
Air
Quality

# Overview

During the reporting period, air quality in Serbia continued to be characterized by widespread exceedances of pollution limits, slow progress in implementing air quality measures and delays in aligning the national regulatory framework with new European standards. Although the European Union has adopted a revised Air Quality Directive introducing more stringent limit values, the Directive has not yet been transposed into Serbian legislation. Serbia continues to exceed the national emission ceilings applicable to large combustion plants, particularly for sulfur dioxide. Delays in official reporting practices further constrain timely and effective responses. Data for 2024, together with preliminary data and results from citizen-led monitoring for 2025, confirm that particulate matter (PM10 and PM2.5) remains the most significant air quality concern. The expansion of the monitoring network has also led to the identification of pollution in areas that were previously inadequately covered by official monitoring. Implementation of the Air Protection Program continues to lag significantly behind the established deadlines. At the local level, assessments point to insufficient monitoring capacity, incomplete data on pollution sources, delays in the adoption of required planning documents and measures that are not sufficiently targeted toward the main sources of pollution or the areas experiencing the highest pollution levels. Energy-efficiency renovation programs remain an important policy instrument for reducing emissions from the residential sector. However, their effectiveness continues to be constrained by unequal access to financial support, slow implementation and financial and administrative barriers affecting the most vulnerable households.

# Strategic and Legislative Framework

In 2024, the European Union adopted the new Directive (EU) 2024/2881 on ambient air quality and cleaner air for Europe, which introduces stricter limit values for several key pollutants, reduces the permitted number of exceedances and strengthens the link between air quality standards and the protection of public health. Serbia has not yet transposed this Directive into domestic legislation, meaning that air quality requirements continue to be based on the 2010 Regulation on Monitoring Conditions and Air Quality Requirements, which largely reflects the earlier European regulatory framework. A comparison of domestic standards with the new EU rules, also presented in an analysis of the Renewables and Environmental Regulatory Institute (RERI), points to a widening regulatory gap: pollution levels that, under the new Directive, would require action by the competent authorities in Serbia may still fall within the applicable limit values or may not be sufficiently recognized as a problem.

The most pronounced differences concern pollutants with the greatest impact on health. For sulfur dioxide, Serbia and the EU have the same hourly limit value, but Serbian regulations allow a higher number of exceedances, while the differences are even more pronounced for daily and annual limit values. For nitrogen dioxide, the annual limit value applicable in Serbia is twice as high as that prescribed by the new EU Directive, and the domestic framework also allows a higher number of exceedances of the hourly limit value.

The regulatory gap is particularly pronounced with regard to particulate matter. For PM10, domestic legislation "allows" 35 days per year with exceedances of the daily limit value, whereas the new EU Directive allows no more than 18 days, along with a lower daily limit value. The annual limit value for PM10 in Serbia is twice as high as the new European value. For PM2.5, the difference is even more significant: domestic regulations do not establish a daily limit value, whereas the new Directive introduces both a daily standard and an even stricter annual limit value.

For some other pollutants, the differences are not as pronounced, but they also indicate the need for further alignment. The standard for lead is the same under both systems, while the new European value for benzene introduces a stricter standard. For carbon monoxide, the same maximum daily eight-hour mean value is retained, but the new Directive also introduces an additional daily value. For ground-level ozone, both regulatory frameworks recognize a target value, but the new EU Directive allows fewer exceedances and introduces a long-term objective to be reached by 2050.

Delays in aligning with the new European standards mean that Serbia continues to apply limit values that, for a number of key pollutants, are more lenient than the 2030 standards adopted by the EU. This particularly refers to PM10, PM2.5, $SO_2$ and $NO_2$, given that the existing regulatory thresholds could lead to underestimating the level of exposure for citizens and to postponing air quality improvement measures.[61]

In 2025, Serbia again failed to meet its obligations under the National Emission Reduction Plan (NERP) for large combustion plants. According to the report titled Comply or Close,[62] coal-fired power plants covered by the NERP emitted 177,756 tons of sulfur dioxide, which was 5.09 times higher than the national ceiling of 34,898 tons. At the same time, the ceilings for other pollutants were also exceeded: particulate matter emissions amounted to 4,132 tons, or 1.09 times the permitted level, while nitrogen oxide emissions were 1.21 times higher than the established ceiling. Serbia has thus continued its failure to meet its NERP obligations over multiple years, with sulfur dioxide remaining the biggest problem.

TENT B stands out in particular, having emitted 77,470 tons of $SO_2$ in 2025, approximately 5.7 times its individual emission ceiling. The desulfurization facility at Kostolac B also failed to ensure compliance, as $SO_2$ emissions amounted to 17,452 tons, approximately 3.3 times the permitted level for the plant. The

61 RERI, Analysis of the State of Air Quality in the Republic of Serbia in 2025, 2026, available at: https://reri.org.rs/vazduh-u-srbiji-ubija-skoro-10-000-ljudi-godisnje/ (accessed on July 31, 2026).

62 Bankwatch, Comply or Close: Eight Years of Deadly Legal Breaches by Western Balkan Coal Plants, 2026, available at: https://bankwatch.org/publication/comply-or-close-eight-years-of-deadly-legal-breaches-by-western-balkan-coal-plants

report also indicates that, following several years of gradual reductions, NOx emissions increased again in 2025, while the reduction in particulate matter was no longer sufficient to meet the increasingly stringent NERP ceiling.

The prolonged exceedance of the NERP ceilings is already resulting in consequences within the Energy Community framework. In 2021, the Energy Community Secretariat initiated proceedings against Serbia for exceeding the permitted emission levels for sulfur dioxide. In July 2025, the proceedings were expanded through the issuance of a Reasoned Opinion, which also addressed exceedances of the NOx ceiling beginning in 2023.

# Implementation of Regulations

## Air Quality Assessment – 2024 Annual Air Quality Report for Serbia

The 2024 Annual Air Quality Report for Serbia was published on the website of the Environmental Protection Agency (SEPA) in January 2026, eight months later than the prescribed deadline. According to regulations, SEPA was obliged to make the Report for the previous year available by May 31 of the current year. By the end of the reporting period, the 2025 Annual Air Quality Report for Serbia had not yet been published. Therefore, the analysis of air quality in 2025 relies on preliminary data from the automatic monitoring network compiled by the National Ecological Association (NEA), as well as on the air quality assessment based on measurements from the citizen monitoring network prepared by the Belgrade Open School.

According to the Annual Air Quality Report of the Serbian Environmental Protection Agency, air pollution exceeded permissible levels in all eight agglomerations in Serbia in 2024 — Belgrade, Novi Sad, Niš, Pančevo, Smederevo, Bor, Kosjerić and Užice — as well as in 16 additional cities. Exceedances of the limit values for particulate matter (PM10 and PM2.5) were recorded in Novi Pazar, Valjevo, Kraljevo and Kruševac. The cities in which the limit value for

$PM_{10}$ was exceeded were: Paraćin (Popovac), Zaječar, Loznica, Šabac, Subotica, Čačak, Kragujevac, Požarevac (Kostolac), Pirot, Kraljevo, Beočin, Sombor and Zrenjanin.[63]

PM10 and PM2.5 particulate matter continue to be the most widespread pollutants. In Belgrade, in addition to particulate matter, the limit values for nitrogen dioxide ($NO_2$) were also exceeded, while in Bor, excessive pollution was attributed to $PM_{10}$ concentrations and the lead content of the particles.

According to the measurement results, the highest annual average $PM_{10}$ levels were recorded in Popovac near Paraćin, at 59 µg/m$^3$, followed by Zaječar and Valjevo, each at 56 µg/m$^3$. High average concentrations were also recorded in Novi Pazar and the Leštane suburb of Belgrade, where levels reached 50 µg/m$^3$. The highest single daily $PM_{10}$ level was recorded in Valjevo at 296 µg/m$^3$ — almost six times the daily limit value of 50 µg/m$^3$. The highest annual average PM2.5 concentrations were recorded in Novi Pazar (39 µg/m$^3$), Valjevo (33 µg/m$^3$) and Kosjerić (31 µg/m$^3$). Indicative $PM_{10}$ measurements showed an even higher average concentration in central Arilje, at 66 µg/m$^3$. However, these results are based on a smaller number of samples and therefore cannot be directly compared with the results of fixed-site annual monitoring.

The problem was not limited to just high average levels, but was also reflected in the large number of days on which the daily limit value for $PM_{10}$ was exceeded. While no more than 35 days of exceedance are permitted per year, the Popovac monitoring station recorded exceedances on 173 days, followed by Valjevo with 146 days, Novi Beograd with 135 days, Leštane with 132 days, Novi Pazar with 129 days and Radinac near Smederevo with 128 days. These data confirm that residents in numerous areas were exposed not merely to occasional episodes of air pollution, but to persistently elevated concentrations of particulate matter over extended periods of time.

The results of measurements of heavy metals in $PM_{10}$ particulate matter in Bor are particularly concerning. Although the annual limit value for lead was not

63 Environmental Protection Agency, 2024 Annual Air Quality Report for the Republic of Serbia, 2026, available at: https://sepa.gov.rs/wp-content/uploads/2026/01/Vazduh2024.pdf

exceeded at any monitoring station, the daily limit value for lead was exceeded 14 times at the Bor–Jugopetrol station and seven times at the City Park. At the Bor–Jugopetrol station, the maximum daily lead concentration was measured at 2,898 ng/m$^3$, nearly three times the daily limit value. At the same time, the annual average arsenic concentration at this station was 42 ng/m$^3$, seven times higher than the target value of 6 ng/m$^3$. Arsenic exceedances were also recorded at the City Park and in the Industrial Zone. The cadmium target value of 5 ng/m$^3$ was likewise exceeded at all three locations, with a concentration of 20 ng/m$^3$ recorded at the Bor–Jugopetrol station — four times the target value. These results confirm that, in addition to high concentrations of particulate matter, residents of Bor continue to be exposed to specific industrial pollution from heavy metals.

Data for 2024 show that excessive air pollution remains a widespread and persistent problem in Serbia. Although the monitoring network has been expanded, measurement results have not yet been followed by sufficiently prompt adoption and implementation of air quality plans and measures capable of delivering measurable reductions in pollution levels. The expanded monitoring network therefore contributes to better documentation of the problem, but without more effective action by the relevant authorities, it has not yet resulted in improvements in air quality.

## 2025 Air Quality Assessment – Preliminary Data of the National Ecological Association (NEA)

In the absence of an official annual air quality report for 2025, a systematized review of data from the national monitoring network, as well as local automatic air quality monitoring networks, provides a preliminary assessment of air quality conditions in Serbia. According to an analysis by the National Ecological Association, based on data from automatic air quality monitoring stations available through the national network, air quality conditions in 2025 remained unchanged in cities where exceedances of the limit values for particulate matter had also been recorded in previous years. In addition, all cities where air quality monitoring was established during 2025, recorded exceedances of the annual limit values for particulate matter and/or exceeded

the permitted number of days with excessive pollution, defined as exceedances of the daily limit value.[64] The analysis covers data that were available in real time throughout the year. Accordingly, its findings should be considered a preliminary assessment pending publication of the official annual report by the Environmental Protection Agency. Particulate matter — particularly PM2.5 and PM10 — continues to represent the most significant air quality concern. According to this analysis, no exceedances of the applicable limit values were recorded for sulfur dioxide or carbon monoxide.

The expansion of automatic air quality monitoring has made it possible to document pollution in cities that had previously been inadequately covered by monitoring. During 2025, nine new automatic monitoring stations and nearly 20 new particulate matter detectors were brought into operation, with exceedances recorded at almost 90% of monitoring stations. Among the ten locations with the highest annual average PM2.5 levels, as many as seven are in cities with newly established monitoring: Zaječar, Leskovac, Negotin, Prokuplje, Kruševac, Vranje and Šabac. These findings do not necessarily indicate a sudden deterioration in air quality during 2025. Rather, they primarily confirm that the expansion of the monitoring network has made the existing pollution problem visible across a larger number of communities.

The highest annual mean levels of PM2.5 were recorded in Zaječar (42.9 μg/m$^3$), Novi Pazar (42.6 μg/m$^3$), Leskovac (41.6 μg/m$^3$), Negotin (38.3 μg/m$^3$) and Prokuplje (37.6 μg/m$^3$). Taking into consideration all the analyzed monitoring stations, the average PM2.5 levels are higher by 2.8%, whereas substantial increases compared to 2024 were recorded at the monitoring stations Belgrade–Despota Stefana, by 26.8%, in Pirot by 23.9%, in Čačak by 14.5% and by 11.8% in Niš.

With regard to levels of suspended PM10 particles, the highest annual average levels were recorded in Leskovac (55.9 μg/m$^3$), Prokuplje (55.7 μg/m$^3$), Zaječar (53 μg/m$^3$), Novi Pazar (51.9 μg/m$^3$) and Valjevo (50.9 μg/m$^3$). What is particularly concerning is the number of days on which the daily limit value of 50 μg/m$^3$ was

64 National Ecological Association NEA, "Air 2025", 2026, available at: https://nea.rs/index.php/2026/01/01/vazduh-2025/

exceeded, which should not occur on more than 35 days per year. Exceedances were recorded on 156 days in Prokuplje, 140 days in Leskovac, 137 days in Zaječar, 131 days in Novi Pazar and 128 days in Valjevo. More than 100 days with exceedances were also recorded at a number of monitoring stations in Belgrade, Šabac, Popovac, Čačak, Kruševac, Niš, Užice and Loznica.

Exceedances of the nitrogen dioxide concentration limit value were recorded at three monitoring stations based on annual average levels. The highest exceedance was recorded at the Belgrade–Despota Stefana monitoring station, where the annual average level was 46.6 μg/m$^3$, while the hourly limit value was exceeded for 197 hours, compared with the permitted maximum of 18 hours per year.

NEA's findings for 2025 indicate that there has been no clear or consistent improvement in air quality in Serbia. What is particularly concerning is the fact that the largest number of monitoring stations with the highest concentrations of particulate matter are located in cities where air quality monitoring has only recently been established. Of the ten locations with the highest annual average PM2.5 concentrations, seven are the newly established monitoring stations in Zaječar, Leskovac, Negotin, Prokuplje, Kruševac, Vranje and Šabac.

## Results of Citizen Monitoring in 2025

Although the national air quality monitoring network continues to expand, numerous cities and municipalities remain without comprehensive air quality monitoring. As a result, data obtained through indicative measurements conducted over limited periods of time cannot be used to provide an official assessment of air quality. Consequently, cities and municipalities without official monitoring are not subject to obligations related to improving air quality. With the aim of providing any real-time information on air quality and encouraging national and local institutions to expand the official air quality monitoring network, the Belgrade Open School continued to expand citizen air quality monitoring networks. To this end, the Belgrade Open School team also prepared an Analysis of Air Quality in Serbia in 2025, based on data collected through a network of citizen sensors monitoring particulate matter.

The network comprises more than 340 monitoring stations across more than 100 municipalities. For the purposes of the analysis, however, data from 278 sensors in 85 municipalities were used, as these sensors had at least 80 percent data availability over the course of the year.[65] Data series containing obvious errors or unusual or inconsistent values during the measurement period were excluded from the analysis. Citizen sensors are not a substitute for official monitoring; however, they can provide reliable indications of spatial patterns of air pollution and help identify areas where official monitoring should be established.

The results were assessed against three criteria. For PM2.5 particulate matter, the annual limit value under Serbian legislation is 25 μg/m$^3$. The new EU Directive sets a limit value of 10 μg/m$^3$, while the World Health Organization (WHO) recommends an annual guideline concentration of no more than 5 μg/m$^3$ for this pollutant. For PM10 particulate matter, the annual limit value is 40 μg/m$^3$, the new EU limit value is 20 μg/m$^3$, while the WHO recommends a maximum concentration of 15 μg/m$^3$.

For PM2.5 particulate matter, the limit value of 25 μg/m$^3$ was exceeded in 37 of the 85 municipalities analyzed. Additional 28 municipalities recorded concentrations above the standard set by the new EU Directive, while in the remaining four municipalities, concentrations exceeded the WHO guideline value. This means that none of the municipalities analyzed had an average PM2.5 level that met all of the applicable criteria for safe air quality. The highest concentrations were recorded in Arilje (56.4 μg/m$^3$), Zaječar (49.4 μg/m$^3$), Tutin (48.2 μg/m$^3$), Pirot (48.1 μg/m$^3$) and Novi Pazar (44.4 μg/m$^3$).

As for PM10 particulate matter, the annual limit value under Serbian legislation was exceeded in 12 municipalities. In additional 64 municipalities, concentrations exceeded the limit value established by the new EU Directive, while eight municipalities recorded concentrations above the WHO guideline value. Only Čajetina, with an average concentration of 12 μg/m$^3$, met all of the criteria considered. The highest annual average PM10 concentrations were recorded

65 Belgrade Open School, Air Quality in Serbia in 2025 Measured by the Citizen Air Quality Monitoring Sensors Network, 2026, available at: https://www.bos.rs/rs/publikacije/20/2234/kvalitet-vazduha-u-srbiji-u-2025_-godini-meren-u-mrezi-gradanskih-senzora-za-monitoring-kvaliteta-vazduha-2026.html

in Tutin (65 μg/m$^3$), Arilje (64.5 μg/m$^3$), Zaječar (61 μg/m$^3$), Pirot (55.1 μg/m$^3$), Vranje (51.2 μg/m$^3$) and Požega (51.1 μg/m$^3$).

Citizen monitoring findings show that high concentrations of particulate matter are also present in numerous smaller towns that are not covered by continuous official monitoring. Taking into account both the recorded pollutant concentrations and the number of residents exposed to excessively polluted air, the municipalities identified as priorities for inclusion in the official monitoring network are Tutin, Arilje, Bajina Bašta, Gornji Milanovac, Priboj, Batočina and Prijepolje. Establishing official, preferably automated, monitoring in these areas is essential to formally determine air quality categories and enable the planning of appropriate measures to reduce pollution.

The findings confirm that air pollution is more geographically widespread than earlier, more limited data could indicate. Expanding the monitoring network is an important step forward, but it also reveals that residents of numerous cities were likely exposed to high concentrations of particulate matter in the past without adequate data to enable the relevant authorities to take action. The establishment of new monitoring stations must therefore be accompanied by the identification of pollution sources, the development and implementation of air quality plans, and specific measures to reduce emissions. Otherwise, expanding the monitoring network will contribute to more accurate documentation of the problem, but not to a genuine improvement in air quality.

# Measures for Clean Air at the National and Local Levels

## Implementation of the Air Quality Program

Implementation of the Air Quality Program of the Republic of Serbia for the Period 2022-2030 is significantly behind the deadlines set out in its Action Plan. Although the Program serves as the primary strategic document for

aligning Serbia with EU air quality standards, an analysis of the responses from six relevant ministries, collected by RERI in March and April 2026 through requests for access to information of public importance, shows that a significant share of activities scheduled for completion by the end of 2025 has either not been implemented or has not been supported by concrete evidence of implementation. What is particularly concerning is the fact that institutional responses often consist primarily of formal or procedural steps — such as the adoption of regulations, transposition of directives, workshops, or general information — while measurable results demonstrating actual reductions in emissions and improvements in air quality are lacking.

The largest number of unimplemented activities falls under the responsibility of the Ministry of Environmental Protection, which is in charge for implementing the majority of the measures. Activities identified as unimplemented include those aimed at increasing capacity for issuing integrated permits, bringing the operation of large and medium combustion plants into compliance with emission limit values, and applying stricter standards to small combustion plants. Some progress has been made in the issuance of integrated permits for farms, with 12 permits issued. However, the remaining procedures have not been completed due to incomplete documentation, lack of water permits and changes in ownership. As a result, this activity cannot be considered fully implemented.[66]

With regard to the Ministry of Mining and Energy, the responses received indicate that the directives concerning fuel quality and the reduction of sulfur content in certain liquid fuels have been transposed into national legislation and that their implementation is underway. However, no specific information was provided on the completion of the compliance program, the investments required, or the recruitment of the six additional staff members envisaged to monitor the implementation of these directives. Implementation challenges are also evident in other ministries. The Ministry of Construction, Transport and Infrastructure has not strengthened its capacity to implement standards governing emissions from engines used in heavy machinery, while implementation of the Regulation on Marine Propulsion Engines has been postponed

66 RERI, Analysis of the Air Quality in the Republic of Serbia in 2025, Chapter 3, 2026, available at: https://reri.org.rs/wp-content/uploads/2026/06/Analiza-stanja-kvaliteta-vazduha-u-Republici-Srbiji-za-2025.-godinu.pdf

until the end of 2027. The Ministry of Internal and Foreign Trade has not confirmed the introduction of stricter Euro standards for the import of used vehicles, although the Action Plan envisaged meeting the Euro 5 standard as of 2024 and the Euro 6 standard as of 2025.

## Air Quality Protection at Local Level

A significant share of responsibility for air protection rests with local self-government units. They are required to maintain local air quality monitoring networks, adopt air quality plans and short-term action plans, maintain and update local registers of pollution sources, as well as to conduct inspections to oversee the implementation of these measures at facilities for which local authorities issue construction or occupancy permits. During the reporting period, civil society organizations across Serbia were active in the area of local air protection policies and addressed these issues at the municipal level through activities ranging from air quality monitoring and advocacy to monitoring the implementation of the aforementioned plans and supporting inspection oversight. During the reporting period, several local initiatives, research projects and advocacy efforts by civil society organizations in Kragujevac, Ćićevac, Trstenik, Gornji Milanovac and Vranje were analyzed. These initiatives addressed various aspects of local air protection policy, including air pollution resulting from inadequate waste management, shortcomings in local monitoring and the preparation of air quality plans. A common conclusion across these initiatives is that local communities have insufficient data, planning documents are often delayed or fail to include the measures required and the responses of competent authorities generally consist of isolated, reactive interventions rather than systematic efforts to prevent pollution.

**Kragujevac.** An analysis by the Ekomar Association shows that air quality in Kragujevac deteriorates significantly during the heating season, particularly in parts of the city with a high number of individual heating systems and heavy traffic. The most pronounced exceedances of PM10 levels and the black smoke index were recorded during the winter and autumn months, with the Mala Vaga monitoring station standing out as one of the most heavily affected locations. Although the City implements programs providing subsidies for energy efficiency improvements and heating system replacement, these measures are

not sufficiently aligned with the spatial distribution of pollution. Residents also report inadequate access to information, complex application procedures and financial barriers. The proposed measures include improving local monitoring, developing a digital registry of individual heating systems, targeting subsidies toward the most polluted neighborhoods, simplifying the application process and providing greater support to energy-vulnerable households.[67]

**Ćićevac**. The Citizens' Association Okular has highlighted the long-standing problem of the Moravište unsanitary landfill, located between Ćićevac and Varvarin. Due to inadequate management, fires frequently break out at the landfill, requiring repeated intervention by the police and fire services. Citizen monitoring has also indicated high concentrations of particulate matter and volatile organic compounds. A key institutional problem is that the Municipality of Ćićevac has never adopted a local Waste Management Plan, despite this being a legal obligation. In response to the current situation regarding air pollution and the Moravište landfill, the Citizens' Association Okular, in cooperation with Team 42 Leskovac and the Belgrade Open School, submitted an initiative to the Municipality of Ćićevac calling for the adoption of a local Waste Management Plan. The initiative calls for the preparation of the plan to be initiated, a working group to be established, citizens and civil society organizations to be involved through a public call and experts in waste management and environmental protection to be engaged.[68]

**Trstenik**. During the public consultation on the Environmental Protection Program of the Municipality of Trstenik, the organization Mlado srce pointed out that the claim that air is clean or only slightly polluted, based on the current official air quality assessment, cannot be considered well-founded. This is because the municipality does not monitor concentrations of suspended PM10 and PM2.5 particulate matter, benzene, carbon monoxide, ground-level ozone, arsenic, mercury, nickel, or benzo(a)pyrene — key air quality parameters required under applicable legislation. In its comments on the draft document, prepared with support from the Novi put organization from Kraljevo, Mlado

67 Ekomar Association, Smoke Season: How Kragujevac Heats Its Homes and What Residents Breathe?, 2026.

68 Belgrade Open School, Landfill Fires are Poisoning Ćićevac and Varvarin: 20,000 People Demand a Solution, December 8, 2025, available at: https://www.bos.rs/rs/vesti/3/2226/pozari-na-deponiji-truju-ci-cevac-i-varvarin_-20_000-ljudi-ceka-resenje.html (accessed on July 28, 2026)

srce proposed that the Program's Action Plan allocate funding for an automatic monitoring station to enable adequate monitoring of PM10 and PM2.5 concentrations and the publication of results in real time.[69] Following Mlado srce's comments on the Draft Environmental Protection Program, the Municipality of Trstenik confirmed its intention to establish monitoring of PM10 and PM2.5 concentrations. The proposal to conduct monitoring through an automated monitoring station was partially accepted, and the Action Plan provides for the establishment of PM10 and PM2.5 monitoring "using automated measurement instruments where possible."[70]

**Gornji Milanovac**. Gornji Milanovac does not have regular automated air quality monitoring, although citizen-led measurements and periodic monitoring funded by the local self-government have indicated exceedances of particulate matter concentrations for several years. During the public consultation Why Should We Talk About Air Quality in Gornji Milanovac?,[71] organized by the TRN Initiative on December 5, 2025, with support from the Belgrade Open School, participants highlighted that the existing monitoring system does not provide residents with timely information about air quality, as PM measurement results may not become available until one or two months after the measurements are conducted. What was particularly concerning was the reported PM2.5 concentration of 593 μg/m$^3$ recorded in January 2025.

Findings from citizen-led monitoring further underscore the need to establish regular official air quality monitoring. Across four citizen-operated sensors with data availability exceeding 80% in 2025, the average annual PM2.5 levels were 25.7 μg/m$^3$, exceeding the national annual limit value. In January 2026, the TRN Initiative therefore called on the Municipality of Gornji Milanovac to allocate funding and establish regular air quality monitoring throughout the year, with measurements conducted 365 days annually. The initiative's primary recommendation was to install an automatic monitoring station and make the

69 Belgrade Open School, Trstenik Residents Demand an Automated Air Quality Monitoring Station, December 15, 2025, available at: https://www.bos.rs/rs/vesti/3/2229/gradani-trstenika-zahtevaju-automatsku-mernu-stanicu-za-vazduh.html (accessed on July 30, 2026).

70 Public Consultation Report, available at: https://trstenik.rs/javne-rasprave-2025/

71 Belgrade Open School, Why Should We Talk About Air Quality in Gornji Milanovac?, December 5, 2025, available at: https://www.bos.rs/rs/vesti/3/2227/zasto-treba-da-razgovaramo-o-vazduhu-u-gornjem-milanovcu-.html

results publicly available in real time. As an alternative, it proposed continuous gravimetric monitoring conducted by an authorized institution.

The request was submitted to the Municipality of Gornji Milanovac, the Ministry of Environmental Protection and the Environmental Protection Agency. TRN also proposed that the relevant measure be incorporated into the local Air Quality Program, with implementation scheduled for 2026. In addition to procuring and installing a monitoring station, the request calls for transparent publication of monitoring data and the involvement of experts and other interested members of the public in planning and implementing the measure.

**Vranje**. Vranje is one of the cities that did not have comprehensive air quality monitoring in place until February 2025. Citizen-led monitoring, however, has been in place for several years. The organization Team 42 from Leskovac prepared an analysis of air quality in Vranje based on data from both the newly established state monitoring system and citizen monitoring. At the state-operated automatic monitoring station on Beogradska Street, 77 days with PM10 concentrations exceeding the daily limit value were recorded in 2025. During the winter months, daily PM10 and PM2.5 levels reached 100–200 μg/m$^3$, with the highest values in January exceeding 200 μg/m$^3$.[72] Citizen monitoring showed a similar seasonal pattern and a high number of exceedances at multiple locations across the city: 64 days with exceedances on Hilandarska Street, where the highest PM10 concentrations ranged from 110 to 176 μg/m$^3$; 74 days on Miodraga Stojkovića Street, where PM10 reached 240–250 μg/m$^3$ and PM2.5 reached 200–210 μg/m$^3$, and as many as 132 days with PM10 exceedances on Vojvode Putnika Street during the period for which data were available in 2025. At the latter location, daily PM10 concentrations exceeded 180–200 μg/m$^3$, while PM2.5 concentrations frequently exceeded 120–150 μg/m$^3$. The analysis estimates that Vranje will be classified in the second air quality category, which would trigger an obligation to adopt an Air Quality Plan. As a basis for developing the plan, the City should collect detailed data on emissions from industry, households, transportation, public facilities, and landfills, as well as relevant meteorological and geospatial data. This would

72 Team 42, Contribution to the Assessment of Air Quality in the Territory of the City of Vranje, 2026, p. 10, available at: https://tim42.org.rs/publikacije/

help ensure that measures are based on a comprehensive assessment of air quality conditions and the actual sources of pollution.

The initiatives analyzed show that local air quality challenges vary depending on the predominant sources of pollution, but that institutional shortcomings are highly similar across municipalities. Key issues include underdeveloped monitoring systems, incomplete emissions source inventories, delays in adopting planning documents, a lack of alignment between measures and the areas experiencing the highest levels of pollution and insufficient public participation. Civil society organizations are helping to address important gaps by conducting citizen-led monitoring, producing analyses, participating in public consultations and overseeing the actions of public institutions. Their initiatives indicate that improving air quality requires closer integration of monitoring with the planning and budgeting of measures, timely action by local authorities, transparent public participation and consistent enforcement of applicable regulations.

## Energy Poverty and Measures for Clean Air

The household energy renovation subsidy program is one of the Government's main instruments for improving energy efficiency. The way support is targeted toward the most vulnerable households changed significantly between 2024 and 2025. In 2024, support covering up to 90% of the investment cost was available to energy-vulnerable customers through a separate public call, and local self-governments could decide whether to implement this type of support. Approximately RSD 220 million was allocated to this category of beneficiaries, compared with approximately RSD 1.9 billion allocated to other beneficiaries. Beginning in 2025, support for the most vulnerable households is no longer optional for participating local self-governments. All local self-governments participating in the program are required to issue a single public call for citizens, while eligibility for subsidies covering up to 90% of investment costs has been expanded from energy-vulnerable customers to a broader group of socially vulnerable households that meet the criteria established in the public call.[73] The RES Foundation analyzed the implementation of the Clean Energy and

73 Ministry of Mining and Energy, Scaling Up Residential Clean Energy (SURCE), available at: https://www.mre.gov.rs/tekst/sr/2149/projekat-cista-energija-i-energetska-efikasnost-za-gradjane-surce.php (accessed on August 7, 2026)

Energy Efficiency for Citizens program, focusing in particular on whether public funds intended to improve energy efficiency actually reach lower-income households. An analysis of public calls conducted in 2023, 2024 and 2025 found significant disparities in access to support. Under calls issued on the basis of the 2024 program, only 153 energy-poor households were selected for support, compared with 7,215 other beneficiaries. The RES Foundation concludes that the co-financing model favors households that are able to provide a larger share of the investment from their own resources and implement a greater number of measures, while financial and administrative barriers make it more difficult for the most vulnerable households to access the program.

Additional challenges include slow implementation and insufficient transparency. By mid-November 2025, 91% of the local self-governments participating in the 2024 call had issued calls for final beneficiaries, 55% had completed the process, and only 49% had published complete information on beneficiaries and the use of public funds. According to findings by the State Audit Institution, only 8.8% of local self-governments implemented the measures under the 2023 call within the prescribed one-year period, while 58% had still not completed implementation after nearly two years.[74]

## Filters for Individual Heating Systems – Addressing the Consequence Rather Than the Cause and Delays

In 2024, the City of Belgrade conducted a public procurement procedure for 150,000 chimney filters for individual heating systems, with an estimated value of RSD 747 million. The contract award decision was issued on December 31, 2024, at a value of approximately RSD 746.9 million. Installation was planned for 2025 and 2026, with 80,000 filters to be installed in the first year and 70,000 in the second. According to the procurement documentation, the filters are expected to reduce PM10 particulate matter emissions by at least 40%. Civil society organizations have questioned the rationale for this approach. The Center for Green Policies (CZP) raised concerns about the filters' operating mechanism and stated efficiency, contractors' capacity to carry out and maintain large-scale installations and

74 RES Foundation, Who Owns Energy Efficiency: Clean Energy for Some Citizens – Updated Edition, December 2025, available at: https://resfoundation.org/rs/category/pregledi-javne-politike/

potential issues affecting chimney operation. CZP also assessed that the measure's impact on total PM10 emissions in Belgrade could be substantially lower than the stated reduction at the level of an individual heating unit.[75] The RES Foundation also questioned whether there is a sufficiently robust evidence base to support the large-scale application of a single technical solution across different types of heating devices, fuels and chimneys. It emphasized that systemic measures should primarily focus on improving combustion efficiency, replacing inefficient solid-fuel heating devices and applying eco-design standards.[76]

Implementation of the measure began in 2025, when the City of Belgrade announced the installation of the first filters in Lazarevac, followed by reports of individual installations in other city municipalities. However, a review of the official websites of the City of Belgrade and its municipal governments indicates that, as of June 2026, no consolidated data were publicly available on the actual number of filters installed or on progress toward the target of 80,000 filters planned for installation in 2025.[77] In April 2026, the City again invited residents to apply and announced that installation would continue after the heating season. Meanwhile, information published on municipal websites has generally focused on open or extended public calls, the number of filters available, and application procedures, rather than implementation results. For example, the public call on the Palilula municipality website remained open during 2026 for the distribution of more than 26,000 filters, without any published information on the number of devices already installed. The absence of consolidated data makes it difficult to assess the extent to which the measure has been implemented relative to its planned coverage, as well as to evaluate its actual contribution to reducing particulate matter emissions from individual heating systems.

75 Center for Green Policies, Are Filters a Solution to Belgrade's Air Pollution Problem?, October 6, 2025, available at: https://czp.org.rs/opinion/da-li-su-filteri-resenje-za-problem-zagadjenog-vazduha-u-beogradu/ (accessed on August 7, 2026).

76 RES Foundation, Standard. Not Cold. And No Stench, December 24, 2024, available at: https://resfoundation.org/rs/standard-da-ne-bude-hladno-i-da-ne-smrdi/ (accessed on August 7, 2026).

77 Review of the websites of the City of Belgrade and its municipal governments, last conducted on August 7, 2026.

# Recommendations

## Strategic and Legislative Framework

1. Ensure citizen participation in the development of documents related to air quality at both national and local levels.

## Implementation of Regulations

2. Ensure that competent institutions enforce regulations related to legal deadlines for putting in place public policies concerning air quality, regulations related to air quality monitoring, exchange of air quality information and obligations under international agreements.
3. Monthly reports on detected exceedances of hourly and daily limit values (LV) must include information as to which monitoring stations were not operating during that month. In addition, it is necessary to provide a cumulative display of pollution exceedances in monthly tables, illustrating therein the exact number of days with excessive pollution recorded since the beginning of the year, up to and including the month concerned. This information is important because there are no monthly limits on the number of days with allowed exceedances – only annual limits exist.
4. Stakeholders responsible for monitoring air quality should guarantee proper maintenance of measurement systems and data availability and finance uninterrupted high-quality operation of air quality monitoring networks, especially for urban agglomerations such as Belgrade.
5. Local self-governments/cities should improve the accuracy and visibility of air quality data, as well as ensure easy public access to air quality data provided by the local monitoring networks.

## Financing

**6.** Secure financing and proper conditions for the unobstructed work of inspectorates for environmental protection, in line with authorizations.

# AIR QUALITY

## 7 out of 10

**of the ten locations with the highest annual average $PM_{2.5}$ concentrations in 2025, seven had newly established monitoring stations.**

The expansion of the monitoring network revealed that some of the most polluted cities had previously been inadequately covered by air quality monitoring.

| No | City | $PM_{2.5}$ concentration ($\mu g/m^3$) | New monitoring station |
|---|---|---|---|
| 1 | Zaječar | 42,9 | Yes |
| 2 | Novi Pazar | 42,6 | Yes |
| 3 | Leskovac | 41,6 | Yes |
| 4 | Negotin | 38,3 | Yes |
| 5 | Prokuplje | 37,6 | Yes |
| 6 | Kruševac | 36,6 | Yes |
| 7 | Vranje | 35,5 | Yes |
| 8 | Valjevo | 33,9 | No |
| 9 | Šabac | 32,7 | No |
| 10 | Užice | 31,9 | No |

***Source:*** *National Ecological Association (NEA), Air 2025.*




