

Energy Storage (online)

Course Introduction

Energy storage is set to play a vital role in the transition to renewable energy sources. It will not only help integrate these new energy sources into the electricity grid but also lead to significant economic benefits for those who invest in energy storage projects.

Our course provides comprehensive coverage of the latest concepts and applications of various energy storage technologies. We start with the basics, guiding you through fundamental concepts like chemistry, physics, engineering, and economics. Additionally, we provide deeper insights into the different aspects of each energy storage technology.

Our aim is not only to offer theoretical or textbook explanations but also to help you apply your knowledge to real-life situations. This course is designed to sharpen your skills and expertise, enabling you to achieve your goals in the energy sector. Join us to enhance your knowledge and skills and become a leading player in the energy storage industry.

- The importance of Energy Storage
- Mechanical energy storage
- Thermal Energy Storage
- Chemical Energy Storage
- Electrochemical Energy Storage

Why You Should Attend

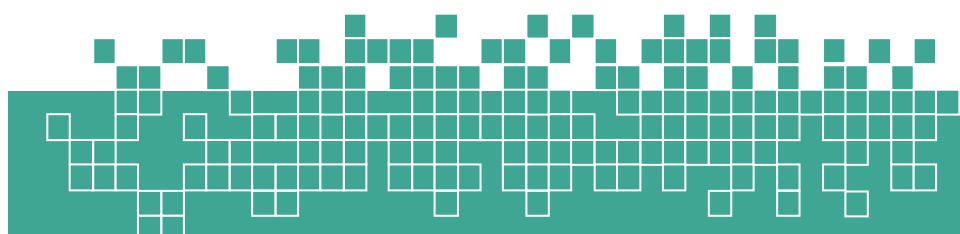
Besides achieving the course objectives, the course is

- Flexible for busy people who want to advance their careers and gain new knowledge without disrupting their professional lives
- Course materials are updated continuously to reflect the latest trends in the industry
- Course material extracted from real-life case studies
- The course lecturer has well-established publications in energy transition, demonstrating his expertise and skills.

At the End of the Course, You Will Be Able To

After finishing this course, the trainees will be able to:

- Define Principles of energy storage technologies
- Identify operational principles of various Energy Storage Technologies
- Explain the possible applications that could employ energy storage technologies



Who Should Attend?

This course is suitable for a wide range of professionals but will greatly benefit:

- Individuals who want to learn about energy storage technologies
- professionals who plan to work in the energy field
- Enthusiastic persons who want to gain a broader understanding of chemical, physical, engineering, and economic aspects of the Energy Storage Industry
- Persons who want to learn about the energy systems

Course lecturer

The lecturer's more than 15 years of expertise in various areas of energy is truly inspiring. With multiple master's degrees, he approaches the topic from various viewpoints, such as technical, policy, and economics. The expert has worked with both national and international organisations, including the EU, GIZ, MEDREG, RCREEE, UNIDO, and UNDP, on a variety of projects, including energy audits and long-term energy planning.

Moreover, the lecturer has published several works in Arabic and English, reflecting the latest technologies in renewable energy and energy efficiency. His research also highlights the latest policies and regulations, such as the recent publication about hydrogen development in Egypt with The Oxford Institute for Energy Studies. It's clear that the lecturer's passion for energy has driven him to produce high-quality research and inspire others to make a positive impact on the world.

Course Syllabus

- Energy storage role and importance
- What is energy storage
- Types of energy storage
- Flywheel energy storage
- Wet gravity energy storage
- Dry gravity energy storage
- Thermal energy storage (sensible heat, PCM, thermochemical)
- Chemical energy storage (hydrogen, biomethane)
- Electrochemical energy storage (Lead-acid batteries, Li-ion batteries)
- Applications of energy storage
- Economics of energy storage

Day 1: Introduction to energy storage	
Session 1 (7:00 - 8.45)	• Energy storage role in the energy transition • What is Energy storage • Energy storage types • Applications of Energy storages
Session 2 (8:45 - 10:30)	• Flywheel energy storage • Economics of Flywheel energy storage
Day 2: Applications	
Session 1 (7:00 - 8.45)	• Pumped hydro storage (PHS) • Gravity energy storage • Applications • Economics
Session 2 (8:45 - 10:30)	• Thermal Energy Storage • Chemical energy storage • Applications • Economics
Day 3: Electrochemical Energy storage (batteries)	
Session 1 (7:00 - 8.45)	• Introduction to electrochemical cells • Lead-acid batteries
Session 2 (8:45 - 10:30)	• Li-ion batteries • Applications • Economics

Course mode: Interactive Online¹

Course duration: 10-11 hours

Course fees: 350 USD

For any inquiries, please get in touch with info@energytics.net

¹ Face to Face course could be organised (kindly contact us for more details and fees)

