CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION

E-learning Course Syllabus

Background

Air pollution impacts our health, environment and economy. The World Health Organization estimates that air pollution causes 7 million deaths every year. Air pollution also causes acidification and eutrophication of ecosystems and leads to global crop losses. In addition, air pollutants can also further exacerbate climate change, and a warmer climate, in turn, also affects air quality and impacts of air pollution.

Air pollutants come from multiple sources, such as traffic, industry and agriculture, and are transported over large distances and across borders. It is therefore paramount that we take action together — across sectors and national boundaries.

To improve air quality, UNECE member States have been working successfully since 1979 to reduce air pollution in the region through the Convention on Long-range Transboundary Air Pollution. With 51 Parties and 8 Protocols in force today, the results of the work under the Convention so far have been significant, leading to emission reductions, cleaner air, healthier forests and prevented premature deaths. The work under the Convention thus also contributes to the achievement of the Sustainable Development Goals (SDGs), specifically to SDG 3 on good health and well-being, SDG 11 on sustainable cities and communities and SDG 12 on sustainable consumption and production.

However, more needs to be done to achieve cleaner air within the UNECE region and beyond. As more and more countries around the world face severe air pollution, the problem is increasingly being recognized at the global level. This calls for multi-scale air pollution management and increased cooperation between different levels of government, to reduce emissions at the local, national, regional and global levels. The Convention has engaged in fosteringcooperation between regional initiatives around the world and shared the Convention's experience and lessons learnt with a view to advancing a shared response to addressing air pollution globally.

To assist countries in effectively addressing air pollution and improve air quality management, this course aims to raise awareness about air pollution and its effects, ways to prevent and reduce harmful emissions, and the Convention and its protocols as an international framework for cooperation on cleaner air.

Who should take this course?

The course is primarily designed to build the capacities of policymakers, government officials, staff from intergovernmental/non-governmental organizations, private sector professionals, students/academia, and other stakeholders. In particular, this course will be useful for those who cooperate within the Convention framework or those who wish to do so. Taking this course should enable learners to contribute to, and ultimately drive forward, actions on cleaner air.

Learning objectives

This course features four distinct modules that aim to equip participants with the knowledge and resource materials to understand the main concepts in air pollution management, the basic principles of the Convention, and Parties' obligations under the Convention and its protocols.

After completing the course, learners will be able to:

- Identify key air pollutants and their sources and effects
- Recall measures to reduce and prevent air pollution
- Recognize the value of the Convention as a framework for international cooperation to reduce air pollution
- Define basic principles under the Convention and its protocols
- Explain the basic obligations under the Convention's protocols
- Identify the key stakeholders and processes under the Convention and its protocols

Course content and structure

Each of the four modules in this course consists of specific learning objectives and contains a broad range of features including videos and informative texts. The modules are divided into 3-5 lessons. The course will take around 3-4 hours total to complete. Additional resources can be found in the resources tab for further reading.

Module 1: The Convention on Long-range Transboundary Air Pollution (estimated learning time: 1h)

The first module provides an introduction to air quality management concepts, including types of air pollutants, sources, pathways of air pollutants in the atmosphere, effects, and different control measures that can help in developing an air quality management framework. The module then explains the basic principles of the Convention on Long-range Transboundary Air Pollution as a framework for international cooperation to reduce air pollution, the main bodies and activities under the Convention and the Convention framework in practice.

At the end of Module 1, learners will be able to:

- Describe key air pollutants and their atmospheric transportation and deposition
- Recall effects of air pollutants on human health and the environment
- Identify measures and policies to reduce and prevent air pollution
- Recognize the value of the Convention as a framework for international cooperation to reduce air pollution
- Explain the basic principles of the Convention

Module 2: The Protocol to Abate Acidification, Eutrophication and Ground-Level Ozone (Gothenburg Protocol) (estimated learning time: 1.15h)

This module gives an overview of the key principles, basic obligations and provisions of the technical annexes that the Parties to the Protocol must comply with. The module also looks at the basic technological processes running in different types of activities that are sources of emissions and the types of emission control measures that can be applied to each of these activities. The module also introduces existing guidance documents that are developed under the Convention to facilitate implementation of the protocol's requirements and highlights synergies between provisions of the protocol and EU acquis.

By the end of this module, the learner will be able to:

- Define the major air pollution concerns and key pollutants
- List the basic principles, objectives and provisions
- Define the obligations and related technical annexes
- Recall measures and policies to reduce and prevent air pollution
- Recognize the guidance documents on emission control measures
- List the synergies between the provisions of the protocol and the EU acquis
- Recognize the value of the protocol as a tool to combat acidification, eutrophication and ground-level ozone.

Module 3: The Protocol on Heavy Metals (estimated learning time: 45min)

This module provides information on the key principles, objectives, basic obligations and provisions of the technical annexes that the Parties to the protocol must comply with. The module also looks at the basic technological processes running in different types of activities that are sources of emissions and the types of emission control measures that can be applied to each of these activities. The module also introduces existing guidance documents that are developed under the Convention to facilitate implementation of the protocol's requirements.

By the end of this module, the learner will be able to:

- Define heavy metals and their compounds addressed by the protocol that result in adverse effects on human health and the environment;
- List the basic principles, objectives and provisions established by the protocol;
- Define the obligations that Parties to the protocol are required to comply with;
- List the stationary source categories covered by the protocol;
- Define the product control and management measures to facilitate the reduction of heavy metal emissions;
- Recognize the guidance document on control options for the heavy metals.

Module 4: The Protocol on Persistent Organic Pollutants (estimated learning time: 30min)

This module explains the key principles, objectives, basic obligations and provisions of the technical annexes that the Parties to the protocol must comply with. The module also looks at different emission control measures that can be applied to main emission sources. The module also introduces existing guidance documents that are developed under the Convention to facilitate implementation of the protocol's requirements.

By the end of this module, the learner will be able to:

- Identify the major air pollution concerns and key pollutants addressed by the protocol that result in adverse effects on human health and the environment.
- Recall the basic principles, objective and provisions established by the protocol to achieve the long-term goal.
- List the obligations and related technical annexes that Parties to the protocol are required to comply with.
- Recognize the guidance documents on air pollution control measures and best practices developed under the protocol.

Methodology

The course is self-paced and can be completed according to the schedule of the learner. Each module uses a mix of learning tools and features engaging content with clear storylines, complemented by videos, interactive features, relevant tools, and links to additional resources.

Each of the modules are self-standing, and so can be accessed in any order. However, it is recommended that the modules should be completed in sequence as they all build on each other in a logical manner. In order to prepare for the end-of-course assessment, it is recommended that learners complete all modules.

Certification and evaluation

To successfully complete the course and gain a Certificate of Completion, participants can take an end-of-course assessment. Once the certification criteria have been met (passing score 70%), and after completing a course evaluation form, participants will be able to download their certificate from the course's webpage.

Technical requirements

Please verify that your web browser are up to date.
If you continue having technical issues, please verify the following requirements:
Browser:
• The course works best with Firefox 3.6 or higher (download for free).
• The course is also compatible with Google Chrome (download for free).

• For technical reasons, it is not recommended to use Internet Explorer.
• Note JavaScript and cookies must be enabled.
Software:
• Adobe Acrobat Reader (download for free).
• Microsoft Office (Windows or Apple version).

Disclaimer

The graphics created for this course are schematic and for learning purposes only.

Acknowledgments

Photo by Kristen Morith, Unsplash.