विज्ञान एवं प्रौद्योगिकी मंत्रालय
MINISTRY OF SCIENCE AND TECHNOLOGY
सत्यमेव जयते

India-UK Symposium on Sustainability: Addressing Water-Energy-Food nexus [Sustain-WEF]

17-19 April 2023, IIT Kanpur

UK Research and Innovation

About the Symposium

To mitigate the climate crisis, primarily caused by the unabated use of fossil fuels, the future energy transition will need to move towards environment-friendly energy technologies, such as next-generation solar or battery or hydrogen technologies, that are made using cheap, abundant, and sustainable materials. Since 2010, the Indian and UK governments have funded the APEX Consortium and the SUNRISE network <https://www.sunrisenetwork.org/>, which have brought together leading research teams from India and the UK. The groups have demonstrated the development of new materials and devices related to energy generation and storage by turning new materials into commercially viable products. The teams have also shown practical and business potential by installing building-scale demonstrators in Indian villages that use integrated energy systems tailored to the needs of the community.

This multi disciplinary network is now in the right place to take on challenges related to sustainable energy, explore pathways, and plans for decarbonization and Net Zero, and deal with challenges associated with the essential connections between energy, food, and water in India, and the UK. The latter is extremely important, as water, energy, and food are the foundational ingredients for modern civilization, with energy being a cross-cutting thread. Addressing the Food-Water-Energy Nexus in the context of the climate crisis, and thus the transition to NetZero is critical to dealing with this complex issue, which necessitates the collaboration of multiple stakeholders, including academics, researchers, industries, and decision-makers.

This India-UK symposium will feature thought-provoking discussions on the connections between energy generation and storage technologies, efficient system integration schemes, food and water production security, and the overall goal of decarbonization to achieve Net Zero, as well as their impact on socio-economic indicators. The same will be achieved through global collaboration between leading research teams and industries in India and the UK.

Objectives

- To brainstorm on the sustainability solutions in the context of Water-Energy-Food nexus by bringing together Indian and UK experts from different domains leveraging the strengths of a long-standing and successful consortium.
- Review progress of development of 2nd/3rd generation materials utilizing earth abundant substances for application like solar power generation, battery storage, wastewater treatment etc.
- Discuss high TRL technology integrations for relatively mature technologies, system development, and demonstrations.
- Discuss avenues for capacity building and on-ground social and economic impact derived from the implementation of technical solutions.
- Bring Academic-Industry-NGOs together to translate the technology development into real demonstrations and to develop business models and avenues.

Expected Participants

- >100 participants from India and the UK.
- Academicians, researchers, early career researchers, students and representatives from industry, funding agencies, government bodies and NGOs.

Key Speakers

- Prof. Sir Richard Friend, Cambridge University
- Prof. Dave Worsley, Swansea University
- Prof. James Durrant, Imperial College
- Prof. T Pradeep, IIT Madras
- Prof. Satish Patil, IISc Bangalore
- Prof. Sandeep Verma, IIT Kanpur
- Prominent speakers from industry, government bodies, NGOs & academia

Expected Outcomes and beneficiaries

Following are the outcomes that will be of interest :

Scientific and Technological (multi-TRL)

- New materials and technologies for decarbonization (TRL 1-3)
- Possible systems schemes, designs, and demonstration opportunities (TRL 4-7)
- Roadmap to achieving NetZero in specific demonstrations

Techno-socio-economic

- Predictions of techno-economic feasibility of solutions
- Generation of ideas for community engagement and empowerment
- Possible schemes for commercialization of specific applications, entrepreneurship, and start-ups

Capacity building

- Students, linkages, collaborations
- Identification of enablers and challenges

Sponsorship Opportunities

Platinum	5 Lakhs	Promoted as Platinum sponsor on conference website & brochure 2 speaker slots + 1 session chair
Gold	3 Lakhs	Promoted as Gold sponsor on conference website & brochure 1 speaker slot + 1 session chair
Silver	2 Lakhs	Promoted as Silver sponsor on conference website & brochure 1 speaker slot

Organizers:

- Professor Ashish Garg, IIT Kanpur
- Professor Rajeev Jindal, IIT Kanpur
- Professor Hari Upadhyaya, London South Bank University
- Dr. Adrian Walters, Swansea University
- Mr. A. K. Saxena, TERI
- Mr. Arunavo Mukerjee, Tata Cleantech Capital Ltd.
- Professor Satish Patil, IISc Bangalore

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