

AIR & CLIMATE

The solutions for limiting climate change are often the same as for the fight against air pollution.

Emissions of greenhouse gases (GHG) constitute a severe threat to human life on earth. Outdoor air pollution is a major problem for people's health and the environment (see Air & Health and Air & Ecosystems factsheets). Although they are addressed through separate policies, the solutions for limiting climate change are often the same as for the fight against air pollution. Ambitious and well coordinated air and climate policies can bring huge benefits to our societies and avoid hundreds of thousands of premature deaths, diseases, crop losses, weather disasters, drought and floods.

EU legislation

- The 2020 climate and energy package sets 20% targets for GHG emission reductions, share of renewables in the energy mix and energy efficiency improvement.
- The Directives for Ambient Air Quality and National Emissions Ceilings (NEC) are two major EU instruments to control air pollution. The climate and energy package and the NEC directive are now being revised and the level of ambition in both is expected to rise for 2020, 2025 and 2030.
- The EU also sets standards for specific sectors such as large industries, road vehicles or household heating. However, some sectors such as shipping or agriculture remain poorly regulated (See Air & Shipping and Air & Agriculture factsheets).

SHORT-LIVED CLIMATE POLLUTANTS

Black carbon (BC), methane (CH₄) and ground-level ozone (O₃) are called "short-lived climate pollutants" (SLCPs). SLCPs remain in the atmosphere between 1 day and 15 years and contribute to both bad air quality and climate change [4].

Black carbon (BC) is made of very small dark coloured particles which can penetrate deep into the lungs and increase the risk of respiratory and cardiovascular diseases as well as cancer [5]. BC is also an important climate forcer and contributes significantly to the melting of Arctic ice [6].

Ground level ozone (O₃) is a secondary pollutant formed mainly through emissions of nitrogen oxides (NO_x), volatile organic compounds (VOCs) and methane. In addition to being a significant GHG, it causes respiratory health problems and leads to premature deaths, as well as causing damage to natural ecosystems and crops such as wheat and rice.

Methane (CH₄), which is a precursor of ozone, is also a powerful GHG, with a 20-year global warming (GWP) potential of 72. This means that a tonne of methane has 72 times the radiative forcing of a tonne of CO₂ over 20 years.

FACTS AND FIGURES


1.3 MLN

GLOBAL GHG

mitigation could help avoid 1.3 million deaths every year by 2050 [1].


-15%
CO₂

IN WESTERN EUROPE,

combining climate change and air quality policies may deliver extra 15% CO₂ reduction compared to either strategy alone [2].

16 SLCPs
MEASURES

2.5 MLN LIVES SAVED PER YEAR
32 MLN TONNES FEWER CROP LOSSES
0.5°C CLIMATE CHANGE REDUCTION

A package of sixteen selected SLCPs emission abatement measures could, if fully implemented across the globe, save close to 2.5 million lives a year, avoid crop losses amounting to 32 million tonnes annually and deliver near-term climate protection of about 0,5 °C by 2050 [3].

Measures to reduce the use of motor vehicles, increase the energy efficiency of buildings and generate low-carbon electricity all help to fight climate change and improve people's health through better air quality.

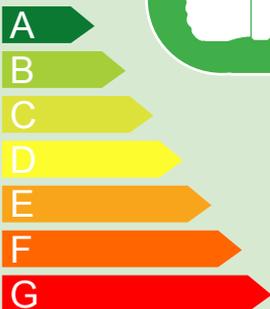


COAL USE

Coal is still a major source of energy in Europe, accounting for approximately a quarter of all electricity production. Coal power plants are large contributors to emissions of GHG, heavy metals, PM, SO_x, NO_x and O₃. The health impacts of coal power generation are estimated at more than 18,300 premature deaths, about 8,600 new cases of chronic bronchitis, and over 4 million lost working days each year in the EU. The economic costs of these health impacts are estimated at up to €43 billion per year. Adding Serbia and Turkey, the figures for mortality in Europe increase to 23,300 premature deaths, or 250,600 life years lost, while the total costs are up to €54.7 billion annually [7].

PROMOTION OF DIESEL

Diesel has higher energy content than petrol and is therefore broadly used. Some countries like Germany and France have even actively encouraged diesel on CO₂ grounds, for instance by applying lower taxes on diesel. However, diesel cars emit more PM and NO_x than their petrol equivalents and diesel exhaust fumes are classified as carcinogenic [8].



LESS AND CLEANER ENERGY

Reducing emissions of GHGs and air pollutants through energy efficiency and energy savings is a cost-effective way to address both problems at the same time. The greatest saving potential is associated with the building and transportation sectors [9]. Savings in this area would benefit both climate mitigation and air policy. Switching from fossil fuel to wind, solar and geothermal energy would also benefit air quality [10].



SUSTAINABLE FOOD PRODUCTION & CONSUMPTION

can also help improve air quality and halt climate change by reducing ammonia and GHG emissions (see Air & Agriculture factsheet).



RECOMMENDATIONS

- Adopt ambitious, coherent and binding GHG, renewable energy and energy savings targets for 2030. New EU climate objectives must be agreed as soon as possible to prepare the 2015 UNFCCC agreement and should be ambitious enough to reach at least 95% reductions by 2050.
- Adopt ambitious air pollution limits under the revision of the NEC Directive. Emission reduction commitments must go beyond the Gothenburg Protocol and aim to achieve the health and environmental objectives of the EU's 6th and 7th Environment Action Programmes by 2030 and address both CH₄ and BC which contribute to bad air quality.
- Strictly enforce and tighten ambient air quality standards to align them with the most recent WHO recommendations and health research.
- Adopt policies to cut emissions of GHGs and air pollution at source, including CH₄ and BC.

More information

- Soot Free for the Climate Campaign: <http://www.russfrei-fuers-klima.de/>
- IASS Potsdam, ClimPol webpage: <http://climpol.iass-potsdam.de/>
- Climate and Clean Air Coalition: <http://www.unep.org/ccac/>
- IIASA TSAP report #11, February 2014
- Primer on Short-Lived Climate Pollutants, IGSD, April 2013
- Bounding the role of black carbon in the climate system: A scientific assessment, 2013
- Outlaws in Air City, Short Film: <https://www.youtube.com/watch?v=I19M2FcfSzQ>

For footnotes, please refer to separate reference sheet and to the EEB website.