

Problems concerning air quality monitoring in Zenica

1. Monitoring air quality in Zenica

Air quality in Zenica was measured since the eighties of the twentieth century. The Institute of Ecology was established at the Institute of Metallurgy in Zenica, and they conducted measurements of pollutant concentrations in the air. After the integral production was restarted in Zenica steelworks, there was an increase of air pollution and air quality monitoring has again become an important source of information for citizens.

The Law on Environmental Protection of FBiH and the Air Protection Act of FBiH entered into force in 2003, followed by a series of regulations and rules governing this area. Zenica-Doboj Canton has adopted a plan of emergency measures in cases of excessive air pollution, which envisages declaring episodes “**Readiness**”, “**Warning**” and “**Alarm**”, when pollution exceeds certain limits. To implement this plan, the measurement of the Metallurgical Institute could not be used, because the measuring equipment could provide only daily averages, with a few days delay, after data processing. Because of that, the mobile automatic measuring station was procured, which could bring hourly results, but the measuring station was used in the whole canton.

After the mass civil protests against excessive pollution, in December 2012, the Municipality of Zenica procured 3 automatic measuring stations for monitoring air quality in May 2013, set the displays at 3 locations in the city and put into operation the website monitoring.zenica.ba, where citizens were able to find out what are the concentrations of certain pollutants in the air.

2. The monitoring system used for the first time

The new monitoring system was first used in December 2013, when the “**Alarm**” episode was declared. The display showed the concentration of SO₂ of 1396 µg/m³ and the episode was declared at 500µg/m³. Then the display stopped showing concentrations, because it was the maximum value that the new measuring equipment could measure. Subsequent measurement with the mobile measuring station showed concentration of over 2000 µg/m³ of sulphur dioxide. Episode of emergency was declared, planned measures were taken, and the pollution started to decline within a few hours, although there was no wind. **This means that taking measures (reduction of industrial production, the replacement of coal by other fuels, stopping the operation of certain plants) can improve the air quality.**

3. The first doubts about the measurement results

Two annual reports on the results of air quality measurements were published, one from the new equipment owned by the Municipality of Zenica, and second from the old measuring devices at the Metallurgical Institute, and vast differences in the measured results were noticed. The public then questioned the results of the measurements and later it turned out that the new measuring devices have never been calibrated, the maintenance was unsatisfactory, and moreover, parts of the measuring devices were missing. The website monitoring.zenica.ba started to be increasingly inaccessible, and the measurement of some pollutants (benzene) started showing incredibly low values.

One of the problems was the position of the measuring stations, because only one was set by the regulations (Tetovo), while the other two (Centar and Radakovo) are placed on the roofs of buildings, so they do not give the results of the actual pollution.

After Eko Forum warned the public and the municipal council, it was decided that the contract for maintenance of measurement equipment, signed for 2 years, does not continue, and the measuring stations will be handed out to the Metallurgical Institute.

4. The transfer of measurement equipment

The process of handover of equipment lasted from May to December 2015, and people still do not have the right information on air quality. The server monitoring.zenica.ba is unavailable, Tetovo, the most polluted part of the city do not measure the pollutants which have so far been mostly above the permitted limits like SO₂ and benzene, and no one knows who is responsible for this. Metallurgical Institute only took measuring stations, and tender for the purchase of the missing components and calibration of measuring devices was published. Funds for the purchase of equipment and calibration was provided by the Canton, but for a long time the funds could not be used because of poor communication among the various ministries (Ministry of Planning, Ministry of Education and Ministry of Finance of ZDK). The displays are still in the possession of the city, and they were not the subject of handover. Server which collects data with measuring stations was never delivered, although it was paid, and no one knows who owns the software for data processing. The data continues to be handled by a private company that supplied the equipment, but the maintenance contract between the city and the company expired in May 2015. The service contract of air quality measurements between the city of Zenica, who is the owner of the equipment and Metallurgical Institute, has not yet been signed.

5. How to find solutions?

The City of Zenica should require equipment supplier to supply the lacking equipment and to handover software for data processing.

Metallurgical Institute, which is part of the University, should put an end to the tender procedure, calibrate equipment and complete the monitoring system.

The City and the Institute (University) should sign a service contract, which will define the rights, obligations and responsibility for operation of the system. One must know who is responsible for maintenance of the equipment, its security, payment of labour costs, calibration and maintenance, and for the purchase of spare parts. We have to know who has the right to move the measuring stations, because they are not currently placed at representative locations, nor at the prescribed height (instead of the roof, they would have to be on the ground, sampling air at 1.5 to 3 meters high).

It is necessary to coordinate this situation, because this is just endlessly shifting responsibility from one to another, and the citizens still do not have valid information about the air quality.