



PROJECT NOTIFICATION

Ref. No.: 21-CP-25-GE-DLN-A-PN2100074-002

Date of Issue	16 September 2021
Project Code	21-CP-25-GE-DLN-A
Title	Self-learning e-Course on Energy Efficiency and Management in Electrical Systems
Launch Date	15 December 2021
Hosting Country(ies)	APO Secretariat
Modality	Digital Learning
Implementing Organization(s)	APO Secretariat
Participating Country(ies)	Open
Overseas Participants	Not Applicable
Local Participants	Not Applicable
Qualifications of Participants	Open
Nomination of Participants	Not Applicable
Closing Date for Nominations	Not Applicable

1. Objectives

- a. Emphasize the role of electrical utilities in industrial operations and the scope of electrical energy savings leading to decarbonization.
- b. Understand the scientific operating principles and assessment of the performance of electrical equipment and associated systems.
- c. Provide insights on emerging, cost-effective electrical technologies and efficient operating practices for enterprises to adopt for sustainable business growth.

2. Background

Electrical utilities are integral parts of business operations in all sectors of industry irrespective of enterprise size. Electrical energy is converted into other useful forms, which vary by sector. Electric motors are the major power consumers in manufacturing and processing plants, while heating, ventilation, and air-conditioning (HVAC) along with lighting are the major consumers in the service industry and buildings. Associated systems like cooling towers, fans and blowers, and pumping systems also contribute to overall electrical energy consumption. Transmission and distribution networks that supply power from generation points to users allow industrial growth, infrastructure development, urbanization, and economic growth to spread across regions.

In the past decade, technological advances and international sustainability initiatives like the Paris Agreement and UN SDGs to mitigate climate change have increased the use of renewable energy sources in power generation. However, fossil fuels remain the major primary energy source for generating power, and they are slowing efforts to decouple business growth and environmental degradation. Nonrenewables like coal, oil, and gas extracted underground have limited reserves, and their combustion leads to environmental degradation through air pollution and increased carbon emissions. There are also issues relating to energy losses in transmission and distribution networks and inefficient operation of equipment, leading to monetary losses and low enterprise productivity as more energy is consumed while delivering specific outputs.

The APO has launched a series of e-learning courses providing technical knowledge for enterprises pursuing cleaner green growth. This includes the e-learning course on General Aspects of Energy Management and Audit started in December 2020, which acquaints participants with the global energy scenario and environmental issues, familiarizes them with international agreements on climate change, and imparts basic knowledge of energy audits. Participants are encouraged to take up those topics first before adding new dimensions on energy conservation offered through this e-learning course.

3. Modality of Implementation

- a. The course is offered through the APO e-learning platform: <http://eAPO-tokyo.org>
- b. Participants should register on this portal and create their own accounts.
- c. Certificates of completion will be provided for those who satisfactorily complete all the modules of the course, including quizzes and a final examination.

4. Scope and Methodology

The course will comprise five modules:

Introduction

Module 1:
Electric power transmission and distribution systems

Module 2:
Electric motors and air compressors

Module 3:
HVAC and pumps

Module 4:
Fans, blowers, and cooling towers

Module 5:
Frameworks for energy conservation

Self-assessment quizzes and a final examination

Methodology

Module study, additional study material for participants, quizzes for self-assessment, and a final examination.

5. Requirements

- a. Have necessary devices and software comprising a computer/smartphone, updated browser, microphone, and speaker or headphones.
- b. Access to internet connections.
- c. Completion of all the modules, quizzes, and final examination.
- d. The APO e-certificate will be given to participants who score a minimum of 70% on the final examination.

6. Financial Arrangements

The APO will meet the assignment costs for resource persons to develop the course modules including quizzes and a final examination.

7. Actions by Member Countries

- a. Promote the course nationwide.
- b. Provide the link to the APO e-learning platform on the NPO's website and social network services.

8. Action by the APO Secretariat

- a. Identify and assign the resource person(s) to develop the course.
- b. Announce course commencement on the APO website and social network services.



Dr. AKP Mochtan
Secretary-General