
Certificate Course On
**“Energy storage and its importance with
Renewable Integration, Grid Stability & Electric Vehicles”**



January 18 – 22, 2021
Online Training & Course

Background

The role of energy storage is going to be extremely important as world shifts towards renewable sources of power in the grid to mitigate climate change and switches from ICE-base vehicles to electric vehicles. In India, with the government's vision to have 450 GW of renewables by 2030, the optimal generation report of Central Electricity Authority projects a requirement of 108 GWh of energy storage at the generation-side for grid security by 2030. In this regard, India needs supportive policies, higher penetration rate of storage in grid-scale projects, in ancillary services to the grid, in the distribution grid and in the unconventional behind-the-meter applications such as for diesel optimization, rooftop solar etc.

Over the years, energy storage has seen technological improvements along with the drop in battery cell prices and has made energy storage a tough competitor as compared with other technologies. India Energy Storage Alliance (IESA) projects the stationary energy storage market can grow to 328 GWh by 2027. Soon, the market is expected to see commercial avenues in

the integration of storage with renewables. With National Electric Mobility Mission Plan, FAME Scheme and with state-specific EV policies, India is aggressively targeting higher EV adoption. The cumulative battery demand for EVs during 2021-2030 is expected to hit 950GWh, this includes lithium-ion chemistry and others. The electric four-wheeler segment is likely to contribute nearly half of this potential.

To drive the efficient policymaking in the said sector, the role of energy storage across possible avenues along with a clearer and deeper understanding is the need of the hour. Considering the need, IESA in collaboration with Administrative Staff College of India (ASCI) is organizing a five-day-long online training course on **"Energy Storage and its Importance with Renewable Integration, Grid Stability & Electric Vehicles"**.

Course Objective

To strengthen skills and capacities of candidates who would potentially work in the field of energy storage/ renewable integration/ electric vehicle and the prospective policymakers to develop a better understanding of the role of energy storage across sectors.

Program Design

The course comprises of self-study, technological learning tools – presentations, videos featuring case studies from various countries and other audio material. Participants will also get to interact and learn from our program mentors through online interactions and from the webinar. The course design is to help the participants to attend the program along with their regular work and study the course material at their convenience.

Who can apply?

- Working professionals and decision makers from government and non-government institutions
- Practitioners from consultancies, community-based organizations, non-government organizations
- Independent researchers and academicians
- Representatives of various energy storage/ automotive industries, associations
- Students, professors aspiring to work in the energy storage/ electric vehicles

Key Takeaways

Indian Power Sector Scenario

- India energy scenario
- Existing power generation supply & demand with future projections
- Analysis of Electricity Act 2003 (Amendment 2020)
- Indian Energy Policy Review (Central Govt., State)
- Ancillary services
- Regulations under pinning storage

Energy Storage Technologies

- Role of energy storage technologies in power systems
- Comparative analysis of energy storage technologies (Li-Ion, advanced lead-acid, flow batteries, sodium-based batteries, zinc-based barriers, pumped hydro, thermal storage, mechanical storage, and others)

Need for Energy Storage in India

- World scenario of energy storage (global installations, case studies)
- Storage market in India (applications, potentials, policy requirements)
- Future scope and benefits

Storage and RE Integration

- Best practices
- Need for RE integration
- Safety issues relating to the integration of RES
- Finance and Business model

Energy Storage and Electric Vehicles

- Overview of energy storage and transportation
- Insights of National Electric Mobility Mission Plan 2020& FAME II
- How EVs and energy storage work together?
- Charging infrastructure
- Market interaction

Course Date: January 18 – 22, 2021

Last Date to Apply: January 15, 2021

Course Fees: INR 22,000 inclusive of GST

Course Duration: 2:00 or 2:30 hrs every day for 5 days

Participants will be awarded a certificate of participation on completion of the course.

Programme Convenor: Dr. Usha Ramachandra, Professor & Director, Centre for Energy Studies, ASCI

Co-Convenor: Debi Prasad Dash, Executive Director, IESA

For any query, please contact:

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