



## Concept Note

Thematic Track Title: **Sustainable Skylines: Enabling Tomorrow's Architecture with a Web-Based Knowledge Hub on Advanced Building Materials and Energy-Efficient Design**

Date: 8<sup>th</sup> February 2024, Thursday

Time: 1400 hrs – 1530 hrs

Venue: Jacaranda-1 Hall, 1<sup>st</sup> Floor, Opposite Stein Auditorium (Entry from Gate No. 3), India Habitat Centre, Lodhi Road, New Delhi 110003, India

**(i) Background:** Buildings consume over a one-third of India's electricity, escalating with urbanization. India, leading in the fastest-growing building energy consumption, significantly impacts both lives and the environment through the construction sector, a major raw material consumer. To achieve carbon neutrality by year 2070, it is crucial to swiftly reduce emissions through solutions that cut cooling needs, lower reliance on air conditioning and enhance building performance in a changing climate. Implementing advancements in construction improves quality, efficiency, safety, sustainability and value for money. However, clashes between conventional and innovative practices slow industry adoption. Case studies and a robust literature database capture rich information for investigating complex situations like construction projects.

### **Problem Statement and State of Play**

**A. Problem Statement:** Sustainable Construction faces a challenge in accessing knowledge about advanced building materials & design, hindering progress and widespread adoption. This gap impedes the Smart Cities Mission and its goal of achieving net-zero emissions by year 2070, emphasizing the need for research and development investment in building infrastructure and its dissemination necessitating a concerted effort to bridge the information gap and empower stakeholders.

**B. State of Play:** Currently, there is a significant void in the dissemination of information on advanced building materials and energy-efficient design. This lack of accessible knowledge acts as a bottleneck in the realization of sustainable construction goals set by India's Smart Cities Mission. The ongoing efforts of the Access to Knowledge for Technology Development and Dissemination (A2K+) Studies scheme by the Department of Scientific and Industrial Research (DSIR) to conduct studies on emerging technologies represent a positive step towards addressing this gap. The development of a web-based knowledge portal by TERI within this framework holds promise as a centralized resource. However, strategic interventions are needed to accelerate effectiveness and empower a global audience with sustainable construction insights.

**(ii) Objectives of the thematic track:**

**The key objective of organizing this session at WSDS 2024 is to foster insightful discussions on access to knowledge about advanced building materials and design.** This encompasses an introduction to the web-based knowledge portal being developed by TERI as part of the research study under the A2K+ Studies scheme by the DSIR, aiming to share valuable information on advanced building materials and energy-efficient design. Aligned with India's Smart Cities Mission and its commitment to achieving net-zero emissions by 2070 (as emphasized in COP26), the urgency for research and development investment in building infrastructure is underscored. One of the core infrastructure elements of Smart Cities Mission is to create a sustainable environment and implement smart solutions such as constructing energy-efficient and green buildings. To support Smart Cities Mission's sustainable initiatives, the A2K+ Studies Programme conducts studies on emerging technologies, creating a knowledge base for industry and research organizations. Through this dynamic web-based knowledge portal, our overarching goal is to empower a global audience, including professionals, researchers and students, with the latest insights and best practices in sustainable construction within the Indian context.

**About the World Sustainable Development Summit (WSDS)**

The World Sustainable Development Summit (WSDS) is the annual flagship Track II initiative organized by The Energy and Resources Institute (TERI). Instituted in 2001, the Summit series has a legacy of over two decades for making 'sustainable development' a globally shared goal. The only independently convened international Summit on sustainable development and environment, based in the Global South, WSDS strives to provide long-term solutions for the benefit of global communities by assembling the world's most enlightened leaders and thinkers on a single platform. The 23<sup>rd</sup> edition of the annual flagship event of The Energy and Resources Institute (TERI)—the World Sustainable Development Summit (WSDS)—will be held from 7<sup>th</sup> February to 9<sup>th</sup> February 2024 in New Delhi. The Summit deliberations will focus on the umbrella theme: Leadership for Sustainable Development and Climate Justice.