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May 2021

Featured Story



In this month's featured article, ['Time to turn nature smart'](#), Ms Garima Singh from the Communication and Policy Engagement team talks about deriving inspiration from nature to restore our Earth, thereby saving ourselves from the self-inflicted disaster of climate change. The article was published on Earth Day on 22 April.



CSTEP Change-makers

India plans to install 450 GW of renewable energy by 2030. This requires a bulk storage technology like pumped hydro to balance the grid. CSTEP has analysed a differential pricing mechanism for pumped-hydro storage, to make it more profitable and attract more investors in the sector.

- Dr Ammu Susanna Jacob, Energy and Power Sector

Solutions

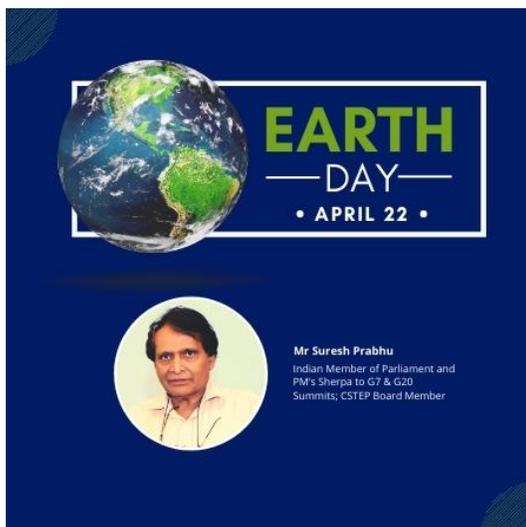


Among the Indian states, Karnataka leads in installed RE capacity, with a technical potential for further growth. The state-run power generating company, Karnataka Power Corporation Limited (KPCL), can transition to RE and contribute to the state's renewable mix.

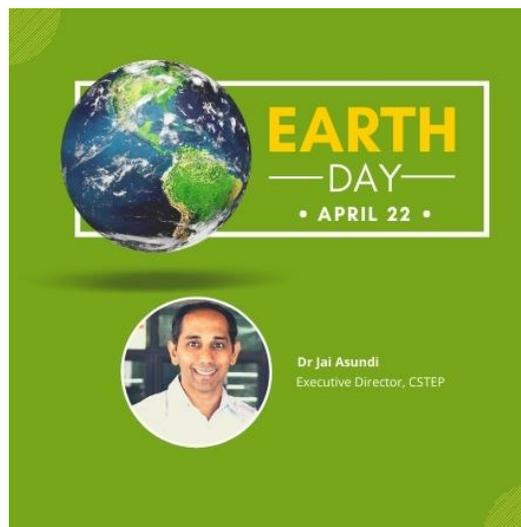
CSTEP has developed a long-term roadmap (until 2030) for KPCL that assesses its potential to contribute to the RE-dominant power sector in Karnataka and identifies revenue generation opportunities for its sub-optimal operating/ageing power plants.

Events

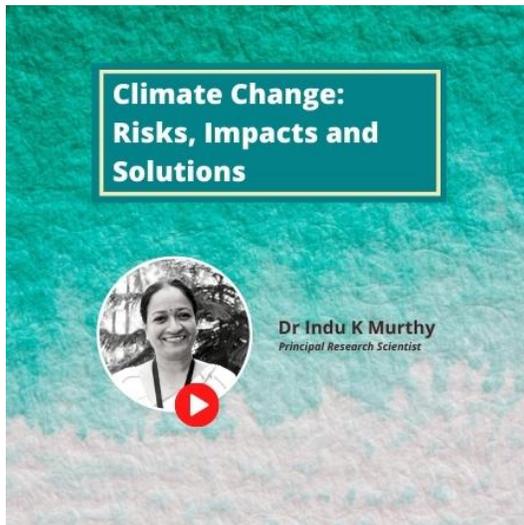
CSTEP observed **Earth Day 2021** on 22 April, with posts and articles on what can be done to restore our Earth.



We posted a special [quote](#) from Shri Suresh Prabhu, Indian Member of Parliament and Prime Minister's Sherpa to the G7 and G20 summits, and also a CSTEP Board Member, on utilising the opportunity Earth Day brings, to rebuild the planet.



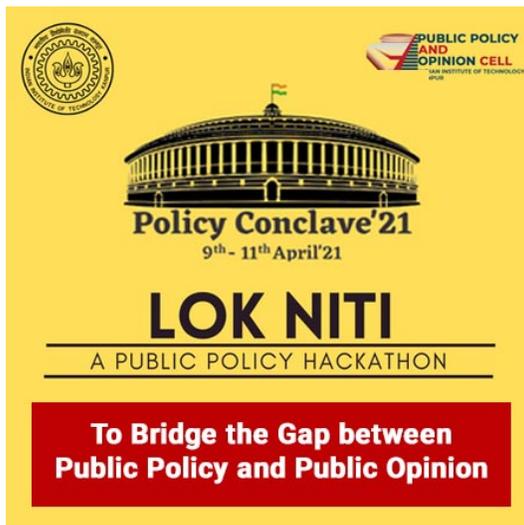
Our second special [quote](#) on Earth Day was from Dr Jai Asundi, our Executive Director, on making conscious choices to enrich human lives and planet biodiversity.



Dr Indu K Murthy from the Climate, Environment and Sustainability sector, was invited as a guest speaker for the Earth Day webinar 'Climate Change: Risks, Impacts and Solutions', organised by Amrita Vishwa Vidyapeetham, Coimbatore, on 21 April.



Dr Murthy was also invited by Earthbanc, a sustainable finance AI advisory products and services company, as a guest speaker at their Earth Day event 'Navigating the Road to Climate Neutrality' on 22 April, where she spoke on the role of carbon sequestration in the quest for carbon neutrality.



CSTEP was the event partner for the 3rd edition of IIT Kanpur's annual flagship event 'Policy Conclave 2021' held from 9-11 April, 2021. As part of the collaboration, we provided problem statements to the teams participating in 'Lok Niti'—a public policy hackathon for encouraging young minds to come up with innovative policy solutions. At the hackathon—which received about 447 registrations under four themes: Foreign Policy, Education, Science & Technology, and Environment—Dr Pratima Singh



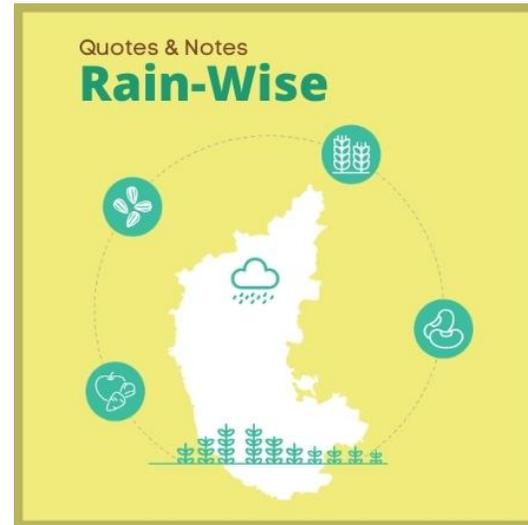
CSTEP, along with the Indian Institute of Science (IISc) and the National Institute of Advanced Studies (NIAS), was the partner for a virtual workshop titled 'Smart Cities in Karnataka: Experiences and the Road Ahead', organised by the Indian National Academy of Engineering (INAE). The workshop aimed to understand the experiences and challenges in implementing the Smart City Mission in Karnataka, and explored possible solutions and future strategies. It included focussed sessions on Transport, Water

and Dr Sreekanth Vakacherla from our Climate, Environment and Sustainability sector, were the judges for the theme 'Environment'. CSTEP will also offer an internship opportunity to the winning team.

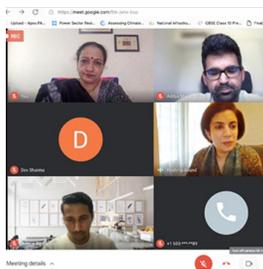


Researchers at CSTEP attended a talk titled '[Turning the Tide](#)', by Professor Martin Siegert, Co-Director, Grantham Institute – Climate Change and Environment, Imperial College, London, and Technical Advisory Board Member at CSTEP. The talk provided insights on sea-level changes and what they mean for us.

and Sanitation, Solid Waste Management, Disaster Resilience, and Environment and Ecology. Synopses of the theme-wise discussions were presented during the final plenary session of the workshop. These will form a summary report with theme-wise recommendations, which will be further developed into a policy note.



We published the latest episode of our podcast series 'Soundbites on Science, Technology, and Policy'. Titled '[Quotes & Notes – RainWise](#)', the podcast is based on our report 'Climate Change Risks to Rainfed Agriculture in Karnataka'. It has Mr Abhinav Pratap Singh from the Communication and Policy Engagement team, in conversation with the authors—Dr Indu K Murthy and Dr Kritika Adesh Gadpayle from the Climate, Environment and Sustainability sector—on the risks posed by the changes in climate and rainfall patterns to rainfed crops, and how they can be made more resilient.



Dr Indu K Murthy was an expert panellist for the 'AI for Agriculture' hackathon, organised by Hindustan Unilever Limited and Google, in association with MyGov India, the Government of India's citizen engagement programme. The hackathon aimed to address the issue of water scarcity in India, and identify innovative solutions leveraging artificial intelligence.

In the News

This month, CSTEP was featured **six** times in the media. This includes four opinion pieces/columns published in leading print and digital news platforms.



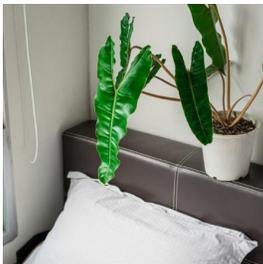
ThePrint published an article titled '[India's 24 cr school students need to be green-jobs ready. Give them climate literacy](#)', written by Dr Indu K Murthy from the Climate, Environment and Sustainability sector and Mr Abhinav Pratap Singh from the Communication and Policy Engagement team, on Earth Day. In the article, the authors opine that while environmental studies is compulsory at all levels of formal education in India, we now need to move towards developing climate literacy and skills for a green future.



The Financial Express published an article titled '[Fire and Ice: The signs of climate breakdown](#)'. Written by Ms Sreerexha Pillai from the Communication and Policy Engagement team, the article talked about the need for India to face up to its climate challenges, against the backdrop of US President Mr Joe Biden's two-day Climate Summit on 22-23 April.



ETEnergyWorld published an article titled '[A roadmap for Karnataka state power generation companies](#)', written by Mr Aniket Baregama and Mr Abhishek Nath from the Energy and Power sector. The article discusses how RE transition will help Karnataka utilise its thermal and renewable power capacities optimally and suggests that the power generation companies in the state should explore open access trade and thermal-RE bundling.



The next article in the guest column series of **The Financial Express** was also published this month. Titled '[Indoor air: Is it as safe as we assume it to be?](#)', the article was written by Dr Pratima Singh and Mr Udhaya Kumar V from the Climate, Environment and Sustainability sector, and Mr Reghu Ram R from the Communication and Policy Engagement team. The article highlights the importance of indoor air quality and calls for effective interventions at behavioural, technical, and policy levels to improve the situation.



Further, **The Hindu** published an article on our report 'Climate Risk Profile for Power Sector in Karnataka'. The article, '[Tough times ahead for state's power infrastructure](#)', shared some of the key findings of the study and also quoted Dr Indu K Murthy, one of the key authors of this report, on why an initial climate change risk assessment is important for practitioners to make decisions and climate-proof infrastructure.

Another article on CSTEP being appointed as an Institute of Repute (IoR) for implementing the National Clean Air Programme (NCAP), was also



published by *The Hindu*. The article, '[CSTEP to help deal with air pollution](#)', mentions our collaboration with Karnataka State Pollution Control Board (KSPCB) and Bruhat Bengaluru Mahanagara Palike (BBMP), as an IoR for effective implementation of the NCAP in Bengaluru city. Covering CSTEP's role in detail, the article also quotes Dr Pratima Singh from the Climate, Environment and Sustainability sector, on the inputs and guidance we will be providing to the state administration.

Tipping the Scale

We are delighted to share that CSTEP has signed a Memorandum of Understanding (MoU) with the Bangalore Electricity Supply Company (BESCOM) to pursue high-impact research projects in areas of mutual interest. As a knowledge partner for BESCOM, we will undertake state- and national-level projects, selected jointly on the basis of policy relevance.



Our presentation on 'Sustainable Alternative Futures for Urbanisation in India' by Ms Poornima Kumar from the Climate, Environment and Sustainability sector, has won the Best Poster Award at the 'Systems Analysis in Eurasia' conference hosted by the International Institute for Applied Systems Analysis (IIASA). Ms Ramya Natarajan and Ms Kaveri Ashok, also from our Climate, Environment and Sustainability sector, were the co-authors of the presentation.



Dr Indu K Murthy was [interviewed in a special edition](#) of *Women Inspired World (WIW)*, where she shared her inspiring journey and life learnings as a women scientist who challenged the status quo and chose to follow her passion.



We are also pleased to share that Dr Indu K Murthy had been invited to join the Editorial Board of *PLOS ONE*, a peer-reviewed open access scientific journal published by the Public Library of Science, as an Academic Editor. She has accepted the position.

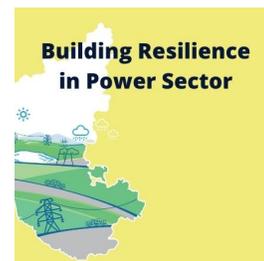
PLOS ONE

CSTEP has been recognised as an Institute of Repute (IoR) under the National Clean Air Programme (NCAP) by the Ministry of Environment, Forest and Climate Change (MoEFCC). In this capacity, we organised a

workshop for 20 other IoRs to guide them on data collection, handling, and storage, for their emission inventory study.



We published two policy briefs in April. The first one, titled '[Building Resilience in Power Sector](#)' highlights the climate risks to thermal and solar power plants, and suggests measures to build climate resilience in the existing and proposed power infrastructure of Karnataka. The second one, titled '[Roadmap for KPCL](#)' suggests ways in which the state-run power generating company, Karnataka Power Corporation Limited (KPCL), can contribute to the state's renewable mix.



On Our Minds



A journal article co-authored by Dr Anjali Singh from the Materials and Strategic Studies sector, has been published in *Nano Letters*, a monthly peer-reviewed scientific journal published by the American Chemical Society. The article, '[Magneto-Optical Stark Effect in Fe-Doped CdS Nanocrystals](#)', establishes that the energy gap between the spin states arising due to magneto-optical Stark effect (MOSE) does not decay within the time frame of observation—an information that can be useful for spin-dependent applications.

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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