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Transition to Hydrogen Economy: integrating strategy for Climate & energy solutions

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Abstract

The significant developments in green hydrogen, especially the oaths taken at COP29 held in November 2024 in Baku, Azerbaijan, are landmark decisions in the area of green energy. COP29 showcased the pivotal role of green hydrogen in global decarbonization efforts. COP29 Hydrogen Declaration is an ambitious initiative focusing Global Energy Storage and Grids Pledge with the Breakthrough Hydrogen Action Declaration. This talk would highlight the commitments made by participating nations, including the U.S., to scale up green hydrogen production, reduce emissions, and build the infrastructure needed for a sustainable energy future. From integrating hydrogen strategies into Nationally Determined Contributions (NDCs) to tackling hard-to-abate sectors like steelmaking and aviation, green hydrogen is leading the way in the fight against climate change. Further, this chapter also explore how these initiatives are shaping the future of energy and creating pathways to a net-zero world via green hydrogen innovation and international collaborations and partnerships. Hydrogen is the most abundant chemical substance in the universe, constituting roughly 75% of all normal matter. Global Hydrogen conferences and workshops held all over the world during 2023 and 2024 are more than 30. The Hydrogen valley project that was initiated the Department of Science and Technology (DST), Ministry of Science and Technology (MST), Government of India a few years ago made significant progress. Scientific priorities and challenges, commitment of the Indian Railways set to launch Hydrogen train in the early 2025 are covered in the lecture.

Keywords:

Bali action plan, building climate resilience, clean energy, Climate and energy solutions, Hydrogen for decarbonization, ICHET, Net-Zero Transition, UNIDO, Versatile fuel

Reference

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