



Country Fact Sheet

2018-2020



UKRAINE

Introduction

This fact sheet was developed by the European Environment Agency under the air component of the EU funded ENI SEIS II East project with an objective to increase the use and public accessibility of air quality measurement data in the ENI East countries. The aim of this document is to describe the state of play of air quality monitoring and data management.

This factsheet was prepared by the team of experts from the European Environment Agency (EEA), Norwegian Institute for Air Research (NILU), 4sfera and the national experts from Ukraine.

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1. Legal framework

- Resolution of the Cabinet of Ministers of Ukraine of March 9, 1999 N 343 “About the approval of the organization of monitoring in the field of protection atmospheric air”
- Law of Ukraine "On Environmental Protection"
- Law of Ukraine "On the Protection of Atmospheric Air"
- Resolution of the Cabinet of Ministers of Ukraine of March 30, 1998 N 391 “On Approval of the Regulation on the State System for Environmental Monitoring”
- The UNECE Convention on Long-range Transboundary Air Pollution

2. Institutional framework

1. Ministry of Ecology and Natural Resources of Ukraine
2. State Emergency Service of Ukraine
3. State Sanitary and Epidemiological Service of Ukraine
4. Enterprises, institutions, organizations, whose activities may cause air pollution

Roles of the Institutions

- *State Emergency Service of Ukraine* monitors atmospheric air and precipitation at the points of the State system of hydrometeorological monitoring on a content of pollutants, radionuclides and transboundary transport of pollutants.
- The *State Sanitary and Epidemiological Service of Ukraine* monitors atmospheric air in places of residence on a content of harmful chemicals;
- Enterprises, institutions and organizations regardless of their subordination and forms of ownership, the activities of which leads or can lead to deterioration of the environment, are obliged to carry out environmental control of production processes and of the state of industrial zones, to collect, store and provide free of charge data and or aggregated information.

Organization structure

The organizational integration of the monitoring system is carried out by the Ministry of Ecology and Natural Resources of Ukraine, Oblast, Kyiv and Sevastopol city state administrations, the executive branch of the Autonomous Government Republic of Crimea on environmental protection issues.

The Ministry of Ecology and Natural Resources of Ukraine together with other monitoring bodies annually summarize estimates of the quantitative and qualitative composition of emissions of pollutants and atmospheric air pollution. They also carry out a forecast of changes and the impact on the environment and the health of the population.



3. Management of ambient air quality monitoring

- National Reference laboratory: The establishment of a National Reference Laboratory is planned in the draft Resolution of the Cabinet of Ministers of Ukraine "On Approval of the procedure for the Implementation of state monitoring in the field of air pollution protection".
- Instrument maintenance is provided Ministry of Economic Development and Trade of Ukraine, SE "Ukrmetrteststandard".
- Data collection and data management is done by the monitoring bodies.
- Quality control system ISO/TR 10013:2003.

Air quality activities are carried out at the expense of state and regional funds for environmental protection.

Air quality is analysed by the Hydrometeorological Centre and the Ministry of Ecology and Natural Resources of Ukraine.

Reporting performed by the Hydrometeorological Centre, the Ministry of Ecology and Natural Resources of Ukraine and local and regional authorities.

Dissemination to the public performed by the Hydrometeorological Centre (air quality index, maps, statistic, graphs; www.cgo.kiev.ua), the Ministry of Ecology and Natural Resources of Ukraine (maps, statistic, graphs; www.menr.gov.ua) and State Statistic Service of Ukraine (statistic, graphs; www.ukrstat.gov.ua).

The data is used to prepare the annual national State of the Environment Report in Ukraine, to issue emission permits, to develop Target State Environmental Programs.

4. Pollution source management related to air quality

- Industry: The Ministry of Ecology and Natural Resources of Ukraine, regional authorities
- Road traffic: Ministry of Infrastructure of Ukraine
- House-heating/-cooling: Ministry of Energy and Coal Industry of Ukraine
- Ships traffic: Ministry of Infrastructure of Ukraine
- Long transport pollution: Ministry of Infrastructure of Ukraine



5. Monitoring Network

Number of stations: 135 stations

Station meta data

- Geo coordinates
- Station type (i.e. urban, suburban, rural)
- Station height above sea level

Instruments

- 6 automatic analyser samplers
- 129 manual samplers
- Parameters measured: Nitric oxide, nitrogen dioxide, carbon monoxide, dust, ammonia, formaldehyde, phenol, sulphur dioxide, hydrogen fluoride, hydrogen chloride, ozone, benzene, ethylbenzene, ortho-xylene
- Instruments models used: Serinus 40 (NO, NO₂, NO_x), AQT 420

Software

Data logger: averaging every hour, day

Data acquisition: every 20 minutes for automatic analyser sampler, 2-4 times a day for manual sampler

Regional and National database using MS-SQL and other

Air Quality Management System: ASOIZA, Air Monitors Air Quality Dissemination System:

<http://ecology.donoda.gov.ua/avtomatizovana-sistema-monitoringu-dovkillya-u-doneckij-oblasti/> and www.cgo.kiev.ua

Modelling

- Numerical Forecasting Model
- Annual status calculation: Gauss model (CALLPUFF)

6. Conclusions from Regional AQ Workshops (September 2018 & November 2019)

Status

- Majority manual “traditional” monitoring
- Automatic data (with acquisition system)
- Draft zones & agglomerations
- Already carried evaluation of compliance with EU



Need for assistance

- Implementation of e-Reporting software
- May require calibration/maintenance protocol
- Review existing data (both automatic/manual)

7. Conclusions from country visit (March 2020)

Status

- Ukraine relies both on traditional monitoring and some automatic equipment.
- e-Reporting tool named Raven demonstrated during visit.
- There is IT infrastructure in place for centralizing and gathering data from existing and future automatic stations. Interest to use Raven to centralise different databases and networks in Ukraine.

Training requirements

- AQ Data management
- Management of AQ monitoring network
- Standardization and modelling
- Data reporting
- Setting up Reference Laboratory for AQ monitoring

Data exchange with EEA

- Raven tool installed in a central server to manage air quality data (<https://www.raven.in.ua/>)
- Meta-data information for air quality networks was developed with experts during country visit. This include manual stations in Kyiv and automatic network in the Donetsk region.
- Meta-data information uploaded.
- Raven's REST API service is establish for Ukrainian data (https://www.raven.in.ua/dataflows/e2a?last_request=2020-06-29T06:00:00)
- Up-To-Date air quality exchange between Ukraine and EEA was established on 23 June 2020.
- Ukraine is ready to add other automatic monitoring networks as they are established in Kyiv and other regions.
- Data from traditional network could be uploaded and exchanged using Raven.

