InnoEnergy Skills Institute

Battery Storage and the Energy Transition

Last revised: 2023 March

The energy system is poised for exponential change. We are seeing the dynamic shift from centralised power production to local generation and storage, flexible consumption, together with the advent of electric mobility. The rules are changing. By 2030 we expect Europe to achieve higher integration of renewable energy sources, leading to a new energy system more sustainable, environmentally friendly, and cost-efficient. But it won't be easy. First, we need to rethink energy sources and how we deploy new technologies.

This certification introduces you to the critical challenges in navigating this change, and the role of energy storage and batteries in particular in accelerating the transition. You will get a general view of the electric energy market and how it is evolving to accommodate the creation of a sustainable energy society. You will appreciate the disruptive character of battery storage in different sectors and evaluate how electrification can change the energy future. You will also get an overview of new battery-based products and services and emerging business models while understanding the drivers but also barriers to their implementation.

Learning outcomes

Upon completion of the certification, learners will be able to:

- Discuss the worldwide drivers and trends behind energy transition and the increasing focus on renewable energy sources
- Understand the need for energy storage in a renewable source-based energy system, as well as the challenges associated with energy transition in terms of grid flexibility and energy storage needs
- Grasp the crucial role of battery storage to the energy transition and the associated benefits of battery technologies as energy storage devices
- Explain the main applications of battery storage in the electric grid and related challenges

- Reflect on future perspectives for energy storage in the electric grid and on transportation, power, and residential sectors, and correctly interpret the enabling potential of new technological storage innovations or societal developments.

Certification structure

The certification is delivered fully online and is self-paced, making it easy for participants to learn without having to take time off work.

The certification consists of three courses and is structured as follows:

Course 1: The Energy System: Present and Future

- Find out how the energy sector is shifting focus from fossil fuel-based electricity generation to renewable-based technologies

Course 2: Importance of Energy Storage

- Be introduced to the topic of energy storage and why it is so important today
- Discover different storage alternatives based on time and power scales and reflect on the future of the energy storage market

Course 3: Battery Storage: Potential Applications and Challenges

- Explore the potential role and position of battery storage in the future European electricity industry, with a concise overview of sectors that will be involved or affected by battery storage technologies
- Draw inspiration from business innovation examples in the real world

Instructors

The certification is led by experts from the EIT InnoEnergy ecosystem. Instructors on this certification are:

Anna Darmani

Lead Analyst at Wood Mackenzie Power & Renewables and former Energy system analyst at EIT InnoEnergy, Anna is responsible for several EU projects in the area of energy technology innovation and research. She is engaged in the road-mapping of high-potential energy technologies in the future European energy market.

Bo Normark

Industrial Strategy Executive and core member of the European Battery Alliance at EIT InnoEnergy, Bo has more than 35 years of industrial experience in ABB in development, design, project management, and global management of the Power Systems business.

Julian Jansen

Growth & Market Development Director (EMEA) at Fluence and former Research and Analysis Manager at IHS Markit Technology, leading with experience on the global research on energy storage and providing insights into the value drivers and emerging business models driving storage deployment across Europe and N. America.

Tomas Kåberger

Professor of Industrial Energy Policy at the Chalmers University of Technology, Tomas has several years of experience in the energy sector, serves as chairman/advisor of several companies and organisations (Europe/Asia).

How will you learn?

This is an online certification and can be taken at your usual study location. The certification consists of three courses and is self-paced.

Course Duration: 7 Hours

Is it right for you?

This certification is beneficial for anyone interested in understanding the importance of storage in the energy transition, where the market stands, and the potential applications.

Prerequisites: In order to be able to follow and benefit from the Battery Storage and the Energy Transition certification, learners would need to have a basic understanding of the energy system.

Certificates of Achievement

We offer two pathways for issuing of certificates, **InnoEnergy Skills Institute Certificate** and **EDC (European Digital Credentials),** each with its own unique set of benefits, allowing your organization to choose the one that best suits the objectives. **The Achievement recognition will be awarded at a >75% course assessment pass rate.**

InnoEnergy Skills Institute Certificates

What is it?

The InnoEnergy Skills Institute serves as the certificate issuer, verifying learners' progress and achievements with the course material.

What are the benefits?

InnoEnergy Skills Institute certificates are highly adaptable for recognizing various learning levels and achievements. We offer Participation, Completion, and Achievement certificates for learners who complete online courses through the Skills Institute platform.

What that means for you?

You will receive a digital credential that you can store in your personal digital credential wallet. You can also add and share these credentials on your social media platforms. The authenticity of the credentials can be verified online by anyone seeking credential verification.

European Digital Credentials (europass)

What is it?

European Digital Credentials provide an online record of an individual's personal achievements and qualifications. Recognized by employers across the continent, InnoEnergy Skills Institute can issue European Digital Credentials, which learners can add to their European Digital Credentials wallet. For this type of credentials, we only offer Achievement certificates, awarded at a >75% course assessment pass rate.

What are the benefits?

It allows learners to signal their skills and qualifications using the European Learning Model — a semantic standard that helps the recognition of qualifications and digital credentials across Europe. It also combats fraud, and greatly reduces administrative costs.

What that means for you?

You can be confident in the authenticity of your credentials and showcase your skills in a way that is understood in the context of the European Learning Model. You'll also be able to access everything quickly and easily via your online European Digital Credentials wallet.