About HEAL

>90 organisations in 28 countries

• Doctors associations
• Patient groups
• Nurses associations
• Public health institutes
• Research institutes
• Not-for-profit health insurers
• Women’s groups
• Youth groups
• Environmental groups

Working for better health through a healthier environment
According to the World Health Organization, indoor and outdoor air pollution is the largest single environmental health risk, causing numerous noncommunicable diseases, such as cardiovascular and respiratory diseases, stroke and lung cancer as well as increasing the risk for acute respiratory infections.

In Europe, poor air quality causes about 400,000 premature deaths annually. According to the latest estimates of the number of deaths in 2019 in the Western Balkans, PM2.5 particles are responsible for a total of 32,340 deaths per year (Republic of Serbia 14,600, Bosnia and Herzegovina 5,100, Albania 5,000, Kosovo* 4,000, North Macedonia 3,000 and Montenegro 640).
Sources of air pollution

Around 90% of ammonia emissions and 80% of methane emissions come from agricultural activities. Also, waste (landfills), coal mining and long-distance gas transmission are source of methane.

Some 60% of sulphur oxides come from energy production and energy distribution. More than 40% of emissions of nitrogen oxides come from road transport. Almost 40% of primary PM2.5 emissions come from transport.

Fuel combustion is a key contributor to air pollution – from road transport, households to energy use and production. Businesses, public buildings and households contribute to around half of the PM2.5 and carbon monoxide emissions.

Source: European Environmental Agency
Particulate matter (PM) Small particles in the air. The number next to the abbreviation PM indicates the size of the particle: PM10 is 10 micrometres or less, while PM2.5 is 2.5 micrometres or less. When inhaled, particles travel into the bloodstream and cause harm to our lungs and heart. They can cause stroke and lead to premature death. New studies also link particulate matter with harm to the healthy development of children, and diseases such as obesity and Alzheimer’s.

Sulphur dioxide (SO2) is classified as very toxic for humans when inhaled. It can cause severe irritation of the nose and throat. High concentrations can cause a life-threatening accumulation of fluid in the lungs (pulmonary edema). Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. Even a single exposure to a high concentration can cause a long-lasting condition like asthma. It can react in the atmosphere to form PM, called ‘secondary PM’.

Nitrogen oxides (NOx) are gases that cause inflammation of the airways. They are oxidisers which means they cause oxidative stress which can disrupt normal cell mechanisms and cause damage to tissues, reducing the immune abilities of the body. They can react in the atmosphere to form PM, called ‘secondary PM’.

Source: Chronic Coal Pollution Report, Healht and Environment Alliance
Air pollution and Health (2)

Brain
- Increased cerebrovascular ischemia
- Dementia

Blood
- Altered rheology
- Increased coagulability
- Translocated particles
- Peripheral thrombosis
- Reduced oxygen saturation

Cells
- Bladder cancer
- Skin cancer
- Obesity
- Diabetes

Heart
- Altered cardiac autonomic function
- Oxidative stress
- Increased dysrhythmic susceptibility
- Altered cardiac repolarization
- Increased myocardial ischemia

Lungs
- Inflammation
- Oxidative stress
- Accelerated progression and exacerbation of chronic obstructive pulmonary disease
- Increased respiratory symptoms
- Effected pulmonary reflexes
- Reduced lung function
- Higher lung cancer risk

Children
- Pre-eclampsia of the pregnant mother
- Pre-term birth
- Reduced birth weight
- Pollutants can reach the placenta
- Increased asthma risk, asthma attacks
- Attention deficit hyperactivity disorder

Vasculature
- Atherosclerosis, accelerated progression and destabilisation of plaques
- Endothelial dysfunction
- Vasoconstriction and hypertension

Source: Chronic Coal Pollution Report, Healht and Environemnt Alliance (English, Lokalni jezik)
PEOPLE WHO ARE AT THE HIGHEST RISK OF AIR POLLUTION

- elderly people
- children under 5 years
- pregnant women
- respiratory and cardiovascular disease patients

**total population about 823,600**

823,000 is a number that shows how many people are exposed to air pollution on a daily basis. Both short and long term exposure to air pollutants have been associated with health impacts.

**Short-term exposure to air pollutants** is closely related to COPD (Chronic Obstructive Pulmonary Disease), cough, shortness of breath, wheezing, asthma, respiratory disease, and high rates of hospitalization.

**The long-term effects associated with air pollution** are chronic asthma, pulmonary insufficiency, cardiovascular diseases, and cardiovascular mortality. Air pollution seems to have various health effects in early human life, such as respiratory, cardiovascular, mental, and perinatal disorders, leading to infant mortality or chronic disease in adult age.

*Source:* [Air Pollution and Noncommunicable Diseases: A Review by the Forum of International Respiratory Societies’ Environmental Committee, Part 1: The Damaging Effects of Air Pollution](https://www.env-health.org)
Air pollution and Health

- Long-term exposure
- Chronic diseases
- Premature deaths
Air pollution and Health

air pollution

human health
(acute-chronic diseases)

health costs
(diagnostics, hospital admissions, treatments, restricted activity days)

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premature deaths
Call to action (1)

In September 2021, the World Health Organization (WHO) has published new evidence-based Global Air Quality guidelines, the first update since 2005. National/local air quality standards need to be fully aligned with WHO guidelines, in order to contribute to better health for people, and reduce the overall health cost burden.

![Chart showing World Health Organization Air Quality Guidelines]

- **NO2**
  - 2005: 40 µg/m³, annual
  - 2021: 10 µg/m³, annual

- **PM2.5**
  - 2005: 10 µg/m³, annual
  - 2021: 5 µg/m³, annual

- **PM10**
  - 2005: 25 µg/m³, annual
  - 2021: 15 µg/m³, annual

- **Ozone**
  - 2005: 100 µg/m³, 8-hour max
  - 2021: 100 µg/m³, 8-hour max
Call to action (2)

increase engagement with health experts

increase the participation of health experts in decision-making processes to ensure that the timely integration of public health measures into environmental policies are in place

identify and prioritise measures that will provide for the greatest health benefit, air pollution is a public threat and should be addressed through strategic measures aimed at a healthier future and economic growth

the city authorities needs to make decisions based on scientific evidence, using the knowledge of the international and national scientific community
increase engagement with national authorities

conduct a health impact assessment for all industrial installations, energy sector, domestic heating and transport deliberations and decisions. This means that every project is assessed for its potential effects, damages and benefits for the health of a population, both in the country concerned and beyond.

The country should encourage the public interest in decision-making processes using the legal mechanisms which will ensure a higher level of transparency in the work of public institutions. Efficiency in the implementation of laws and decisions in the field of industrial installations, energy sector, domestic heating and transport should be increased in order to achieve greater health and economic benefits for all citizens.
Call to action (4)

increase engagement with expert local/national organizations
  sharing examples of lessons learned
  sharing examples of good practice
    knowledge sharing
    sharing contacts
    joint actions
    advocacy

increase engagement with citizens/activists
  air quality monitoring
  advocacy
Call to action

Our healthy city of tomorrow

**Cities for people**
Cities should belong to people, not cars - they need to be built for people. Reducing car use is good for health, productivity, urban liveability and the economy.

**Walking and cycling first**
Walking and especially cycling is a great way to get around in cities, benefits health through physical activity and public health through pollution reduction.

**Sustainable and affordable public transport**
Car free cities need reliable, affordable and green public transportation options. Smart and sustainable transport systems improve air quality and benefit health and the climate.

**Green city centres**
Urban green spaces can promote mental and physical health, and reduce morbidity and mortality, with relaxation and stress reduction, social connections, physical activity. They also reduce air pollution, noise and excessive heat.

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**We want**
- Car free city centres with green spaces and mostly pedestrianised areas
- Urban planning and design that offers car-free mobility for work and leisure

**We want**
- Expansion of safe cycling lanes in and around the city centre including bicycle highways
- Pedestrian-friendly city: move safely, barrier-free and comfortably in the city, with attractive views and opportunities to move and play

**We want**
- Reliable, accessible, affordable and fossil-fuel-free public transport alternatives for all
- Free public transportation for all in and around city centers

**We want**
- Expansion of green and wild areas such as parks, community gardens or facade planting
- Meaningful offers for sports, play and recreation for all ages such as playgrounds and free outdoor workout spots

#CleanAirForAll env-health.org
A HEALTHY PLANET FOR HEALTHY PEOPLE

Our healthy city of tomorrow

- Cities for people
- Walking and cycling first
- Sustainable and affordable public transport
- Green city centres

#CleanAir4Health
HEAL webinar series
Air quality, Climate and the Green Agenda in the Western Balkans

WATCH HERE

Webinars available in English
Webinari dostupni na lokalnom jeziku
The Human Rights Council recognised, for the first time, that having a clean, healthy and sustainable environment is a human right.

“The Human Rights Council’s decisive action in recognising the human right to a clean, healthy and sustainable environment is about protecting people and planet – the air we breathe, the water we drink, the food we eat. It is also about protecting the natural systems which are basic preconditions to the lives and livelihoods of all people, wherever they live. Having long called for such a step, I am gratified that the Council’s action today clearly recognises environmental degradation and climate change as interconnected human rights crises.”

-UN High Commissioner for Human Rights Michelle Bachelet-

Source: United Nations Human Rights
Thank you for your attention!
And do get in touch...

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