumped-hydro storage for a clean energy future', written by Dr Ammu Susanna Jacob and Ms Rishu Garg from the Energy and Power sector. In this article, the authors opine that increasing the utilisation of closed-loop pumped-hydro storage (PHS) and initiating a differential pricing mechanism will make PHS more competitive.



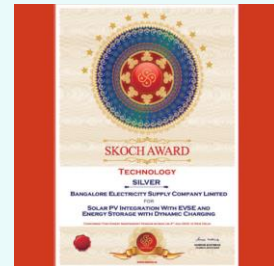
Further, CSTEP was mentioned in an article titled 'A new tool to site renewable power projects to avoid conflicts' published on *Money Control*. The article talks about a study conducted by The Nature Conservancy (TNC) and CSTEP, which shows that India can meet (and even exceed) its renewable energy targets, by placing renewable energy infrastructure on lower impact lands, with the help of the 'SiteRight' tool – a new tool developed to help decision-makers make better siting choices.



Also, Dr Pratima Singh from the Climate, Environment and Sustainability sector was invited to a panel discussion organised by *Patrika TV – Rajasthan*. In the show titled 'Capital Talk', the panellists focused on the effectiveness of the green company ratings for industries in Rajasthan. The scheme has been floated by Rajasthan Pollution Control Board and Confederation of Indian Industry (CII) together. The recording of the show is available on [Patrika TV Facebook page](#).

Tipping the Scale

We are delighted to share that Bangalore Electricity Supply Company Limited (BESCOM) has won the [SKOCH award](#) in the Silver Category for Technology, for its pilot study 'Solar PV integration with EVSE and Energy Storage with Dynamic Charging'. CSTEP was the knowledge partner for this study. Our team was involved in the pilot throughout—from the conceptualisation of the system design to the final implementation of the project.



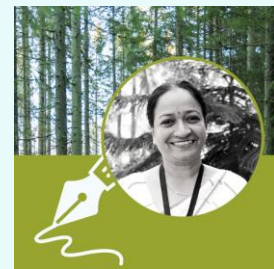
Our latest report, '[Energy and Emissions Implications for a Desired Quality of Life in India via SAFARI!](#)' has been published on our website. The report is authored by Ms Kaveri Ashok, Ms Poornima Kumar, Ms Ramya Natarajan, and Ms Shweta Srinivasan from the Climate, Environment and Sustainability sector. This modelling study aims to provide an understanding of the interactions between sectors, natural resource systems, and environmental externalities—a prerequisite for balancing development and climate action. It also aims to help create scenarios for low-carbon development by using an interactive simulation tool – 'Sustainable Alternative Futures for India' (SAFARI).



CSTEP was a supporting partner for the webinar 'Future of Energy Innovation: Renewable Energy and Energy Efficiency', organised by BRICS Chamber of Commerce and Industry. Dr Jai Asundi, Executive Director, CSTEP was invited as a panellist, and spoke on 'Roadmap to Sustainability: Energy Efficiency and Innovation'.



We are pleased to share that Dr Indu Murthy from the Climate, Environment and Sustainability sector has joined the Editorial Board of the *International Journal of Climate Change Strategies and Management* as 'Associate Editor'.



We are glad to share that the CSTEP [Annual Report](#) for the year 2020-21 is now on our website. In this year's report, we look at a Resilient CSTEP.



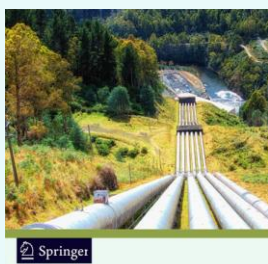
On Our Minds



A journal article on '[Sustainable Alternative Futures for Urban India: The Resource, Energy, and Emissions Implications of Urban Form Scenarios](#)' written by Ms Poonima Kumar, Ms Ramya Natarajan, and Ms Kaveri Ashok from the Climate, Environment and Sustainability sector was published in *Environmental Research: Infrastructure and Sustainability*, by IOP Publishing.



Another journal article, co-authored by Dr Sreekanth Vakacherla from the Climate, Environment and Sustainability sector, has been published by the *Journal of Open Source Software (JOSS)*. Titled '[pollucheck v1.0: A Package to Explore Open-source Air Pollution Data](#)', the article talks about Pollucheck, an application that analyses real-time pollution and co-located meteorological data from open-source air pollution databases.



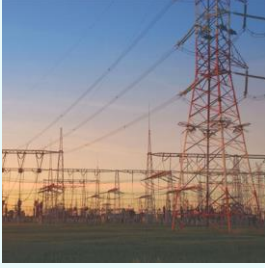
A conference paper titled '[Techno-Economic Analysis of Pumped-Hydro-Energy Storage as Peaking Power Plants in India for High Renewable Energy Scenarios](#)', has been published in the book series *Lecture Notes in Electrical Engineering*, by Springer. This paper, written by Dr Ammu Susanna Jacob, Ms Rishu Garg, Mr EV Mallik, and Mr GV Hanumanth Raju from the Energy and Power sector, analyses the techno-economics of RE-integrated PHES plants in India, while discussing a case study of Uttarakhand in detail.



To celebrate World Nature Conservation Day on 28 July, we published a blog post titled '[The Other #GenerationRestoration](#)' on LinkedIn SPACE. The article, written by Ms Srijita Chakrabarti a former intern working in the Communication and Policy Engagement team, says that nurturing a love for nature in the young through experiential learning can help foster generation restoration.



We also published a blog article titled '[How Thermal Generating Companies Can Stay in Power](#)' by Ms Rishu Garg from the Energy and Power sector and Ms Merlin Francis from the Communication and Policy Engagement team on the CSTEP Medium page. With the global push for clean energy and falling RE costs, there is no backing away from the ambitious goals India has set for mainstreaming renewable energy. In this article, the authors talk about the contribution that state power generating companies (GENCOs) can make for a successful transition.



Another blog titled '[Distribution Companies Should Turn the Tide by Going SMART](#)' written by Ms Rishu Garg and Mr Hanumanth Raju GV from the Energy and Power sector was also published on our Medium page. In this article, the authors suggest measures to cut down losses of state-owned electricity distribution companies that are plagued with financial problems, by making officials at the operational level more accountable.

Tickle Tales



It has been our endeavour to keep you abreast with the significant monthly developments at CSTEP through POLICY Matters. Please feel free to share your suggestions, if any, by writing to us at cpe@cstep.in



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