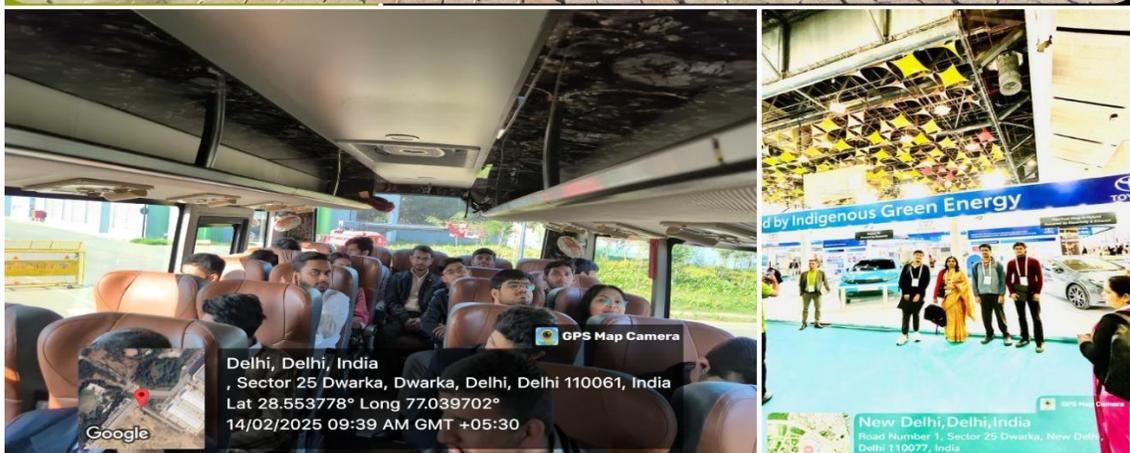


Report on Visit to India Energy Week (IEW) 2025 on 14th February, 2025

On 14th February 2025, a group of 2nd year and 3rd year IT students embarked on an educational visit to **India Energy Week (IEW) 2025** accompanied with Dr. Deepshikha Yadav held at **Yashobhoomi, Dwarka**.



Upon arrival at the event, the students had the opportunity to witness a significant moment as **Hon'ble Minister of Petroleum and Natural Gas Hardeep Singh Puri** graced the occasion with his presence. The minister **presented awards to the winners of the prestigious hackathon**, with students from **IIT Guwahati (IITG)** and **IIT ISM Dhanbad** emerging as victors for their innovative contributions in the energy sector.

Following the award ceremony, **Mr. Hardeep Singh Puri** engaged in an insightful discussion with **Mrs. Shereen Bhan, Chief Editor of CNBC TV 18**. During the interview, he elaborated on **the future prospects of Artificial Intelligence in energy sources**, emphasizing the need for **sustainable and renewable energy solutions**. He also highlighted **the significance of international collaborations**, particularly the **energy relationship between the United States and India**, shedding light on key bilateral agreements and future energy strategies.

Post the interview, the students explored the expansive exhibition area, which featured over 700 exhibitors and 10 country pavilions, including representations from the US, UK, Germany, Italy, Japan, and Russia. Several prominent companies had set up interactive stalls, displaying innovations in renewable energy, smart grids, electric mobility, hydrogen energy, and carbon capture technologies. Notable exhibitors included:

1. **Abu Dhabi National Oil Company (ADNOC)**: Showcased their latest advancements in **liquefied natural gas (LNG) technologies**, focusing on efficient extraction and transportation methods to reduce carbon emissions. The company also discussed its recent **5-year LNG supply agreement with India's Bharat Petroleum Corporation Limited (BPCL)**, strengthening India's natural gas infrastructure. Additionally, ADNOC presented its **AI-driven predictive maintenance system**, which leverages machine learning to optimize the operation of LNG facilities.



2. **Oil and Natural Gas Corporation (ONGC):** Featured an **interactive deep-sea exploration simulation**, allowing visitors to experience offshore drilling operations in real-time using **VR (Virtual Reality) technology**. The simulation demonstrated how AI-powered monitoring systems improve safety and efficiency in deep-water extraction. ONGC also highlighted its new **carbon capture and storage (CCS) initiative**, aimed at reducing emissions from oil extraction processes.
3. **Hindustan Petroleum Corporation Limited (HPCL):** Unveiled an indigenous **Solid Oxide Fuel Cell System**, which offers a **high-efficiency, low-emission** alternative for power generation. This technology is expected to be implemented in **smart grids and decentralized energy networks**, improving energy sustainability in urban areas. HPCL also showcased an **automated robotic cleaning system for solar panels**, designed to enhance efficiency by removing dust and debris without human intervention.
4. **Bharat Petroleum Corporation Limited (BPCL):** Introduced an innovative **LPG Cylinder ATM**, an automated system that allows customers to purchase and exchange LPG cylinders with ease. This innovation aims to **streamline distribution, reduce waiting times, and enhance accessibility**, especially in rural areas. BPCL also demonstrated its **smart fuel station concept**, integrating IoT-based monitoring for real-time tracking of fuel quality and inventory.



5. **Council of Scientific and Industrial Research (CSIR):** Presented an **electric tractor (e-tractor)** designed for sustainable agriculture, showcasing how **solar-powered charging stations** can be integrated into rural areas to promote **eco-friendly farming practices**. CSIR also highlighted its **biodegradable battery technology**, which has the potential to revolutionize energy storage by using organic compounds instead of traditional lithium-ion batteries.

6. **Schneider Electric:** Highlighted its **AI-powered energy management solutions**, which help industrial and commercial facilities **reduce energy wastage by up to 30%**. The system uses **machine learning algorithms to analyze real-time energy consumption patterns** and suggest optimizations.



7. **ABB Group:** Introduced **smart microgrid solutions** aimed at **decentralized power generation using renewable energy sources**. ABB's **AI-driven energy forecasting tools**, which use **predictive analytics to balance supply and demand in real-time**, were particularly fascinating for students interested in AI applications in power systems.
8. **Tata Power:** Showcased its **EV (electric vehicle) charging infrastructure**, demonstrating how **AI and IoT are being leveraged to ensure fast and efficient charging**. The stall also featured an **autonomous robot that performs maintenance on power lines**, reducing the risk of human errors and enhancing grid reliability.

Following an enriching exploration of the exhibits, the students proceeded for **lunch at the venue**, marking a memorable conclusion to the visit. Overall, the visit to **IEW India 2025** proved to be an **insightful and intellectually stimulating experience**, offering the students a deeper understanding of the need and prospects of AI and Information Technology in energy industry and its evolving dynamics.