
Report on Round Table Discussion/Corporate Training/ Capacity Building for Working Professionals on 29th August 2025 organized by Department of Environmental Science

1 message

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DEPARTMENT OF ENVIRONMENTAL SCIENCE

with

**THE ENERGY RESOURCES INSTITUTE and DEUTSCHE GESELLSCHAFT FÜR
INTERNATIONALE ZUSAMMENARBEIT (GIZ), NEW DELHI**

organized

Round Table Discussion/Corporate Training/ Capacity Building for Working Professionals**Date: Time 11:00am to 1:00pm****A BRIEF REPORT**

On 29th August 2025, the Department of Environmental Science, Integral University, Lucknow, in strategic collaboration with TERI and GIZ New Delhi, conducted a high-level **Round Table Discussion, Corporate Training, and Capacity Building Programme** focused on **Battery Energy Storage Systems (BESS)** capacity development. The programme brought together a diverse spectrum of professionals, academicians, and technical experts to deliberate on current challenges, policy frameworks, and technological advancements pertaining to BESS deployment in India. Battery Energy Storage Systems (BESS) are rapidly becoming a cornerstone in the transition to renewable energy and decarbonization. These systems play a critical role in balancing supply and demand, ensuring grid reliability, and enabling the integration of intermittent renewable energy sources such as solar and wind. As the sector experiences exponential growth, there is a pressing need for skilled professionals who can contribute to the planning, deployment, and maintenance of advanced energy storage technologies. However, current capacity-building efforts and corporate training programs often face challenges such as outdated curricula, limited industry-academia interaction, and lack of hands-on training modules. The program was mapped with **SDG 7: Affordable and Clean Energy** because Battery Energy Storage Systems (BESS) are critical for integrating renewable energy sources into the grid, improving energy reliability, and advancing the clean energy transition. However, there are few others SDGs too which this event is linked:

SDG 4 – Quality Education (Training/Capacity Building)**SDG 9 – Industry, Innovation, and Infrastructure (Technological advancement)****SDG 13 – Climate Action (Impact of BESS on emissions)**

The event commenced at 10:00 AM with the registration of participants and seating arrangements, followed by a floral welcome ceremony to honour the dignitaries and invited guests. The inaugural session began with a formal welcome address delivered by **Dr. Ambrina Sardar Khan**, Head, Department of Environmental Science, Integral University, highlighting the importance of the programme in the context of India's clean energy transition and the strategic role of Battery Energy Storage Systems (BESS). **Prof. Abdul Rahman Khan, Dean**, Faculty of Science, addressed the gathering and shared insights into the scientific and technological challenges associated with energy storage infrastructure. **Prof. M. A. Khalid**, Dean Student Welfare (DSW), Integral University, provided his remarks focusing on the role of academia and student engagement in capacity building initiatives, particularly for emerging technologies like BESS. This was

followed by an inspiring address by **Prof. Furqan Qamar**, Advisor to the Hon'ble Chancellor, Integral University. He emphasized the necessity of interdisciplinary collaboration and policy integration for successful BESS deployment in India.

Mr Bernhard Max Voelcker, Head of project GIZ delivered the inaugural remarks, providing an overview of national and international perspectives on BESS technologies, skill development frameworks, and sustainable energy planning. **Mr Jaseem Akhter**, Energy Advisor GIZ remarked about the Battery Energy Storage System.

The Round Table Discussion involved opinions of stakeholders from diverse domains including Electrical Engineering, Civil Engineering, Environmental Science, and Industrial Training Institutes (ITI), who contributed their perspectives on regulatory frameworks, grid integration, and technological innovation. Industry experts from TERI and GIZ led this session, engaging participants in real-time scenarios involving BMS (Battery Management Systems), EMS (Energy Management Systems), and safety protocols. This session aimed to identify existing training gaps and propose an academic-industry policy framework to build technical capacity among future professionals and trainers. The programme continued with an Open House Discussion allowing participants to interact directly with experts, seek clarifications, and share institutional feedback. The session moderator were **Dr. Ambrina Sardar Khan** (Head Department of Environmental Science, IUL) and **Mr. Sachin Sharma** (Associate Director, TERI)

Objective of the Discussion:

The primary objective of the stakeholder consultation with academic institutions, educational and training institutions under the StoREin (Scaling up Storage in Renewable Energy Integration) project was to engage key educational and research stakeholders in identifying and addressing skill gaps within the Battery Energy Storage System (BESS) ecosystem. The discussion aimed to identify skill development challenges and co-create solutions to strengthen workforce capabilities across the energy storage sector:

1. Assess existing academic and training programs relevant to energy storage technologies.
2. Map institutional capacities in terms of infrastructure, faculty expertise, and research capabilities.
3. Identify gaps and opportunities for curriculum enhancement, interdisciplinary collaboration, and industry-academia partnerships.
4. Develop actionable strategies for capacity building, including the design of specialised courses, certification programs, and research initiatives aligned with national energy storage goals.
5. Benefits long-term engagement between academic institutions and the broader energy storage industry to support workforce development and innovation. By participating, stakeholders will help shape modern, scalable, and industry-aligned training programs that can support India's growing energy storage sector and broader clean energy transition.

Stakeholder Contributions:

We are grateful to all the stakeholders who were present and contributed in the fruitful discussion on **Battery Energy Storage Systems (BESS)**. **Mr. Rajendra Kumar Diwedi** (President, Private Industrial Training Institute, Lucknow) along with other fourteen ITI's from Lucknow raised concerns about curriculum gaps in vocational training for lithium-ion battery handling and safety. **Dr. Hamza Siddique** (Solar Unit, Integral University, Lucknow) talked about the challenges in solar energy storage. **Prof. Mohammad Arifuddin Mallick** and **Ms Ambreen Siddiqui** (Faculties from Department of Electrical Engineering, Integral University, Lucknow) advocated the need for advanced courses on Battery Energy storage. **Dr. Archana Yadav** and **Dr. Saima Beg** (Department of Electronics and Communication, Integral University, Lucknow), advocated for integration of real-time IoT-based monitoring systems for predictive maintenance of BESS. Environmental Science presented the end-of-life environmental impact assessment methodologies for BESS waste streams. **Mr. Harshit Srivastava** (Advik Energy Solutions Private Limited) and **Mr. Sarthak Jain** (Manager Project and O and M, HFM Solutions) Manager Project and O and M HFM Solutions presented their opinions about the future prospects of battery energy storage. **Mr. Mohd. Saad Saleem**, **Mr. Mohd. Afzal**, **Mr. M Usama Kidwai**, **Mr. Anas Mirza Baig**, **Ms. Samra Siddiqui**, **Mr. Adarsh Mishra** (Stakeholders from Integral University, Polytechnic) also raised the concern about the present scenarios and future challenges in the Battery Energy Storage System.

Key Outcomes and Recommendations

1. **Policy and Regulation:** There is a strong need for state-level policies to support the deployment of Battery Energy Storage Systems (BESS). These should include incentives for both grid-connected and standalone BESS systems.
2. **Technical Standards:** It is important to follow international safety and quality standards for battery storage systems. Standards like UL and IEC should be made mandatory to ensure safety and reliability.
3. **Academic Integration:** Engineering and science degree programs should include updated modules on BESS technologies, power electronics, and energy systems to prepare students for future industry demands.
4. **Skilling Initiatives:** Short-term certification programs should be created for trainers at Industrial Training Institutes (ITIs) and for industry technicians. These programs should focus on the installation, operation, and maintenance of BESS.
5. **Research and Development (R&D) Collaboration:** Partnerships between Integral University, TERI, and GIZ should be encouraged to develop indigenous, cost-effective, and climate-appropriate BESS solutions through joint research projects.

The event concluded with closing remarks and a vote of thanks by **Dr. Azram Tahoor** marking the successful completion of the day-long programme. The entire event was coordinated by **Dr. Amina Jafri, Dr. Anand Mishra, Dr. Rushda Sharf and Dr. Azram Tahoor**. The Department of Environmental Science, in conjunction with TERI and GIZ, aims to continue this dialogue and extend technical support to stakeholders in developing a robust, safe, and scalable BESS ecosystem.

Round table discussion: https://drive.google.com/file/d/1aGSBx_38cCa8fnMV-XKIBaR4OmmxIBYJ/view?usp=sharing

Glimpses of the event:





With Deep Regards

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"We are not heading towards a bright & hi-tech future;

Instead, we are heading into a dark and suffocated EARTH.."