BRIEFING
EU Legislation in Progress

European Parliament

# Revision of EU air quality legislation

## Setting a zero pollution objective for air

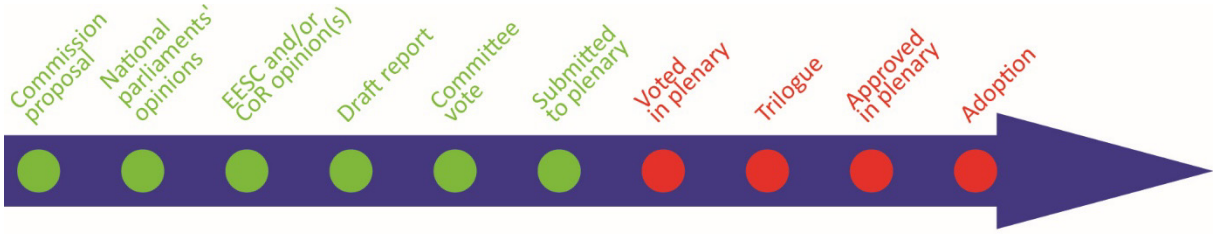
## OVERVIEW

Air pollution is the single largest environmental health risk in the EU and causes significant damage to ecosystems. As part of the European Green Deal's zero pollution ambition, on 26 October 2022 the Commission tabled a proposal for a revision of the Ambient Air Quality Directives. The proposed directive would set air quality standards for 2030 that are more closely aligned with the Word Health Organization's recommendations, as updated in 2021. It would also include a mechanism for the standards' regular review based on the latest scientific information. To achieve them on time, the Member States would have to establish air quality plans ahead of 2030. Provisions on air quality monitoring and assessment would be updated, including through new requirements for monitoring pollutants of emerging concern, such as ultrafine particles.

Stakeholders have had mixed reactions to the proposal. NGOs call for full alignment with the WHO guidelines by 2030 at the latest, and for penalties in case the 2030 deadline is missed. Industry representatives insist on the need to meet current standards first, before aiming for higher ones.

In Parliament, the Committee on the Environment, Public Health and Food Safety (ENVI), responsible for the file, adopted its report on 27 June 2023. The report, which raises the level of ambition of the proposal, awaits a vote in plenary during September. If adopted, it will form Parliament's position for future negotiations with the Council, which has yet to agree on a general approach.

| **Proposal for a directive of the European Parliament and of the Council on ambient air quality and cleaner air for Europe (recast)** | | |
|---|---|---|
| *Committee responsible:* | Environment, Public Health and Food Safety (ENVI) | COM(2022) 542<br>26.10.2022 |
| *Rapporteur:* | Javi López (S&D, Spain) | 2022/0347(COD) |
| *Shadow rapporteurs:* | Norbert Lins (EPP, Germany)<br>Karin Karlsbro (Renew, Sweden)<br>Nicolae Ştefănuță (Greens/EFA, Romania)<br>Anna Zalewska (ECR, Poland)<br>Gianna Gancia (ID, Italy)<br>Petros Kokkalis (The Left, Greece) | Ordinary legislative procedure (COD)<br>(Parliament and Council on equal footing – formerly 'co-decision') |
| *Next steps expected:* | Vote in plenary on committee report | |




**EPRS | European Parliamentary Research Service**

Author: Vivienne Halleux
Members' Research Service
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# Introduction

Air pollution is the single largest environmental health risk in the EU, causing chronic disease and premature mortality. Particulate matter (PM) and specifically fine particulate matter with a diameter of 2.5 µm or less ($PM_{2.5}$), nitrogen dioxide ($NO_2$) and ground-level ozone ($O_3$) are the most harmful air pollutants to human health in Europe. According to the 2022 air quality report of the European Environment Agency (EEA), exposure to concentrations of pollutants above World Health Organization (WHO)-recommended levels led to a significant number of premature deaths in the EU-27 in 2020, with 238 000 early deaths attributable to $PM_{2.5}$, 49 000 to $NO_2$ and 24 000 to acute exposure to ozone.[1] The most common causes of premature death attributable to air pollution are heart disease and stroke, followed by lung disease and lung cancer. While air pollutants tend to come from manmade sources (burning of fossil fuels in electricity generation, transport, industry and households; industrial processes and solvent use; agriculture and waste treatment), they may also arise from natural sources (e.g. volcanic eruptions, windblown dust, sea-salt spray or wildfires).

Air pollution also has adverse impacts on ecosystems. Ozone harms agricultural crops, forests and plants by impairing their growth rates and yields. The deposition of nitrogen oxides ($NO_X$, mainly emitted from transport and industry) and ammonia ($NH_3$, primarily released from agriculture) results in increased nitrogen levels in soil and water, contributing to eutrophication. Deposition of $NO_X$, sulphur dioxide ($SO_2$) and $NH_3$ also drives the acidification of soil, lakes and rivers.

Since the EU first started tackling the issue in the late 1970s, air quality in its territory has markedly improved, with emissions of key air pollutants and their concentrations in ambient air falling notably in the past decades. Yet, exceedances of air quality standards are still common, and most of the EU's urban population remains exposed to health-damaging air pollution levels. Specifically, the share of urban residents exposed to concentrations above WHO-recommended levels is 96 % for $PM_{2.5}$, 95 % for ozone, and 89 % for $NO_2$. Evidence points to inequalities in exposure to and impacts of air pollution, with groups of lower socio-economic status (the unemployed, those on a low income or with lower levels of education) being more negatively affected.

Health and environmental impacts of air pollution remain a cause of concern for citizens. In a 2022 special Eurobarometer survey, most respondents took the view that respiratory diseases (89 %) and cardiovascular diseases (83%), and acidification and eutrophication (83 % each) are serious problems in their countries. Under the European Green Deal's zero pollution pillar and the associated zero pollution action plan, the European Commission committed to further improving air quality and to aligning EU air quality standards more closely with the WHO recommendations. The WHO updated its global air quality guidelines (AQGs) in September 2021. In this revision, focused on PM, ozone, $NO_2$, $SO_2$ and carbon monoxide (CO), the WHO adjusted almost all its recommended limit values downwards compared with the guidelines' previous version dating back to 2005. The Commission tabled the announced proposal for a revision of the Ambient Air Quality Directives on 26 October 2022, as part of a wider legislative package also covering water pollution. The proposal would merge the two existing directives into a single one (recast).

# Existing situation

## Legal framework

The EU's air policy framework rests on three pillars. The first is composed of the two Ambient Air Quality Directives, setting quality standards for concentration levels of key air pollutants (see below). The second is the Directive on the reduction of national emissions of certain atmospheric pollutants (National Emissions Ceilings Directive, or NEC), which establishes national emissions reduction commitments for five transboundary air pollutants ($SO_2$, $NO_X$, non-methane volatile organic compounds, $NH_3$ and $PM_{2.5}$). The directive requires Member States to adopt national air pollution control programmes showing how they intend to limit their annual anthropogenic emissions in the light of their emissions reduction commitments. The third pillar consists of legislation setting

emissions standards for key sources of air pollution in various sectors such as transport, energy and industry. This includes the directives on industrial emissions, medium combustion plants, fuel quality and sulphur content in liquid fuels, eco-design, as well as the regulations on vehicle emissions standards, real driving emissions, and non-road mobile machinery. Under the European Green Deal, in 2022 the Commission proposed a revision of the Industrial Emissions Directive, as well as new 'Euro 7' emission standards for road vehicles.

## The Ambient Air Quality Directives

The rules laid down by the Ambient Air Quality Directives (Directive 2008/50/EC and Directive 2004/107/EC) can be grouped in four main strands:

**Standards**: To protect human health and the environment, the directives set standards for ambient air quality for 13 air pollutants to be attained by all Member States across their territories against specified timelines. These pollutants are $SO_2$, $NO_2$ and $NO_x$, particulate matter ($PM_{10}$ and $PM_{2.5}$), ozone, benzene, lead, CO, arsenic, cadmium, nickel, and benzo(a)pyrene (BaP, a polycyclic aromatic hydrocarbon). EU standards take different forms (see box). Limit values are legally binding from the date they enter into force, subject to any exceedances allowed by the directives (e.g. the $PM_{10}$ daily limit value can be exceeded up to 35 times a year). For target values, the obligation is to take all necessary measures that do not involve disproportionate costs to reach compliance. The directives set standards for both short-term (hourly or daily) and long-term (annual) mean concentrations. As serious health effects may arise from long-term exposure to pollutants, standards are stricter for long-term than for short-term levels. Member States may set more stringent standards in national legislation.

**Monitoring and assessment**: The directives set common methods and criteria to assess air quality in all Member States in a comparable and reliable manner. In particular, Member States must set up a network of monitoring stations and sampling points based on criteria defined by the directives for determining the minimum numbers of sampling points, for their macroscale and microscale siting, as well as for data quality and acceptable uncertainty in monitoring and modelling. The criteria offer some flexibility for competent authorities to set up monitoring networks based on the local circumstances, but this flexibility is limited by the requirement to provide information both for where the highest concentrations of air pollutants occur and for other areas that are representative of the exposure of the general population. For the purposes of air quality assessment and management, Member States are required to divide their territories into

### EU air quality standards

**Limit values**, set for PM, $SO_2$, $NO_2$, benzene, CO, and lead, are levels to be attained within a given period and not to be exceeded once attained.
**Target values**, set for ozone, benzo(a)pyrene, arsenic, cadmium, and nickel, are levels to be attained, where possible, over a given period.
**Critical levels**, set for sulphur oxides and oxides of nitrogen, refer to concentrations above which direct adverse effects may occur on some receptors, such as trees, other plants or natural ecosystems, but not on humans.
**Long-term objectives**, set for ozone only, are to be attained in the long run, save where not achievable through proportionate measures.
**Alert thresholds**, set for $SO_2$, $NO_2$, and ozone, are levels beyond which there is a risk to human health from brief exposure for the population as a whole and at which immediate steps are to be taken by the Member States.
**Information thresholds**, targeting ozone only, set a level lower than the alert threshold beyond which there is a risk for particularly sensitive persons and immediate and appropriate information is needed.
The **average exposure indicator** gives an average level, determined on the basis of measurements at urban background locations, which reflects population exposure. It is used to calculate the national exposure reduction target (for $PM_{2.5}$).
The EU air quality standards take account of the WHO air quality guidelines (recommendations of limit values for specific pollutants, based on an expert evaluation of the scientific evidence regarding their health impacts), but also on an evaluation of what is technically and economically feasible, while taking into account the cost versus the benefit. For most pollutants, EU standards are thus less stringent than the WHO guidance levels.

Standard typology source: Commission impact assessment.

zones and agglomerations, and to classify them according to prescribed assessment thresholds, informing which assessment techniques should apply. When assessing air quality, they must use reference measurement methods based on international standards or equivalent methods. They must ensure the accuracy of measurements.

**Reporting and information**: Member States have to report to the Commission and communicate to the public the results of their air quality assessments on an annual basis and 'up-to-date' air quality measurements, as well as information on the plans and programmes they establish.

**Corrective action**: Where in particular zones or agglomerations the ambient air quality standards are not met, the directives require Member States to prepare and implement air quality plans and measures (for those pollutants exceeding the standards), and to communicate these plans to the Commission within 2 years of the exceedance identification. These plans need to identify the main emissions sources responsible for pollution, detail the factors responsible for exceedances, and list the abatement measures adopted to reduce pollution. These could be measures aimed at reducing emissions from stationary sources or from vehicles (including through retrofitting with emissions control equipment); limiting transport emissions through traffic planning and management (including congestion pricing or low emission zones) and encouraging a shift to less polluting modes; promoting the use of low emission fuels; or using economic and fiscal instruments to discourage activities generating high emissions. In line with the principle of subsidiarity, the directives leave the choice of means to achieve their air quality standards to the Member States, but explicitly require that exceedance periods are kept as short as possible.

## Parliament's starting position

In its resolution of 25 March 2021 on the implementation of the Ambient Air Quality Directives, Parliament called on the Commission to align $PM_{10}$, $PM_{2.5}$, $SO_2$ and $O_3$ values with WHO guidelines, and benzene and benzo(a)pyrene values with WHO reference levels, through a revision of the two directives following a comprehensive impact assessment. It stressed the need to update EU air quality standards as soon as the new WHO guidelines are available, and to include an obligation for a periodic review of the standards based on the latest scientific and technical evidence. In this context, Parliament recommended considering covering pollutants not yet regulated by the EU that have proven negative health and environment impacts, such as ultrafine particles, black carbon, mercury and ammonia. It also supported the replacement of the current target values for $O_3$, arsenic, cadmium, nickel and BaP with limit values. On air pollution measuring, Parliament called on the Commission to review and establish new mandatory rules for locating monitoring stations and sampling points. This could include the possibility for the Commission to require locating additional monitoring points where necessary, to ensure better measurement of air pollution, or setting a minimum number of measurement stations per type of emissions source (transport, industry, agriculture or residential). Parliament noted that the lengthy production of air quality plans puts at risk their efficacy and that they should be better targeted and focus on short and mid-term measures that are results-oriented and tackle emissions from identified main pollution sources. It also called for the inclusion of reliable reduction calculations to measure implementation, and regretted the absence of requirements to update the plans when new measures are adopted or progress is insufficient. Parliament also recommended improving public information, awareness and involvement, and asked for explicit provisions on access to justice.

## Council starting position

In its March 2020 conclusions on improvement of air quality, the Council stressed the importance of striving to achieve the WHO air quality guideline levels. It encouraged the Commission to complement the revision of the air quality standards, in particular limit values, which have proven effective, with further considerations on how an approach based on average exposure indicators could contribute to a reduction of overall exposure of the general population in all areas. It invited the Commission to consider reviewing current standards for ozone in the light of the assessment of

various factors influencing ozone levels, such as geographical and climatological circumstances. It agreed that additional guidance and, as appropriate, clearer requirements in the two directives themselves, taking into account specific local circumstances where necessary, could help to make monitoring, modelling and the provisions for plans and measures and their implementation more effective and efficient, and further harmonise the approaches applied to them.

# Preparation of the proposal

The Ambient Air Quality Directives were subject to an evaluation by the Commission, published in November 2019. This 'fitness check' concluded that they had been partially effective in improving air quality, but that not all their objectives had been met. In particular, they had not ensured that sufficient action is taken throughout the EU to meet air quality standards and keep exceedances as short as possible. The implementation appraisal issued by the European Parliamentary Research Service (EPRS) in October 2022 analyses the evaluation outcomes in detail.

Four types of shortcomings were identified in the EU air quality policy framework. Firstly, EU standards are less protective than those recommended by the WHO and cannot be adjusted flexibly to evolving scientific knowledge. Secondly, air quality plans are often insufficient to prevent exceedances or minimise their duration, due to failure to adopt decisive measures for reducing air pollution, but also due to delayed implementation and lack of enforcement of measures adopted. Thirdly, the reliability and comparability of air quality monitoring, modelling and assessment could be improved. For instance, siting criteria could be defined more clearly and modelling could be used more effectively for both air quality assessment and planning. There are no requirements for monitoring additional air pollutants (black carbon, ultrafine particles) and related hotspots (such as ports or airports). Finally, further harmonisation of the way air quality information is presented would contribute to higher comparability of information across the EU. According to the IA accompanying the proposal for a revision, there were, as of May 2022, 28 ongoing infringement cases for exceedances in 18 Member States, as well as one case related to air quality monitoring insufficiencies, which points to important implementation gaps.

The IA report analysed 19 policy options (with 69 policy measures) to address the shortcomings identified. It was subject to a consultation process including an open public consultation, a targeted stakeholder survey, stakeholder meetings, interviews and further outreach activities, notably through the third EU Clean Air Forum. The public consultation (23 September to 16 December 2021) received 934 replies, mostly from citizens (66 %). The IA report was supported, among other sources, by a general study and two others looking into specific aspects of the revision.[2] The IA received a 'positive opinion with reservations' from the Regulatory Scrutiny Board on 22 July 2022. Regarding the three different levels[3] of alignment with the WHO guidelines ('partial'/'closer'/'full' alignment), the initial appraisal of the IA issued by EPRS in March 2023 notes that the IA lacks clarity on the choice of closer alignment as the 'preferred option'.

# The changes the proposal would bring

## Standards

In line with the ambition of the zero pollution action plan, the proposal would enshrine into law a '**zero pollution objective for air**', according to which air quality across the EU should be progressively improved to reach, by 2050, levels 'no longer considered harmful to human health and natural ecosystems', as defined by scientific evidence.

To move forward on this path, the proposed directive would set air quality standards for 2030[4] that are **more closely aligned** with the WHO AQGs. The proposal would also introduce a **regular review** mechanism to check whether applicable EU standards are still appropriate to achieve the directive's objectives for health and environment protection, and whether additional air pollutants have to be covered. The review, to be conducted by the Commission, would assess the need to revise the

directive to ensure alignment with the WHO guidelines and the latest scientific information. The first review would occur by the end of 2028, then every 5 years thereafter.

'Closer alignment' with the WHO AQGs means that the revised EU standards would be guided by the WHO interim targets (IT) closest to the AQG levels. For example, the annual concentration limit for $PM_{2.5}$ would be set at 10 µg/m³ (WHO interim target 4). For $NO_2$, this would be 20 µg/m³ (WHO interim target 3) (see tables 1 and 2). In parallel, the proposed directive would require a reduction in public's **average exposure to $PM_{2.5}$ and to $NO_2$** at regional level (NUTS 1 territorial units) towards the WHO recommended levels (i.e. 5 µg/m³ for $PM_{2.5}$, 10 µg/m³ for $NO_2$). Currently, this average exposure reduction obligation covers $PM_{2.5}$ only, and applies at national level.

Table 1 – WHO new recommended AQG levels and interim targets (IT)

| Pollutant | Averaging period | IT 1 | IT 2 | IT 3 | IT 4 | AQG level | Comments |
|---|---|---|---|---|---|---|---|
| $PM_{2.5}$ | Annual | 35 | 25 | 15 | 10 | 5 µg/m³ | |
| $PM_{2.5}$ | 24-hour | 75 | 50 | 37.5 | 25 | 15 µg/m³ | 3-4 exceedance days/year |
| $PM_{10}$ | Annual | 70 | 50 | 30 | 20 | 15 µg/m³ | |
| $PM_{10}$ | 24-hour | 150 | 100 | 75 | 50 | 45 µg/m³ | 3-4 exceedance days/year |
| $O_3$ | Peak season | 100 | 70 | - | - | 60 µg/m³ | |
| $O_3$ | 8-hour | 160 | 120 | - | - | 100 µg/m³ | 3-4 exceedance days/year |
| $NO_2$ | Annual | 40 | 30 | 20 | - | 10 µg/m³ | |
| $NO_2$ | 24-hour | 120 | 50 | - | - | 25 µg/m³ | 3-4 exceedance days/year |
| $SO_2$ | 24-hour | 125 | 50 | - | - | 40 µg/m³ | 3-4 exceedance days/year |
| CO | 24-hour | 7 | - | - | - | 4 mg/m³ | 3-4 exceedance days/year |

Source: WHO global air quality guidelines, 2021, p. xvii. Note: the 2005 edition of the WHO AQGs included a recommendation for an 8-hour CO concentration below 10 mg/m³, which remains valid.

As regards pollutants not covered by the WHO 2021 update, the recast proposal would maintain EU values in place for heavy metals and benzo(a)pyrene. It would modify the annual concentration limit for benzene, setting it at 3.4 µg/ m³ (roughly halfway between the current EU standard of 5 µg/m³ and the reference level[5] of 1.7 µg/m³ provided by the WHO in 2000).

Table 2 – EU 2030 air quality standards for human health protection

| Pollutant | Averaging period | Legal nature | Revised standard | Permitted exceedances | Current standard |
|---|---|---|---|---|---|
| $PM_{2.5}$ | Annual | Limit value | 10 µg/m³ | | 25 µg/m³ |
| $PM_{2.5}$ | 24-hour | Limit value | 25 µg/m³ | 18 times/year | |
| $PM_{10}$ | Annual | Limit value | 20 µg/m³ | | 40 µg/m³ |
| $PM_{10}$ | 24-hour | Limit value | 45 µg/m³ | 18 times/year | 50 µg/m³ |
| $O_3$ | Max daily 8-hour mean | Target value | 120 µg/m³ | 18 days/year averaged over 3 years | 120 µg/m³ |
| $O_3$ | Max daily 8-hour mean | Long-term objective | 100 µg/m³ | 3 exceedance days/year | 120 µg/m³ |
| $NO_2$ | Annual | Limit value | 20 µg/m³ | | 40 µg/m³ |
| $NO_2$ | 24-hour | Limit value | 50 µg/m³ | 18 times/year | |
| $SO_2$ | Annual | Limit value | 20 µg/m³ | | |
| $SO_2$ | 24-hour | Limit value | 50 µg/m³ | 18 times/year | 125 µg/m³ |
| CO | 24-hour | Limit value | 4 mg/m³ | 18 times/year | |
| CO | Max daily 8-hour mean | Limit value | 10 mg/m³ | | 10 mg/m³ |

Source: Commission proposal; Commission impact assessment, Annex 10.

Further changes proposed in relation to EU air quality standards include **establishing limit values** (i.e. the most binding type of standard, also deemed more effective) for air pollutants currently subject to target values (except for ozone).[6] The proposal would also introduce **alert thresholds** for short-term measures on peak pollution from **$PM_{10}$ and $PM_{2.5}$** (set at 90 µg/m$^3$ and 50 µg/m$^3$, respectively, to be measured over three consecutive days).

## Monitoring and assessment

The proposal would introduce **a single assessment threshold** per pollutant, to replace the current lower and upper threshold. Accordingly, in zones where pollutant levels exceed the prescribed thresholds (which correspond to WHO recommended levels), fixed measurements would be required (and may be supplemented by modelling applications and indicative measurements to assess air quality and provide information on the spatial distribution of the pollutants and the spatial representativeness of fixed measurements). Modelling applications, indicative measurements, objective-estimation techniques, or a combination of those would be sufficient in zones where pollutant levels remain below the thresholds. In zones where the limit values or the ozone target value set in the proposed directive are exceeded, the **use of modelling applications** in addition to fixed measurements would be **mandatory**.

Rules on the number and location of sampling points would be updated and further specified. To ensure monitoring continuity, relocating sampling points where exceedances of any limit value were recorded in the previous three years would not be allowed, except in special circumstances. Member States would have to set up **monitoring supersites**, combining multiple sampling points, to gather long-term data on the pollutants covered by the directive, as well as on pollutants of emerging concern (black carbon, ammonia, ultrafine particles – UFP), and other relevant metrics. Member States would have to set up at least one monitoring supersite per 10 million inhabitants at an urban background location, and at least one monitoring supersite per 100 000 km$^2$ at a rural background location.[7]

In addition to monitoring UFP background concentrations at supersites, Member States would be required to monitor the levels of ultrafine particles at locations where **high UFP concentrations** are likely (e.g. at or close to airports, ports, roads, industrial sites or domestic heating), with at least one sampling point per 5 million inhabitants.[8]

## Air quality and short-term action plans

The proposed directive would require **air quality plans** to be drawn up before the new air quality standards enter into force in cases of non-compliance prior to 2030, with the aim to ensure that the pollutant levels are reduced accordingly and the standards met when they become binding.

The timeframe for corrective action would be clarified. Where limit values, the ozone target value or average exposure reduction obligations are exceeded, Member States would still have 2 years (after the calendar year in which the exceedance was recorded) to establish air quality plans. The text however specifies the time span within which compliance with the standards has to be achieved. For limit values, the exceedance situation would need to be resolved within **3 years** (from the end of the calendar year in which the first exceedance was reported). Air quality plans should be **updated** if in their third year of existence they have still failed to resolve the situation.

The proposal specifies the **minimum information** to be included in air quality plans, with requirements to inter alia estimate the effect of planned air quality measures in terms of pollutant concentration reduction (in µg/m$^3$) at all sampling points in exceedance, as well as a compliance perspective (year). When preparing air quality plans, Member States would be required to assess the **risk of exceeding alert thresholds**. This analysis would be used for establishing, where applicable, short-term action plans (which are required to address alert threshold exceedances).

Requirements on stakeholder involvement would be revised, and an obligation would be added for Member States to **consult the public**, as well as those competent authorities that are likely to be concerned by the plan implementation, in the design and any significant update of air quality plans and short-term action plans. Air quality plans and short-term action plans should be communicated to the Commission within **2 months** of their adoption.

### Public information, access to justice and compensation

Member States would be required to establish a publicly available **air quality index** providing hourly air quality updates for $SO_2$, $NO_2$, $PM_{10}$, $PM_{2.5}$ and $O_3$. This index should build on the air quality indices at European scale provided by the EEA.

The proposal would introduce explicit provisions on **access to justice** (granting legal standing), to allow members of the public to challenge the substantive or procedural legality of decisions, acts or omissions concerning air quality plans and short-term action plans of the Member States.

Where damage to human health has occurred due to a violation of rules referring to limit values, air quality plans, short-term action plans or transboundary pollution, Member States would have to ensure that the individuals affected by such violations are able to **claim and obtain compensation** for that damage from the relevant competent authority.

The proposed directive would specify how Member States need to establish **penalties** for violations of the national measures implementing the directive, including fines.

## Advisory committees

In its opinion of 22 February 2023 (rapporteur: Kęstutis Kupšys, Diversity Europe – Group III, Lithuania), the European Economic and Social Committee (EESC) recommends fully aligning EU air quality standards (including for ozone, in the form of limit values) with the updated WHO AQGs by 2030 at the latest. It regrets that for the revision, the benefit-to-cost ratio takes precedence over the maximum protection of human life and health indicators, resulting in the choice of closer rather than full alignment with the WHO guidelines. The EESC strongly supports the right to compensation for people who have suffered health damage from air pollution and penalties for natural and legal persons who have violated the rules. In this context, it calls for establishing a clear, strictly rational link between pollutant source and polluter, clarifying responsibilities and related penalisations; and for more clarity on the provisions on air quality plans and the remedies (including financial penalties) linked to failure to comply with the standards by the deadlines. The EESC asks for additional monitoring sites for ultrafine particles, black carbon and ammonia, as the proposed density is not enough to serve the development of epidemiological studies. It would welcome increased funding under Horizon Europe for citizen science projects on pollution.

The European Committee of the Regions (CoR) adopted its opinion on 5 July 2023 (rapporteur: Una Power, Greens, Ireland). The CoR supports the Commission's proposed limit values to be achieved by 2030, and advocates full and binding alignment with the 2021 WHO guidelines by 2035. It calls for full application of the polluter pays principle, and recalls that communities need adequate support to fully implement the directive on the ground. The CoR calls for the EU to support air quality transition by providing new better targeted or dedicated EU funding opportunities while simplifying and increasing access to existing ones; extending or adapting funding opportunities for climate transition, such as the Just Transition Fund or the Social Climate Fund, to use for air quality transition; providing technical assistance and multilingual tailored guidance on funding specifically addressed to local and regional authorities; and shifting traffic from the road to the railway. It further asks Member States to ensure that local and regional authorities representing areas likely to be significantly affected by air pollution exceedances can take part in consultations when preparing air quality plans. The CoR stresses that multi-level governance, horizontal coordination and adequate funding are essential to ensure the implementation of this directive.

# National parliaments

The deadline for the submission of reasoned opinions on the grounds of subsidiarity was 16 March 2023. No reasoned opinion was issued.

# Stakeholder views[9]

The deadline for stakeholders' feedback on the Commission proposal was 14 March 2023, by which date 60 contributions were received. Pushing for increased ambition, non-governmental organisations (NGOs) support full alignment of EU air quality standards with the WHO recommendations by 2030 at the latest. Client Earth warns that rather than proposing fully aligned limit values, the proposal relies on average exposure reduction obligations, allowing air pollution hotspots to be ignored. Regarding air quality plans, it criticises the fact that the first 'delivery plans' would only need to be in place 4 years after the entry into force of the recast (i.e. possibly late 2028 or 2029), making it impossible to deliver compliance in time. It also regrets the lack of sanctions for non-compliance with the limit values by 2030. Transport & Environment proposes that, if compliance is not achieved by 2030, penalties be issued to competent authorities, and a more ambitious remedial plan be adopted. It calls for recommended abatement measures to be clearer and more explicit. The Health and Environment Alliance (HEAL) asks for the representativeness of social inequalities and the exposure of vulnerable and susceptible groups (social housing, schools, hospitals and elderly homes) to be included in the criteria for the sampling points' location.

For Eurocities, attaining the proposed standards requires matching ambitions in source-specific regulation in the transport sector, notably the Euro 7 proposal; increased efforts in certain sectors still responsible for air pollution, such as agriculture and construction; and significant support for local authorities in tackling air pollution, be it by establishing the adequate framework for low emission zones in cities or schemes to help urban dwellers switch to cleaner heating.

On the industry side, ACEA insist that assessing future air quality limits must be based on a full risk assessment and management process. In their view, the Euro 7 proposal for exhaust emission standards is not the key to achieving future air quality standards, since zero emissions at the tailpipe are being delivered by the industry's transition to zero-emission new vehicles. Stakeholders from the non-ferrous metal sector (Eurometaux) point out the need to ensure that existing air quality standards are met before setting new ones. The new limit values should only apply after an appropriate transition period – from 2040 at the earliest – and in a stepwise approach. Additional provisions on access to justice, compensation and penalties would result in legal uncertainties for operators, competent authorities and Member States.

# Legislative process

## Parliament

In Parliament, the file was referred to the Committee on the Environment, Public Health and Food Safety (ENVI), which appointed Javi López (S&D, Spain) as rapporteur on 11 January 2023.

The ENVI committee adopted its legislative report on 27 June 2023 with 46 votes in favour, 41 against and one abstention. The report sets **stricter 2030 limit and target values** for several pollutants, compared to the Commission proposal. In particular, the report aligns the limit values for $PM_{2.5}$ and $PM_{10}$, $NO_2$ and $SO_2$ with the 2021 WHO air quality guidelines. The annual concentration limit for benzene would be set at 0.17 µg/m$^3$.[10] For $O_3$, the target value for the protection of human health would be tightened (from 120 to 110 µg/m$^3$), and a peak season standard of 60 µg/m$^3$, in line with the 2021 WHO recommended level, would be added to the long-term objective. In addition, the report significantly lowers the EU values in place for some heavy metals (lead, arsenic, nickel) and benzo(a)pyrene (unmodified in the Commission proposal). It also lowers the **alert thresholds** for $SO_2$ and $NO_2$, and suggests introducing **information thresholds** for $SO_2$, $NO_2$, $PM_{10}$ and $PM_{2.5}$. It

proposes to refer to a smaller geographical area for the assessment of the average exposure indicator and the average exposure reduction obligation (NUTS2 instead of NUTS1).

The report clarifies that future reviews of the directive would need to ensure full and continuous alignment with the most up-to-date WHO guidelines, the most recent review by the WHO Regional Office for Europe and the latest scientific information. In the first review, due by the end of 2028, the Commission would have to propose, if appropriate, limit values, target values or critical levels for the air pollutants measured by monitoring supersites but currently not included in Annex I on air quality standards; and to look into a possible conversion of the ozone target value into a limit value.

Sampling points' location would need to be representative of the exposure of at-risk communities and of the exposure of one or more sensitive population and vulnerable groups. The report would require Member States to monitor **black carbon, ammonia and mercury** in locations where high concentrations of such pollutants are likely to occur (whereas the proposal envisages such monitoring for ultrafine particles alone) and increase the number of related sampling points. There would also be an increase in the number of **monitoring supersites** at urban background locations: at least one monitoring supersite should be established per two million inhabitants, rather than one per 10 million, as the Commission proposed.

The report makes a distinction between the air quality plans required to ensure the attainment of the new air quality standards (**'air quality roadmaps'**) and those required in the event of standard exceedances. Where, from three months after the date of the directive's entry into force, in a zone or NUTS 2 unit, the levels of any pollutant recorded for the preceding calendar year exceed any limit or target value to be reached by 1 January 2030, Member States should establish an air quality roadmap for that pollutant as soon as possible and no later than two years after the calendar year in which the exceedance was recorded, to ensure standards are met by the deadline.

The list of air pollution abatement measures to be considered by Member States when preparing air quality plans, or roadmaps, would be specified and expanded. The assessment of the **projected impact** of the plans, roadmaps and measures would have to fulfil a number of minimum requirements. The report also introduces a list of emergency measures to be considered for the short-term action plans.

**Air quality indices** would have to be comparable across all Member States, follow the latest WHO recommendations, and be accompanied by detailed information on the associated health risks for each pollutant, including information tailored to sensitive population and vulnerable groups. The Commission would specify, by delegated act, how the index should be calculated and presented.

Within six months of the directive's entry into force, the Commission would be required to lay down, by delegated act, common criteria for determining the amount of **penalties**. Member States would have to ensure that financing measures for improving air quality are prioritised in the use of revenues from penalties. The report also specifies the rules on compensation.

The report awaits a vote at the September 2023 plenary session. If adopted, it will form Parliament's position for future negotiations with the Council.

## Council

In the Council, work is ongoing at working party level. Ministers held a policy debate on the file at the Environment Council on 20 June 2023.

## EUROPEAN PARLIAMENT SUPPORTING ANALYSIS

EPRS initial appraisal of a Commission impact assessment on Cleaner air for Europe, March 2023.

EPRS implementation appraisal on the Revision of the EU Ambient Air Quality Directives, October 2022.

EPRS briefing on The EU's zero pollution ambition: Moving towards a non-toxic environment, May 2022.

EPRS study on EU policy on air quality: Implementation of selected EU legislation, January 2021.

## OTHER SOURCES

Ambient air quality and cleaner air for Europe. Recast, Legislative Observatory (OEIL), European Parliament.

## ENDNOTES

1 These numbers cannot be added together to determine total health impacts, as this can result in double counting of people exposed to high levels of more than one pollutant.

2 Conlan B., Menadue H., Green J., et al, Strengthening of air quality monitoring, modelling and plans under the AAQDs; Nagl C., Bleeker A., Ntziachristos L. et al., Systematic assessment of other air pollutants not covered under the AAQDs (with a focus on ultrafine particles, black carbon/elemental carbon, ammonia and methane), 2022.

3 According to the IA, going for partial, closer or full alignment with the WHO AQGs is a political choice. With closer alignment, the IA expects that some 6 % of sampling points would not meet the corresponding air quality standards without additional effort at local level, or may need time extensions or exceptions. The net benefits would amount to over €36 billion, and annual adjustment/mitigation costs to €5.6 billion. With full alignment, 71 % of sampling points would not meet the standards without additional effort, and in many instances, they would not be able to meet them at all with technically feasible reductions only. Benefits would be over €38 billion and costs €7 billion.

4 Limit values would stay identical to those set under the repealed directives until the new limit values start applying.

5 The WHO has not provided a guideline for benzene. The reference level was estimated assuming the WHO unit risk for cancer and an acceptable risk of additional lifetime cancer risk of approximately 1 in 100 000.

6 The Commission notes that ozone levels strongly depend on natural factors and transboundary pollution, and the complex characteristics of ozone's formation in the atmosphere make it difficult to assess the feasibility of complying with strict limit values.

7 Member States with fewer than 10 million inhabitants would have to establish at least one monitoring supersite at an urban background location. Similarly, Member States whose territory is less than 100 000 $km^2$ would have to set up at least one monitoring supersite at a rural background location.

8 Here again, Member States with fewer than 5 million inhabitants would have to establish at least one fixed sampling point at a location where high UFP concentrations are likely to occur.

9 This section aims to provide a flavour of the debate and is not intended to be an exhaustive account of all different views on the proposal. Additional information can be found in related publications listed under 'European Parliament supporting analysis'.

10 In the WHO assessment from 2000, concentrations of airborne benzene of 0.17 µg/$m^3$ are associated with an excess lifetime cancer risk of 1 in 1 000 000 (compared to 1 in 100 000 with concentrations of 1.7 µg/$m^3$ - see endnote 5).

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eprs@ep.europa.eu (contact)

www.eprs.ep.parl.union.eu (intranet)

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