# 02. AIR QUALITY

## OVERVIEW

Public air protection policy aims to reduce threats to human health and the environment.

In the year 2018, there is almost no information about the relationship between the recorded air quality and the state of human health in the Republic of Serbia. The data on the state of air quality is scarce and far below the legal requirements in relation to both scope and quality, and even if it is available, it is not presented in the form of information **that could be used to either improve awareness of the importance of air quality or reduce the negative consequences of exposure to poor quality air**. Legal instruments such as categorisation of air quality in a given framework do not serve the purpose. Cities in which local measurements show exceedances of allowed concentrations of pollutants in a number of days happen to be classified in zones with the first category of air quality due to inadequate communication between the institutions responsible for monitoring the quality of air and the institutions responsible for air quality categorisation.

There are no law-stipulated instruments from the public policy domain, such as an Air Protection Strategy, or they are adopted with little data and limited implementation capabilities such as air quality plans or short-term action plans.

The provisions on emission limit values for pollutants, although aligned with the EU norms, are either not adhered to or it is impossible to find out whether they are adhered to or not. Emission measurement is not in line with legal regulations, although positive developments in this direction have been recorded.

Standards, best available techniques and other air pollution prevention tools are not applied sufficiently as air quality improvement tools.

Operators responsible for the most significant emissions are still not sanctioned for breaking the law, while the number of household polluters is too large to be resolved within the existing institutional framework.

**Without a strong political will, significantly changed mandates of relevant institutions and coordination between institutions, it will not be possible to determine the current health and environmental consequences of air quality and improve that quality.** Air quality is not listed as a priority area in media presentations by the representatives of the ministry responsible for environmental issues. The European Court of Justice has begun issuing sentences against those EU countries which fail to protect their citizens by failing to comply with the Air Quality Directive. Judging by the use of EU funds in the Republic of Serbia, it seems that the EU has little more interest than the national institutions in contributing to the improvement of air quality in the Republic of Serbia.

**Table 1 Elements of the legal framework for air quality management in the Republic of Serbia**

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| The Law on Air Protection |
| Regulation on determining the air quality control programme within the state network |
| Regulation on monitoring conditions and air quality requirements |
| Regulation on determining zones and agglomerations |
| Regulation on the methodology for the development of air pollutant emissions and projections inventory |
| Regulation on measurements of air pollutant emissions from stationary sources of pollution |
| Regulation on determining the list of air quality categories by zones and agglomerations in the territory of the Republic of Serbia for 2012 |
| Regulation on limit values of air pollutant emissions from combustion installations |
| Regulation on limit values of air pollutant emissions from stationary sources of pollution, except from combustion installations |
| Rulebook on conditions for issuing air quality measurement permits and emission measurement permits from stationary sources of pollution |
| Rulebook on the content of the air quality plans |
| Rulebook on the content of short-term action plans |
| Rulebook on the methods for exchanging information concerning measuring points within the state and local networks, on measuring techniques, and on the methods of exchanging data obtained by air quality monitoring in the state and local networks |
| During the period analysed for the purposes of this report, there were no significant changes in the legislative framework. |

Based on the available information, the Republic of Serbia seems to have prepared a National Emission Reduction Plan (NERP) and submitted it to the Energy Community Secretariat in Vienna. The procedure by which this plan was adopted is unclear, as well as which institution adopted it. This plan determines the maximum annual emission levels of $SO_2$, $NO_x$ and PM for plants covered by this plan. According to available information, this plan did not cover all plants which should have been included.

Having in mind the objectives of public air quality policy (public health and environmental protection) and the causes of air pollution in the Republic of Serbia (large combustion plants ,household heating and transportation), the existing legislative framework needs to be supplemented by binding regulations that will regulate the efficiency and emissions of solid fuel devices. This can be done on the basis of the new Ecodesign Directive 2009/125/EC. Bearing in mind the frequency of using inefficient solid fuel cooking and wood stoves in households, it is necessary to critically consider not only the deadlines for transposing this directive but also the permitted emission limit values.

## IMPLEMENTATION OF LEGISLATION

Adoption and implementation of a public policy that will enable reduction of threats to human health and the environment require an extensive and complex change more in an institutional and practical-political sense than in a legal sense. **Without a strong political will, vertical and horizontal policy coordination, the participation of the general public, the professional community and the adoption of a comprehensive development policy, it will not be possible to improve the air quality in the Republic of Serbia significantly and thereby protect the human right to health and a healthy environment.** In circumstances where the issues of the security of electricity supply, the fight against poverty, the functioning of the district heating system and the mobility of citizens are posed as issues contradicting the air quality policy, high-quality public policy in this area cannot arise. Therefore, the current situation regarding the implementation of air quality regulations is not surprising.

**Availability and quality of data.** The reliability and availability of measuring stations for measuring air quality in the national network have been steadily decreasing since the beginning of its operation. During 2011, of all installed $SO_2$, $NO_2$, CO, $PM_{10}$ and $O_3$ analysers, 94% of the analysers achieved the availability of valid hourly values higher than 90%. In the following years such a degree of measurement realisation was not achieved; in 2012 it was 68%, in 2013 it was 72%, in 2014 it was 30%, in 2015 it was 25%, and in 2016 it was 23%[36]. From interviews with relevant institutions, it was gleened that there were promises of increased funding aimed at improving the air quality measurement system. In the absence of publicly available budget execution documents, we must keep waiting for the reports from the relevant institutions on air quality for 2017 in order to judge whether the promised investments were realized.

**Data exchange.** The data from local network air quality measurement stations is not sufficiently represented in national reports. The last report, however, does demon-

36 *The annual report on the state of air quality in the Republic of Serbia in 2016,* Serbian Environmental Protection Agency, 2017.

strate certain progress in this regard. Based on discussions held by the RES Foundation, it seems that neither the institutions that perform measurements at the local level are aware of the obligation to exchange data with the relevant institution at the national level. According to the "Rulebook on the methods for exchanging information concerning measuring points within the state and local networks, on measuring techniques, and on the methods of exchanging data obtained by the air quality monitoring in the state and local networks"[37], the exact way of exchanging of this information is prescribed. It is necessary to examine whether this non-compliance with this Rulebook is a reason for not providing relevant information or whether there are other contributing factors.

**Local Networks – presentation and interpretation of air quality data**. The analysis of publicly available air quality monitoring reports at the local level shows that the concentration of $PM_{10}$[38] is most often followed up within 56 days which is in accordance with the law. The legal framework stipulates that the value of 90.4 percentile (which should be less than 50 μg /m3) is used for the assessment of air quality. In some reports, this is not respected (for example in Zrenjanin[39] and Čačak[40]) which can affect the assessed air quality. Also, in some cases, there is an incorrect interpretation of the permitted concentration values of certain pollutants since the reduced tolerance (for $PM_{10}$ and $PM_{2.5}$) is not taken into account. One such example can be seen in the report for the city of Niš[41].

**Requirements in terms of air quality.** The legal framework in terms of air quality requirements is mostly compliant with the EU legal framework. However, it is difficult to actually assess air quality in a situation when the availability of data is questionable. According to the available data in the agglomerations of Belgrade and Užice during 2016, the air was category III. In the agglomerations of Smederevo and Kosjerić, during 2016, the category of air quality could not be determined due to lack of data. In the territories of the cities of Valjevo and Kragujevac, as well as in Subotica and Sremska Mitrovica, the air was category III during 2016, meaning it is excessively polluted.

**Air Protection Strategy**. The Republic of Serbia does not implement regulations that regulate air quality policy. The deadline for passing the most important air quality policy document – Air Protection Strategy expired in February 2015 (this deadline had already expired even under the old law in 2011). Activities on the preparation of this document have not yet started.

**Air quality plans.** The legal framework stipulates the preparation of air quality plans in situations when the air quality in a zone or an agglomeration belongs to category III, that is, when air pollution exceeds the effects of measures being taken, that is, when the environmental capacity is endangered, or there is constant air pollution

37 "Official Gazette of the Republic of Serbia", No. 84/10

38 PM10 is particulate matter 10 micrometers or less in diameter.

39 The report available at: http://www.zrenjanin.rs/userfiles/file/Zastita%20zivotne%20sredine/2016/Buka%20Godisnji%20izvestaj%202016.pdf

40 The report available at: http://www.cacak.org.rs/userfiles/files/Urbanizam/Godisnji_vazduh_2016.pdf

41 The report available at: http://www.izjz-nis.org.rs/download/higijena/Aero_godisnji_2016.zip



in a certain area. It is clear that reliable data on air quality is crucial for the launch of air quality protection mechanisms. Local governments do not have sufficient capacity to prepare and implement these plans in effective manner. Responsible institutions at the national level recognise this problem but do not have the capacity to influence the improvement of the situation independently. In January 2018, the air quality plan for the city of Pančevo was adopted.

**National Emission Reduction Plan.** It appears that, on the basis of the information available, the Republic of Serbia prepared the NERP and submitted it to the Energy Community Secretariat in Vienna. This plan prescribes the maximum annual emission levels of $SO_2$, $NO_x$ and PM for plants covered by this plan. As an illustration of the feasibility of this plan, we can take an example of sulphur dioxide emissions. The maximum annual $SO_2$ emissions for 2018 for the thermal power plants covered by the plan range from 6% to 27% of the plants' 2016 emissions.[42] In other words, it is necessary to reduce $SO_2$ emissions between 4 and more than 16 times, so that the emission level is within the allowed limits. Such reductions will certainly not be possible to achieve in a short period of time. As already mentioned, this plan did not include all facilities that needed to be included.

**Emission limit values, their monitoring and inventory generation.** According to the data of the "Electric Power Industry of Serbia" (EPS), this operator improved the tracking of its emissions in 2016 and started continuous measurement of emissions at some of its plants, although it obtained the approval of the relevant authority only in 2017. $SO_2$ emission limit values were far exceeded on all plants[43]. According to the same data, the source of information for some plants are individual measurements, despite this being contrary to the law.

**Presentation of information.** Annual and monthly reports of the Environmental Protection Agency do not contain sufficiently clear information on the number of stations that were not operational during the reporting period. This is especially noticeable in monthly reports in which such information is not available at all. Nevertheless, air quality assessments are made based on existing measurements. In this way, it may happen that users of the reporting service have wrong information about air quality in the Republic of Serbia in general or in some parts. Also, reports of local institutions, apart from the already mentioned incorrect interpretations of data, are not always readily available to citizens, although there are numerous different examples as well.

**BATs, BREFs, standards and inspections**. Continuous postponement of the implementation of the Law on Integrated Prevention and Control of the Environment Pollution prevents the use of powerful tools to prevent air pollution. In such a situation, the only way to be able to have an influence on large pollutants is to measure their emissions. As stated, there are also some challenges in that area. On the other hand, devices used for combustion of solid fuel in households, which are smaller but more numerous pollutants, do not have to comply with any standard regarding the efficiency or emissions of pollutants and can be unconditionally sold on the domestic market. In this way, the pol-

42 National Emission Reduction Plan, Environmental Report in PE "Electric Power Industry of Serbia" for 2016.

43 Ibid.

lution from these devices is practically uncontrolled, although according to the reports of the Environmental Protection Agency the use of these devices is the most significant source of pollution by $PM_{10}$ particles in Serbia[44]. Emissions from transportation are also caused by a large number of vehicles not complying with the standards.

The Environmental Inspectorate is another tool that is available to improve air quality. However, the Inspectorate cannot compensate for huge deficiencies in the strategic, legal and institutional framework. In addition, the inspectorate is poorly technically equipped and has problems with an unfavourable age structure of employees because the current governmental policy of not replacing retiring employees threatens the capacity of those institutions with currently high ratios of elder employees. Inspection reports also point to the fact that sentences imposed on polluters by the court of law are often below the minimum legal limits[45].

## FINANCING[46, 47]

The funds for the monitoring of the quality of air for the years 2017 and 2018 have been envisaged in the identical amount of 79,646,000 dinars. It is not possible to determine what was the execution of the budget for 2017. The Budget Review for 2016 did not show this budget item.

No information is available as to whether or not part of the funds envisaged for the functioning of the Green Fund for 2017 was spent on air quality improvement activities.

The improvement of air quality must come as a result of the reaction of large operators primarily to the established legal and institutional framework.

## RECOMMENDATIONS

### *Legislative framework*

- Start the process of adopting the Air Quality Strategy urgently.
- Initiate the process of establishing binding standards for low-power combustion appliances used in households (wood stoves and solid fuel stoves).
- The existing legislative framework needs to be complemented by binding regulations that will regulate efficiency and emissions of solid fuel combustion devices.

44 *The Annual Report on the State of Air Quality in the Republic of Serbia in 2016*, Serbian Environmental Protection Agency, 2017.

45 The report available at: http://www.eko.minpolj.gov.rs/wp-content/uploads/izvestaji/Godisnji_izveštaj_2016.pdf

46 All data on funds allocation for 2017 taken from the Law on the Budget of the Republic of Sebia for 2017 http://www.paragraf.rs/propisi/zakon_o_budzetu_republike_srbije_za_2017_godinu-5.html

47 All data on funds allocation for 2018 taken from the Law on the Budget of the Republic of Sebia for 2018 http://www.mfin.gov.rs/UserFiles/File/zakoni/2017/Zakon%20o%20budzetu%202018.pdf



### *Implementation of Legislation*

As noted, the implementation of regulations in this area depends in the first place on the readiness and capabilities of the operators to harmonise their business operations with legal norms, and the ability of institutions to implement regulations.

- To begin with, it is necessary to ensure that relevant institutions enforce regulations related to legal deadlines for the establishment of public policies on air quality, regulations related to air quality measurement, information exchange on air quality and obligations under international agreements.
- Information on detected exceeded hourly and daily allowed thresholds (AT) should include information about non-operational air quality monitoring stations.
- Responsible stakeholders for air quality monitoring should ensure that the measuring system is well maintained and that data is made available to the public, particularly in urban agglomerations such as Belgrade.
- Inter-sectoral cooperation needs to be improved in order to enable full implementation of the legislation already in place in the country.
- Local governments/cities should improve the quality and visibility and ensure simple public access to air quality monitoring data provided by local monitoring networks.

### *Financing*

- Provide funding to ensure the uninterrupted operating quality of air quality monitoring networks.
- Provide funding for the uninterrupted operation of the inspectorate.