



**SCANDINAVIAN ACADEMY**  
Training and Development

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# Course: Regulatory Interventions in Power Distribution and Grid Integration

Code	City	Hotel	Start	End	Price	Language - Hours
EE-865	Brussels (Belgium)	Hotel Meeting Room	2027-04-19	2027-04-23	5950 €	En - 25

## Course Description:

This course provides a comprehensive understanding of regulatory interventions in power distribution system automation to enhance reliability, compliance, and enforcement mechanisms. The training covers power quality standards, safety regulations, and grid stability issues related to renewable energy and electric vehicle (EV) integration.

## Course Objective:

**By the end of this course, participants will:**

- Understand regulatory frameworks for power distribution systems.
- Learn compliance and enforcement mechanisms for reliable power supply.
- Gain insights into power quality standards and safety regulations.
- Examine grid stability challenges with renewable energy integration.
- Explore case studies on EV charging station grid integration.
- Develop strategies for integrating smart grids with renewable energy sources.
- Analyze energy storage solutions to enhance grid stability.
- Understand the fundamentals of offshore wind energy and its impact on grid integration.
- Explore offshore wind turbine technologies and regulatory considerations.



## Who Should Attend?

Regulatory officials, power distribution engineers, compliance officers, grid operation specialists, and professionals in the energy sector.

## Course Outline:

### Day 1: Regulatory Interventions in Power Distribution

- Role of automation in enhancing power reliability
- Key regulatory policies and compliance frameworks
- Case studies of distribution automation
- Smart grid technologies and their role in renewable energy integration
- Demand response management for grid optimization
- Introduction to offshore wind energy and grid integration challenges

### Day 2: Monitoring, Compliance, and Enforcement Mechanisms

- Regulatory monitoring strategies
- Compliance enforcement in power distribution
- Auditing and reporting requirements
- Impact of digitalization on regulatory compliance
- Remote monitoring and AI-driven power grid management
- Offshore wind energy regulatory frameworks and permitting processes

### Day 3: Power Quality, Reliability, and Standards

- Fundamentals of power quality management
- International standards for power reliability
- Practical approaches to improving power quality
- The role of energy storage in power quality enhancement



- Challenges in integrating variable renewable energy sources
- Offshore wind farm maintenance and reliability considerations

#### **Day 4: Safety Regulations and Investigations**

- Safety standards in power distribution
- Inspection protocols and best practices
- Case studies on regulatory safety interventions
- Cybersecurity measures for smart power grids
- Impact of climate change on grid resilience and safety
- Environmental and social impact assessments of offshore wind farms

#### **Day 5: Grid Stability and Renewable Energy Integration**

- Challenges in grid stability with renewables
- Grid integration of EV charging stations
- Field visits to regulatory offices and distribution companies
- Hybrid renewable energy systems and their impact on grid stability
- Advanced forecasting techniques for renewable energy generation
- Offshore wind farm integration into national grids



The Scandinavian Academy for Training and Development adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant will receive comprehensive training materials, including theoretical content, practical exercises, and supporting resources, provided in both printed and digital formats. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training and Development.

### **Program Timings:**

- 9:00 AM to 2:00 PM in Arab cities.
- 10:00 AM to 3:00 PM in European and Asian cities.

### **The program includes:**

- A daily Coffee Break provided during the sessions to ensure participants comfort.