



World Health
Organization

Ambient air quality

AIDE-MEMOIRE

For enhanced country action to improve ambient air quality



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Ambient air pollution, known as the *silent killer*, is the greatest environmental risk to health. It is a mixture of fine particles and harmful gases that negatively impact health.

99% of the world's population lives in areas where the WHO Air Quality Guidelines (AQG) are exceeded. This leads to 7 million global premature deaths per year, of which 4.2 are related to ambient air pollution (data from 2019). More than 80% of these deaths were due to non-communicable diseases.

By reducing air pollution, countries can reduce the impact on health from many diseases, including from stroke, heart diseases, lung cancer, and other respiratory diseases, including asthma. Sources of air pollution range from industry and energy supply emissions, transport, waste management, some agricultural practices such as the use of certain pesticides, emissions coming from using unclean fuels and technologies, and natural sources like dust. Many air pollutants are substantially contributing to climate change.

WHO support to countries

- Provides national data on air pollution exposure and health burden through the ambient air quality database, burden of diseases assessment and reporting on the Sustainable Development Goals.
- Develops standard fundraising support for:
 - setting or revising national air quality regulations and standards to align them to the WHO AQG,
 - monitoring air pollution levels from the health point of view,
 - conducting a source apportionment study to identify the main sources of air pollution. In this case, also facilitate communications with key partners responsible for this work.
- Provides a compendium of available interventions to reduce air pollution.
- Develops and trains on tools to engage with other sectors to assess the co-benefits of reducing air pollution while reducing the impacts of climate change or reducing the risk of non-communicable diseases through increased physical activity.
- Prepares awareness-raising and advocacy materials on the risks of ambient air pollution and develops tools that support decisions on air pollution.
- Develops training resources on the quantification of health impacts of air pollution and the roles health workers can play to protect and promote people's health.

✓ Checklist

Situation assessment

- ☐ Regular monitoring system on ambient air quality in place
- ☐ Data on ambient air quality publicly accessible
- ☐ Source apportionment study conducted
- ☐ Health surveillance related to air pollution in place

Policies & actions

- ☐ National air quality standards embedded in legislation, and ideally based on WHO air quality guidelines (AQG), in place
- ☐ Intersectoral cooperation initiated to reduce ambient air pollution

Awareness raising & capacity building

- ☐ Air pollution alerts in place
- ☐ Information and guidance on health effects from ambient air pollution and personal protection distributed
- ☐ Air pollution incorporated in medical and paramedical curricula

Key elements for country action

Governance

- The health sector needs to cooperate across sectors, such as industry, energy, agriculture, land use planning, labour, transport and housing, to tackle air pollution.
- Ensure health gains from the reduction of ambient air pollution are considered in all relevant policies outside the health sector.
- Increase awareness about the health benefits of air pollution reduction among decision makers and the public.

Measurements & regulations

- Measure air pollution levels and estimate source contributions to establish targets and standards considering the WHO guidelines.
- Implement control mechanisms for monitoring emissions from different sources.
- Conduct health impact assessments to evaluate the health burden caused by air pollution and to estimate the potential health benefits of policies or interventions that improve air quality.
- Develop national and/or local strategies for reducing air pollution, covering issues such as healthy and sustainable transport policies, energy policies, land use and behavior patterns.
- Implement emission standards for vehicles, industry, and waste burning.
- Ban the burning of agricultural fields and waste.

Leadership & intersectoral cooperation

- Convene interdisciplinary expert groups to provide advice, and intersectoral dialogue for action.
- Strengthen the “health voice” on air pollution, energy access and climate linkages to scale up actions.
- Implement dust forecasting programmes or early warning systems for wildfires to alert the population to protect themselves (e.g., by staying indoors) during episodes of high air pollution.
- Train health and other sectors in the health effects of air pollution and on personal measures to reduce exposure to it.
- Facilitate access to information on air quality and on the health effects of air pollution.

Implement intersectoral solutions for reducing air pollution

- Phase out the use of fossil fuels, transition to clean energies.
- Conserve energy and use energy-efficient solutions.
- Implement active and sustainable transport options, prioritizing, for e.g., rapid urban transit, walking and cycling.
- Reduce industrial emissions through clean technologies, and transport emissions through cleaner lower-emission vehicles and fuels.
- Improve energy efficiency in buildings, increase green spaces and promote compact and diverse cities that reduce travel demand and protect vulnerable groups.
- Reduce waste generation and implement adequate waste management, including the end of waste burning.

Additional information:



<https://www.who.int/teams/environment-climate-change-and-health/air-quality-energy-and-health>

Main resources:

- [WHO global air quality guidelines](#) (WHO, 2021)
- [Air pollution and health: an introduction for health workers](#) (OpenWHO course)
- [Overview of methods to assess population exposure to ambient air pollution](#) (WHO, 2023)
- [Compendium of WHO and other UN guidance on health and environment](#) (WHO, 2022)

Please note that this aide mémoire provides summary information on ambient air pollution only. More detail on environment, climate change and health are provided in various other materials and additional aide mémoires.