Current efforts underway to revise ambient air quality standards:

**EU Ambient Air Quality Directives**

guided by the Zero Pollution Action Plan & European Green Deal

**Status: June 2022**
EU clean air policy
EU clean air policy

Ambient Air Quality (AAQ) Directives
- Maximum concentrations of air polluting substances
  \( (\text{PM}_{10}, \text{PM}_{2.5}, \text{NO}_2, \text{O}_3, \text{SO}_2, \text{CO}, \text{C}_6\text{H}_6, \text{BaP}, \text{As}, \text{Cd}, \text{Ni}, \text{Pb}) \)

Setting Objectives for Good Air Quality

Reducing Emissions of Pollutants

National Emission reduction Commitments Directive
- National emission totals
  \( (\text{SO}_2, \text{NO}_x, \text{NMVOC}, \text{PM}_{2.5}, \text{NH}_3) \)

Source-specific emission standards
- IED Directive
- MCP Directive
- Eco-design Directive
- Energy efficiency
- Euro and fuel standards
EU clean air policy works … but …

EU clean air policy works … but …

EU urban population exposed to air pollution above **EU standards from 2000 to 2018**

![Graph showing the percentage of EU urban population exposed to air pollution above EU standards from 2000 to 2018.]

**EU urban population exposed to air pollution above EU standards in 2018 / 2019**

- **$\text{O}_3$**: 34%
- **$\text{PM}_{10}$**: 15%
- **$\text{PM}_{2.5}$**: 4%
- **$\text{NO}_2$**: 4%

EU clean air policy works … but …

EU urban population exposed to air pollution above EU standards from 2000 to 2018

EU urban population exposed to air pollution above WHO (2021) guidelines in 2018 / 2019

“The Commission will draw on the lessons learnt from the evaluation of the current air quality legislation.

It will also propose to strengthen provisions on monitoring, modelling and air quality plans to help local authorities achieve cleaner air.

The Commission will notably propose to revise air quality standards to align them more closely with the World Health Organization recommendations.”

Communication on the European Green Deal (COM/2019/640 final)
EU policy making cycle (key elements, stylised)

Evaluation / fitness check

Monitor, and report on the effects of implementation

EU policy making cycle (key elements, stylised)

- Roadmap and inception impact assessment
- Stakeholder consultation
- Impact assessment
- Draft legislative proposal
- Adoption by College of Commissioners

Evaluation / fitness check
Monitor, and report on the effects of implementation

EU policy making cycle (key elements, stylised)

Evaluation / fitness check
Monitor, and report on the effects of implementation

Roadmap and inception impact assessment
Stakeholder consultation
Impact assessment
Draft legislative proposal
Adoption by College of Commissioners

Position by the European Parliament
Position by the Council
Negotiation between co-legislators
Agreement on final legislative act and adoption
Publication in the Official Journal

EU policy making cycle (key elements, stylised)

EU policy making cycle (key elements, stylised)

EU policy making cycle (key elements, stylised)

- Evaluation / fitness check
- Monitor, and report on the effects of implementation
- Regularly garner stakeholder input / reflections
- If needed: enforcement action by the Commission
- Implementation and compliance support
- Implementation by Member States
- Establish monitoring system
- Implementation strategy by the Commission
- Transposition and conformity check by Commission
- Transposition by Member States
- Roadmap and inception impact assessment
- Stakeholder consultation
- Impact assessment
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Key shortcomings
Air quality health outcome shortcomings

Premature deaths due to air pollution halved during last two decades, but …

### Health outcome shortcomings

<table>
<thead>
<tr>
<th>Pollutants</th>
<th>2005 WHO Guidelines</th>
<th>2021 WHO Guideline</th>
<th>EU Air Standards</th>
<th>EU Exceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM$_{10}$ (year)</td>
<td>20 µg/m$^3$</td>
<td>15 µg/m$^3$</td>
<td>40 µg/m$^3$</td>
<td>-</td>
</tr>
<tr>
<td>PM$_{10}$ (day)</td>
<td>50 µg/m$^3$</td>
<td>45 µg/m$^3$</td>
<td>50 µg/m$^3$</td>
<td>35 days per year</td>
</tr>
<tr>
<td>PM$_{2.5}$ (year)</td>
<td>10 µg/m$^3$</td>
<td>5 µg/m$^3$</td>
<td>25 µg/m$^3$</td>
<td>-</td>
</tr>
<tr>
<td>PM$_{2.5}$ (day)</td>
<td>25 µg/m$^3$</td>
<td>15 µg/m$^3$</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NO$_{2}$ (year)</td>
<td>40 µg/m$^3$</td>
<td>10 µg/m$^3$</td>
<td>40 µg/m$^3$</td>
<td>-</td>
</tr>
<tr>
<td>NO$_{2}$ (day)</td>
<td>-</td>
<td>25 µg/m$^3$</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NO$_{2}$ (hour)</td>
<td>200 µg/m$^3$</td>
<td>200 µg/m$^3$</td>
<td>200 µg/m$^3$</td>
<td>18 hours per year</td>
</tr>
<tr>
<td>SO$_{2}$ (day)</td>
<td>20 µg/m$^3$</td>
<td>40 µg/m$^3$</td>
<td>125 µg/m$^3$</td>
<td>3 days per year</td>
</tr>
<tr>
<td>O$_3$ (season)</td>
<td>-</td>
<td>60 µg/m$^3$</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>O$_3$ (8-hr)</td>
<td>100 µg/m$^3$</td>
<td>100 µg/m$^3$</td>
<td>120 µg/m$^3$</td>
<td>75 days in 3 years</td>
</tr>
<tr>
<td>CO (8-hr)</td>
<td>-</td>
<td>10 mg/m$^3$</td>
<td>10 mg/m$^3$</td>
<td>-</td>
</tr>
</tbody>
</table>

+ Benzene, Lead, Arsenic, Cadmium, Nickel, Benzo(a)Pyrene
Insufficient penalties and compensation linked to exceedances

Air quality plans and measures have often proven ineffective

Implementation shortcomings
Exceedances are not always addressed sufficiently and/or on time …

As of June 2022, still **29 cases** addressing 18 Member States (+ 1 vs UK) related to bad application:

- 14 particulate matter (PM$_{10}$ and/or PM$_{2.5}$)
- 13 nitrogen dioxide (NO$_2$)
- 1 sulphur dioxide (SO$_2$)
- 1 monitoring problems

Of these, 16 cases (i.e. 9 Member States + 1 vs UK) have been referred to the Court of Justice of the EU.

With 10 rulings so far, namely BG, PL, RO, IT, HU, FR (for PM$_{10}$) – plus UK, DE, FR, IT (for NO$_2$) – plus BG (for SO$_2$).

**These cases address both exceedances of air quality standards and not keeping these as short as possible.**
Local air quality is impacted by emissions outside local control. Some measures may be ineffective, or seem disproportionate. This combination requires air quality plans to address all sectors & all scales – in a coherent manner (!)

Source(s): Urban PM2.5 Atlas: Air Quality in European Cities (JRC, 2017)
Concerns about health impacts have increased.

Public information is not always clear, and not harmonised.

Reliable air quality information is widely available, often even in real-time, but …

Information shortcomings

Public feels under-informed about poor air quality and its impacts …

Source(s): Special Eurobarometer 497 (September 2019) & Air Quality Index
Air quality assessment shortcomings

More than 4,000 air quality monitoring stations deliver robust data, but ...

Assessment shortcomings
Flexibilities may sometimes impact the comparability of data ...

Monitoring rules offering flexibility are sometimes 'stretched'

Modelling ability has improved, allows for much more detail

Example: Frankfurt, DE (Friedberger Landstr.)

Source(s): https://ec.europa.eu/environment/air/quality/zones.htm
Policy options and interventions
Air policy revision: three policy areas

To address the five shortcomings, and based on the current Ambient Air Quality Directives, the revision will focus on three policy areas / options.

- **Policy area / option 1**: closer alignment of the EU air quality standards with scientific knowledge including the latest recommendations of the World Health Organization (WHO).

- **Policy area / option 2**: Improving the air quality legislative framework, including provisions on penalties and public information.

- **Policy area / option 3**: strengthening of air quality monitoring, modelling and plans.

→ further developed into more detailed intervention areas / interventions for each policy area

→ assess different levels of ambition for each policy option
## Different levels of ambition (example: for PM$_{2.5}$)

<table>
<thead>
<tr>
<th>AMBITION LEVEL</th>
<th>WHO – Air Quality guidelines and interim targets for PM (annual mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU standards today / baseline</td>
<td></td>
</tr>
<tr>
<td>Low ambition</td>
<td></td>
</tr>
<tr>
<td>Mid ambition</td>
<td></td>
</tr>
<tr>
<td>High ambition</td>
<td></td>
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<tr>
<td></td>
<td><strong>Ambition Level</strong></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollutant</td>
<td>Avg.time</td>
</tr>
<tr>
<td>------------</td>
<td>----------</td>
</tr>
<tr>
<td><strong>PM$_{2.5}$ ($\mu g/m^3$)</strong></td>
<td>Annual</td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
</tr>
<tr>
<td><strong>PM$_{10}$ ($\mu g/m^3$)</strong></td>
<td>Annual</td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
</tr>
<tr>
<td><strong>NO$_2$ ($\mu g/m^3$)</strong></td>
<td>Annual</td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
</tr>
<tr>
<td></td>
<td>1-hour</td>
</tr>
<tr>
<td><strong>O$_3$ ($\mu g/m^3$)</strong></td>
<td>Peak Season</td>
</tr>
<tr>
<td></td>
<td>8-hour</td>
</tr>
<tr>
<td><strong>SO$_2$ ($\mu g/m^3$)</strong></td>
<td>24-hour</td>
</tr>
<tr>
<td></td>
<td>1-hour</td>
</tr>
<tr>
<td></td>
<td>10-min</td>
</tr>
<tr>
<td><strong>CO (mg/m$^3$)</strong></td>
<td>24-hour</td>
</tr>
<tr>
<td></td>
<td>8-hour</td>
</tr>
<tr>
<td></td>
<td>1-hour</td>
</tr>
</tbody>
</table>
Ambition level versus air quality today

PM$_{2.5}$ concentrations in 2019 by country

Source(s): EEA Europe’s air quality status 2021
Ambition level suggested by stakeholders

Stakeholder replies to open public consultation question (23/9 to 16/12 2021, 931 replies):

“Do you think that EU AQ standards should be made more stringent to bring them in line with the updated WHO Air Quality Guidelines and latest scientific evidence?”

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Yes – EU air quality standards should be made more stringent, fully aligned with the latest WHO recommendations</th>
<th>Partly – EU air quality standards should be made more stringent, but only partially aligned with the latest WHO recommendations</th>
<th>No – current air quality standards are sufficient</th>
<th>No opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>All respondents</td>
<td>73%</td>
<td>16%</td>
<td>10%</td>
<td>2%</td>
</tr>
<tr>
<td>Public authority</td>
<td>36%</td>
<td>62%</td>
<td>10%</td>
<td>2%</td>
</tr>
<tr>
<td>NGOs</td>
<td>93%</td>
<td>5%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>EU citizen</td>
<td>79%</td>
<td>10%</td>
<td>9%</td>
<td>2%</td>
</tr>
<tr>
<td>Industry</td>
<td>38%</td>
<td>32%</td>
<td>28%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Assessment of policy options per policy area

Policy Option 1
‘EU Standards’
Baseline (Scenario 1)
no changes to EU standards

Policy Option 2
‘legislative frame’
Baseline
no changes to legislative framework

Policy Option 3
‘mon-mod-plans’
Baseline
no changes to monitoring, modelling and plans requirements

Scenario 2: low ambition WHO interim target by 2030
Scenario 3: low ambition WHO interim target by 2050
Scenario 4: mid ambition WHO interim target by 2030
Scenario 5: mid ambition WHO interim target by 2050
Scenario 6: (high ambition) WHO guideline levels by 2030
Scenario 7: (high ambition) WHO guideline levels by 2050

→ based on assessment of consequences, combine different policy options to policy packages
Assessment of concentration levels (model results)

PM$_{2.5}$ levels in **2020**

PM$_{2.5}$ levels in **2030 (baseline)**

Source(s): Modelling performed by GAINS and Met Norway in support of the AAQD Impact Assessment
Assessment of concentration levels (model results)

PM$_{2.5}$ levels in the 10 $\mu$g/m$^3$ target case (2030)

PM$_{2.5}$ levels in the 5 $\mu$g/m$^3$ target case (2030)

Source(s): Modelling performed by GAINS and Met Norway in support of the AAQD Impact Assessment
Timeline & next steps
EU Clean Air Policy Milestones 2020 to 2023

Fitness Check (published in Nov 2019)
Council Conclusions
NEC Implementation Report (Commission Communication)
Expert consultation (on monitoring, modelling, plans)
WHO Guidelines publication (postponed to II/2021)
Zero Pollution Action Plan

EEA Air Quality Briefings 2022
Targeted consultation (air quality - revision of EU rules)
Impact Assessment (air quality – revision of EU rules)
Council discussions of legislative proposal (air quality - revision of EU rules)
Submission of Second National Air Pollution Control Programmes begins

EEA Air Quality Report 2020
Inception Impact Assessment (revising the Air Quality Directive)
Second Clean Air Outlook (Commission Report)

EEA Air Quality Briefings 2021
WHO Guidelines publication (22 September 2021)
Public consultation (air quality - revision of EU rules)

EEA Air Quality Briefings 2022
Adoption: legislative proposal (air quality - revision of EU rules)
Review Gothenburg Protocol (Air Convention)

EEA Air Quality Briefings 2023
3rd EU Clean Air Forum (18 & 19 November in Madrid)
Third Clean Air Outlook (Commission Report)
4th EU Clean Air Forum (location to be determined)
Contact us:
env-air@ec.europa.eu

Have your say:
https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12677-Revision-of-EU-Ambient-Air-Quality-legislation

Thank you