

EFA's response to the Inception Impact Assessment on the Revision of the Ambient Air Quality Directives (Directorate General for Environment)

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1. Introduction

EFA supports the European Commission initiative to revise the EU Ambient Air Quality Directives in order to tackle air pollution, a **major health and environmental concern for Europeans**¹. The initiative follows the 2019 fitness check, which concluded that the existing standards are **only partially, and therefore insufficiently effective** in improving air quality in the EU². Further, a 2019 Eurobarometer survey showed that 63% of EU citizens believe that **EU air quality standards must be strengthened**³.

¹ Special Eurobarometer 501, 'Attitudes of European Citizens towards the Environment', 2020
<https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/survey/getSurveydetail/instruments/special/surveyky/2257>

² European Commission, 'Executive Summary of the Fitness Check of the Ambient Air Quality Directives', 2019
https://ec.europa.eu/environment/air/pdf/SWD_2019_428_F1_SWD_AAQ%20Fitness%20Check_EXECUTIVE_SUMMARY_finalised.pdf

³ Special Eurobarometer 497, 'Attitudes of European Citizens towards Air Quality', 2019
<https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/survey/getsurveydetail/instruments/spacial/surveyky/2239>

Therefore, EFA considers the **revision of the EU Ambient Air Quality Directives as a crucial policy step** to correct existing shortcomings and gaps leading to disease and deaths, a position we have documented and voiced on multiple occasions in the past^{4,5}.

The European Federation of Allergy and Airways Diseases Patients' Associations (EFA) is the voice of over 200 million people living with allergy, asthma, and chronic obstructive pulmonary disease (COPD) in Europe. We bring together 39 national associations from 24 countries and channel their knowledge and patients' needs to the European institutions. We connect European stakeholders to ignite change and bridge the policy gaps on allergy and airways diseases so that patients live uncompromised lives, have the right and access to the best quality care, and a safe environment.

A member of the Health and Environment Alliance (HEAL), EFA fully aligns with HEAL response to this consultation and offers the European Commission our views on issues directly affecting allergy and airways disease patients.

1.1 EU air quality policies in context

The issue of air quality is central to the EU's goal to avert the 'existential threat' of climate change and environmental degradation, as outlined in the EU Green Deal⁶. One of the key concepts of the Green Deal, the '**zero pollution ambition**', translated in November 2020 into a '*Zero Pollution Action Plan for air, water and soil – building a Healthier Planet for Healthier People*'. The plan laid out key policy interventions to tackle environmental pollution, including the revision of the Air Quality directives⁷.

Meanwhile, the revision joins other concurrent initiatives with a strong air quality component: for instance the new EU Climate Law aiming to make EU climate-neutral by 2050; the Renovation Wave as a means to cut emissions from buildings; and a Farm-to-Fork Strategy envisaging, among others, a cleaner agricultural sector. Naturally, these initiatives present varying levels of ambition, while some are sectoral in essence.

Finally, the launch of this revision comes just before the results from the review of WHO Air Quality Guidelines (WHO AQGs)⁸, which is the global scientific process setting recommendations on the exposure limits for human health.

⁴ European Federation of Allergy and Airways Diseases Patients' Associations, *EFA takes a Stand on the Fitness Check of the Ambient Air Quality Legislation*, 2017 <https://www.efanet.org/news/3202-efa-takes-a-stand-on-the-fitness-check-of-the-ambient-air-quality-legislation>

⁵ European Federation of Allergy and Airways Diseases Patients' Associations, *Should the EU revise the EU Ambient Air Quality Directives? Patients Say YES!*, 2018 <https://www.efanet.org/news/3382-should-the-eu-revise-the-eu-ambient-air-quality-directives-patients-say-yes>

⁶ European Commission, Communication on the European Green Deal, 2019 https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF

⁷ European Commission, Zero Pollution Action Plan, 2020 https://ec.europa.eu/environment/strategy/zero-pollution-action-plan_en

⁸ World Health Organisation, *WHO Air Quality Guidelines*, 2005 https://www.who.int/entity/phe/health_topics/outdoorair/outdoorair_agg/en/index.html

1.2 Air pollution and its effects on allergy and airways disease patients

Air pollution remains the single largest environmental health risk in Europe, and a major cause of mortality responsible for around 400.000 premature deaths per year⁹. Exposure to air pollutants such as particulate matter (PM₁₀ and PM_{2.5}), nitrogen dioxide (NO₂), sulphur dioxide (SO₂) and ozone (O₃) have been shown to aggravate existing chronic respiratory conditions, or even be responsible for the onset of these diseases¹⁰. The effects are more frequent in case of long-term exposure, as well as in vulnerable populations such as children and the elderly¹¹.

Today there are more than 30 million children and adults less than 45 years old living with asthma in Europe¹², accounting for a total cost of about than €34 billion per year (due to healthcare and loss of productivity)¹³. Meanwhile, between 5 and 10% of the population have COPD¹⁴, the cost of which is estimated at 48,4 billion annually¹⁵. Besides, the prevalence of allergic rhinitis ranges from 17 to 29% among the population of Europe¹⁶.

Patients with asthma and COPD are among the most affected by air pollution in the short and long-term. They bear a disproportionate burden because of their disease. As chemical pollutants present in ambient air penetrate deep into the respiratory tract through breathing, they can cause further damage to an already compromised respiratory function. To a person living with allergy, asthma and/or COPD, this may lead to more frequent disease exacerbations (inflammations), more hospitalisations, or even higher risk of death^{17,18,19}.

EFA recognises that the existing EU-wide air quality standards have been important in reducing the main air pollutants in Europe over the last 15 years. However, we firmly believe that there is still a long way to go to ensure the **healthy, safe and breathable air that every person living in Europe**

⁹ European Environment Agency, *Air Quality in Europe – 2020 Report*, 2020
<https://www.eea.europa.eu/publications/air-quality-in-europe-2020-report>

¹⁰ Organisation for Economic Co-operation and Development (OECD), *Health at a Glance: Europe 2020*
<https://www.oecd-ilibrary.org/sites/5286cd4d-en/index.html?itemId=/content/component/5286cd4d-en>

¹¹ R. Sciaraffa et al., 'Impact of air pollution on respiratory diseases in urban areas: a systematic review', 2017
https://academic.oup.com/eurpub/article/27/suppl_3/ckx189.117/4556899

¹² European Respiratory Society, *European Lung White Book* <https://www.erswhitebook.org/chapters/adult-asthma/>

¹³ European Respiratory Society, *European Lung White Book* <https://www.erswhitebook.org/chapters/the-economic-burden-of-lung-disease/>

¹⁴ European Respiratory Society, *European Lung White Book* <https://www.erswhitebook.org/chapters/chronic-obstructive-pulmonary-disease/>

¹⁵ European Respiratory Society, *European Lung White Book* <https://www.erswhitebook.org/chapters/the-economic-burden-of-lung-disease/>

¹⁶ N. Fyhrquist et al., 'The roadmap for the Allergology specialty and allergy care in Europe and adjacent countries. An EAACI position paper', *Clinical and Translational Allergy*, 2019
<https://ctajournal.biomedcentral.com/articles/10.1186/s13601-019-0245-z>

¹⁷ I. Eguiluz-Gracia, 'The need for clean air: The way air pollution and climate change affect allergic rhinitis and asthma', 2020 <https://onlinelibrary.wiley.com/doi/full/10.1111/all.14177>

¹⁸ E. Garshick, 'Effects of short- and long-term exposures to ambient air pollution on COPD', 2014
<https://erj.ersjournals.com/content/44/3/558>

¹⁹ World Health Organisation, *Ambient air pollution: a global assessment of exposure and burden of disease*, 2016 <https://apps.who.int/iris/bitstream/handle/10665/250141/9789241511353-eng.pdf?sequence=1&isAllowed=y>

deserves. To this end EFA, alongside the scientific community, is ready to engage with the European Commission in its efforts to maximise EU's ambition for clean air.

2. EFA recommendations for a better air quality in Europe

In view of the above, we believe that there is an **urgent need for action in all policy areas outlined in the Inception Impact Assessment**, namely:

- **Policy area 1:** We call for the **full alignment** of the EU air quality standards with the latest WHO Air Quality Guidelines, when they are published in 2021
- **Policy area 2:** We support improvements in the air quality framework, including to address existing gaps in **access to publicly available, real-time information**
- **Policy area 3:** We call for stronger implementation, including through rules to **streamline monitoring and corrective actions**

Our main considerations are reflected below.

2.1 Policy area 1: WHO Air Quality Guidelines and EU standards – Time for full alignment

The WHO AQGs reflect the latest scientific evidence in the area of air quality at a global scale and propose limit values that ensure a high level of health protection for each of the addressed pollutant²⁰. They are perceived in the public discourse as the most ambitious, but also most robust from a scientific point of view.

Currently, the limits proposed by WHO and regulated at the EU level are identical only for nitrogen dioxide (NO₂). For the other pollutants, the WHO AQGs propose stricter limit values than the ones established by the EU air quality standards. This results in **large parts of the population living in areas with pollution concentrations above the limits proposed by WHO as safe for health**. This is especially the case for fine PM_{2.5}, ozone, and benzo(a)pyrene. The infographic at p.8 of the latest report on Air Quality in Europe, published by the European Environment Agency, is very telling in this regard²¹.

Meanwhile, there is growing evidence of an **increased incidence of asthma, allergic rhinitis and eczema in children as a result of early-life exposure**²². Similarly, there is a growing association of impaired breathing in children and asthma in adults with **exposure to low levels of air pollution**²³.

The above suggest that prevention should be prioritised in policy work. To ensure clean air that is healthy for everyone, and especially the vulnerable groups of the population such as children and people with chronic respiratory conditions, EFA reiterates its call for a **full alignment between the EU air quality standards and the WHO AQGs**.

²⁰ World Health Organisation, *WHO Air Quality Guidelines*, 2005

https://www.who.int/entity/phe/health_topics/outdoorair/outdoorair_agg/en/index.html

²¹ European Environment Agency, *Air Quality in Europe – 2020 Report*, 2020

<https://www.eea.europa.eu/publications/air-quality-in-europe-2020-report>

²² T. To et al., 'Early life exposure to air pollution and incidence of childhood asthma, allergic rhinitis and eczema', 2020 <https://pubmed.ncbi.nlm.nih.gov/31806712/>

²³ Q. Zhao et al., 'Early-life exposure to air pollution and lung function development into adolescence: the GINplus/LISA birth cohorts', *European Respiratory Journal*, 2020
https://erj.ersjournals.com/content/56/suppl_64/4982

In this process, the **EU should prioritise effective alignment on most risky pollutants**, such as fine particulate matter (PM_{2.5}). As the OECD states in its 'Health at a Glance: Europe 2020' report, PM_{2.5} alone is responsible for between 168.000 and 346.000 deaths related to air pollution in 2018²⁴.

Further, EFA welcomes the prospect of an explicit mechanism for adjusting air quality standards to technical and scientific progress, including for air pollutants that are presently not covered.

Therefore, we call the Commission to step up ambition on air quality in the EU, in particular:

- Propose a structured, upfront plan for increasing the ambition of current air quality standards, defining clear **alignment phases with the WHO AQGs**
- Prioritise the legislative and operational **alignment of the pollutants that are scientifically proven to be most risky** for human health e.g. PM_{2.5}
- Enable swift action to **monitor, study and legislate on pollutants currently not covered by the Directives**

2.2 Policy area 2: Addressing natural pollutants: The challenge of pollen

Strongly linked with the effects of climate change, EFA would like to draw the Commission's attention to **pollen emissions**, which are intimately linked with the onset of respiratory allergy. Despite pollen originating from natural sources, there is robust evidence that higher ambient carbon dioxide concentrations arising from human activity and warmer temperatures result in increased pollen production²⁵.

In particular, air pollution emissions induce climate change and impact pollen, **including extended seasonal duration; increased amount of pollen released during the seasons; and increased pollen allergenicity**^{26,27,28}. The effect pollen has on health is far from negligible, as it is estimated to affect about 40% of the population in Europe²⁹.

At EFA, we have consistently called the European Commission for legislation to monitor, inform and tackle pollen emissions. Given the effect of air pollution on pollen, we firmly believe that the revision of the Ambient Air Quality Directives should pay attention to this pollutant. In particular, we urge the Commission to:

- Consider the most common Volatile Organic Compounds (VOC) such as **pollen as a source of air pollution** harming human health, and set a pollen monitoring network across the EU to

²⁴ Organisation for Economic Co-operation and Development (OECD), Health at a Glance: Europe 2020 <https://www.oecd-ilibrary.org/sites/5286cd4d-en/index.html?itemId=/content/component/5286cd4d-en>

²⁵ C. S. Barnes et al., 'Climate Change and Our Environment: The Effect on Respiratory and Allergic Disease', *J Allergy Clin Immunol Pract.*, 2013 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3654689/>

²⁶ L. Ziska et al., 'Temperature-related changes in airborne allergenic pollen abundance and seasonality across the northern hemisphere: a retrospective data analysis', 2019 [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(19\)30015-4/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(19)30015-4/fulltext)

²⁷ J. U. Ahlholm, M. L. Helander, J. Savolainen, 'Genetic and environmental factors affecting the allergenicity of birch (*Betula pubescens* ssp. *czerepanovii* [Orl.] Hämet-ahti) pollen', *Clin Exp Allergy*. 1998 <https://pubmed.ncbi.nlm.nih.gov/9824411/>

²⁸ A. Damialis, C. Traindl-Hoffmann, R. Treundler, 'Climate Change and Pollen Allergies', *Biodiversity and Health in the Face of Climate Change* https://link.springer.com/chapter/10.1007/978-3-030-02318-8_3

²⁹ I. R. Lake et al., 'Climate Change and Future Pollen Allergy in Europe', *Environmental Health Perspectives*, 2017 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5332176/>

formalise the sampling, study and information currently developed by civil society organisations.

- Establish a **real-time pollen information system** to ensure the timely dissemination of and access to information to citizens with pollen allergies.

2.3 Policy area 2: Information to the public is still only half-way

Ensuring **accurate information on air quality and making it available to the public is a key component of disease prevention**. We are delighted to see the European Commission plans to involve national health authorities on the communication of air pollution information to the public. According to the EFA Active Patients Access report, more than 50% of asthma and COPD patients feel that policymakers are not doing enough to promote information on air quality³⁰. Meanwhile, more than half (54%) of Europeans do not feel well informed about air quality problems in their country³¹.

The main gap is that, despite the existence of the European Air Quality Index of the European Environment Agency, information to the public is still lagging half-way: it is **not always accessible real-time, not always relevant and, importantly, not targeted the average citizen and vulnerable groups**, which results in a considerable unmet need on an issue that should be considered a right of citizens.

From a communications point of view, an excellent example on air quality is the **Canadian Air Quality Health Index**: the Canadian government defined in 2005 a transparent communication system, with tailored messages for vulnerable groups and accessible through the weather information. The Canadian system also offers citizens the predictions for pollen concentrations³².

EFA calls the Commission to close the information gap by adopting measures that:

- Improve the information to the public with **real-time specific, transparent and accessible messaging** taking the example of the Canadian Air Quality Health Index
- Develop and disseminate **targeted information for vulnerable groups** such as respiratory disease patients
- Harness all the available communication channels to **ensure prevention and public awareness on issues related to air quality** at the national level, building on the successful example of the Canadian Air Quality Index

2.4 Policy Area 2: Indoor Air Quality and the need for a holistic Air Quality Framework Strategy

As demonstrated above, people living with airways diseases are directly impacted by air quality, with their lives literally depending on it. We actively seek **environments with good air quality**, a result-oriented concept that is not yet fully integrated into EU action, which is rather pollution/pollutants oriented.

³⁰ European Federation of Allergy and Airways Diseases Patients' Associations, *Active Asthma and COPD Patients Access Care Report*, 2019 https://www.efanet.org/images/ShowLeadership/Report-ShowLeadership_FINAL.pdf

³¹ Special Eurobarometer 497, 'Attitudes of European Citizens towards Air Quality', 2019 <https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/survey/getsurveydetail/instruments/spacial/surveyky/2239>

³² Government of Canada, *Air Quality Health Index* https://weather.gc.ca/airquality/pages/index_e.html

From EFA's perspective, the current legislative framework governing air pollution is a patchwork of sectoral legislations setting emission levels by sector. While the current setting has been proved effective for certain industries, it misses the holistic view that an entity like air requires, because it inevitably leaves out pollutants, sectors and places.

EFA therefore insists on the need to **define an EU air quality framework strategy** to ensure consistency and synergies across policies and sectors contributing to air pollution. We hope that this revision will become a distinct feature of this process, as part of a Zero Pollution Action Plan that promotes cross-policy synergies. After all, the effects of air pollution expand well beyond health and environmental issues, affecting the economic and social domain, and exacerbating inequalities.

A key shortcoming of the public discourse as it plays out today is the absence of aspects of Indoor Air Quality, which has significant health effects on people with pre-existing conditions or without. Indeed, **people may be exposed to indoor air pollution literally everywhere** e.g. workplaces containing volatile harmful chemicals, mouldy and damp buildings, households using solid fuels to cook and heat, bars and restaurants filled with second-hand smoke³³. A study from 2016 showed that over 2 million disability adjusted life years (DALYs) are annually lost in the EU due to polluted indoor air which is partially built on ambient air quality³⁴.

Indoor air pollution is especially harmful to human respiratory health. Long-term exposure to polluted air indoors can result in the development of respiratory diseases, aggravate allergy and chronic respiratory diseases such as asthma and chronic obstructive pulmonary disease (COPD)^{35,36,37}. The health and economic burdens of poor indoor air quality are alarming: indicatively, people are 40% more likely to have asthma when living in a damp or mouldy home³⁸; while about 10-15% of new cases of childhood asthma in Europe can be attributed to indoor exposure to dampness and mould³⁹.

Such a framework strategy would facilitate the Commission's work as it would enable it to:

³³ Special Eurobarometer 458 Report "Attitudes of Europeans towards tobacco and electronic cigarettes", 2017 <https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/getSurveyDetail/instruments/SPECIAL/surveyKy/2146>

³⁴ A. Asikainen, P. Carrer, S. Kephelopoulos, E. de Oliveira Fernandes, P. Wargocki, O. Hänninen, 'Reducing burden of disease from residential indoor air exposures in Europe', *Environmental Health*, 2018 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4895703/#:~:text=Conclusions,and%20by%20controlling%20indoor%20sources>

³⁵ X. Q. Jiang, X.D. Mei, D. Feng, 'Air Pollution and Chronic Airway Diseases', *Journal of Thoracic Disease*, 2016 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4740163/>

³⁶ E. Garshick, 'Effects of short- and long-term exposures to ambient air pollution on COPD', *European Respiratory Journal*, 2014 <https://erj.ersjournals.com/content/erj/44/3/558.full.pdf>

³⁷ D. Schraufnagel et al., 'Air Pollution and Noncommunicable Diseases', *Chest Journal*, 2019 [https://journal.chestnet.org/article/S0012-3692\(18\)32723-5/fulltext#sec5](https://journal.chestnet.org/article/S0012-3692(18)32723-5/fulltext#sec5)

³⁸ P. Foldbjerg, G. Grün, S. Urlaub 'Mould and dampness in European homes and their impact on health', Fraunhofer-Institut für Bauphysik IBP, 2016 https://www.researchgate.net/publication/310600268_Mould_and_dampness_in_European_homes_and_their_impact_on_health,

³⁹ World Health Organisation, *Environmental burden of disease associated with inadequate housing. A method guide to the quantification of health effects of selected housing risks in the WHO European Region*, 2011 http://www.euro.who.int/_data/assets/pdf_file/0017/145511/e95004sum.pdf?ua=1

- Set **stricter emission levels for the energy, industry, transport, agriculture and farming⁴⁰, waste and buildings sector⁴¹**
- Produce benefits not only across policies or sectors approach, but also **across diseases** (EFA has developed specific recommendations in its response to the Europe's Beating Cancer Plan consultation⁴²)
- Include **Indoor Air Quality issues at the core of its considerations** and propose measures to address this lingering problem affecting everyone
- Define an **overall strategic ambition to tackle air pollution as a whole, both indoors and outdoor**

2.5 Policy area 3: The need for strengthened -and accountable- monitoring

There can be **no accurate information on air quality without proper monitoring** at the national level. Although AAQDs have established a network of monitoring stations across member states in order to follow the progress of air pollution across the EU, information on the criteria of their deployment, spatial coverage, relation to human exposure to air pollutants and necessary troubleshooting are not readily available to the public. Moreover, it is not clear how the Commission handles cases of non-compliance of monitoring duties with regards to the monitoring stations.

At EFA we call the European Commission to:

- Promote **information about the existing monitoring framework** e.g. conduct a study on monitoring stations indicating where they are, the criteria of their spatial deployment and their links to human exposure

3. Conclusion

EFA would like to emphasise on the need to scale up ambition on air quality by adopting a forward-looking agenda for the next that need to be taken in order to ensure high-quality, breathable and healthy air for all Europeans across the EU. Given that air quality lies at the core of our patient community concerns, EFA will support the work of the Commission and champion the cause of clean air in the context of upcoming activities.

⁴⁰ European Federation of Allergy and Airways Diseases Patients' Associations, *EFA Patients responds to EU Farm to Fork Strategy*, 2020 <https://www.efanet.org/news/3853-efa-patients-responds-to-eu-farm-to-fork-strategy>

⁴¹ European Federation of Allergy and Airways Diseases Patients' Associations, *EU Renovations Wave: enabling healthy lives through better indoor air*, 2020 <https://www.efanet.org/news/3873-eu-renovations-wave-enabling-healthy-lives-through-better-indoor-air>

⁴² European Federation of Allergy and Airways Diseases Patients' Associations, *EFA response to public consultation on Europe's Beating Cancer Plan*, 2020 https://www.efanet.org/images/2020/EFA_response_Europes_Beating_Cancer_Plan.pdf