

# NTU Singapore, Odisha Government, and IIT Bhubaneswar Join Forces to Advance Green Energy Technologies

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The partnership focuses on developing advanced renewable energy systems, including solar, wind, hydro, and waste-to-energy technologies, to enhance efficiency and meet rising energy demands. (Representational Photo Source: Canva)

Nanyang Technological University (NTU) Singapore, the Energy Department of Odisha Government, and IIT Bhubaneswar have joined hands to advance sustainable energy technologies. A Memorandum of Understanding (MoU) was signed on January 17, 2025, in Odisha during Singapore President Tharman Shanmugaratnam's visit to India. This strategic collaboration aims to tackle global energy challenges and foster innovative solutions in renewable energy, hydrogen production, energy storage, and microgrids.

The partnership focuses on developing advanced renewable energy systems, including solar, wind, hydro, and [waste-to-energy technologies](#), to enhance efficiency and meet rising energy demands. Researchers will explore cutting-edge energy storage solutions, such as battery systems and alternative methods like hydrogen and gravitational storage, with an emphasis on cost-effectiveness and scalability.

Hydrogen production through sustainable means, such as seawater and sewage electrolysis, is another key aspect of the initiative. NTU Singapore's Vice President

(Industry), Professor Lam Khin Yong, highlighted the collaborative effort's potential to accelerate sustainable energy development, benefiting both nations and the broader region.

This collaboration also seeks to integrate renewable energy into microgrids, ensuring seamless grid management. Studies on energy markets, deregulation, and economic models will address the complexities of large-scale renewable adoption. Additional focus areas include energy-efficient building designs, climate research, and processes supporting sustainability goals.

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Executive Director of NTU's Energy Research Institute, Professor Madhavi Srinivasan, emphasized

the importance of capacity-building programs, such as student and faculty exchanges, to foster interdisciplinary learning. Similarly, IIT Bhubaneswar Director, Professor Shreepad Karmalkar, highlighted the initiative's potential to nurture young talent, promote startups, and expand into emerging fields like semiconductor technology, AI, and [waste management](#).

Odisha's Principal Secretary for Energy, Vishal Kumar Dev, highlighted the state's goal of adding 10 GW of renewable energy capacity by 2030. He stressed the MoU's role in fostering innovation across energy generation, storage, transmission, and utilization, while renewing historical ties between Odisha and Singapore.

Professor Madhavi Srinivasan, Executive Director of the Energy Research Institute at NTU Singapore, signed the agreement on behalf of the university. She was joined by Debi Dutta Tripathy, FA-cum-Additional Secretary to the Government of Odisha's Energy Department, and Professor Prasant Kumar Sahu, Dean of Alumni Affairs and International Relations at IIT Bhubaneswar.

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