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Acid News

Ambient Ozone and Children's Health

There are consistent evidence linking ozone exposure to a range of childhood health effects: lower birth weight, preterm birth, asthma and respiratory disease.

by CALE LAWLOR

Tropospheric ozone is a major air pollutant that contributes to global illness and premature death. Over the two decades leading up to 2023, the disease burden from chronic obstructive pulmonary disease (COPD) linked to ozone exposure increased by approximately 50%, reaching an estimated 470,000 deaths annually (1). Ozone is also estimated to account for up to 20% of emergency hospital visits for asthma (2).

While levels of many air pollutants have declined in recent decades, ozone is one pollutant that has generally increased. Given its direct impact on morbidity

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Acid News

A newsletter from the Air Pollution & Climate Secretariat, the primary aim of which is to provide information on air pollution and its effects on health and the environment.

Anyone interested in these matters is invited to contact the Secretariat. All requests for information or material will be dealt with to the best of our ability. Acid News is available free of charge.

In order to fulfil the purpose of Acid News, we need information from everywhere, so if you have read or heard about something that might be of general interest, please write or send a copy to:

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The Air Pollution and Climate Secretariat
The Secretariat has a board consisting of one representative from each of the following organisations: Friends of the Earth Sweden, Nature and Youth Sweden, the Swedish Society for Nature Conservation, and the World Wide Fund for Nature (WWF) Sweden.

The essential aim of the Secretariat is to promote awareness of the problems associated with air pollution and climate change, and thus, in part as a result of public pressure, to bring about the needed reductions in the emissions of air pollutants and greenhouse gases. The aim is to have those emissions eventually brought down to levels that man and the environment can tolerate without suffering damage.

In furtherance of these aims, the Secretariat:

- Keeps up observation of political trends and scientific developments.
- Acts as an information centre, primarily for European environmentalist organisations, but also for the media, authorities, and researchers.
- Produces information material.
- Supports environmentalist bodies in other countries in their work towards common ends.
- Participates in the advocacy and campaigning activities of European environmentalist organisations concerning European policy relating to air quality and climate change, as well as in meetings of the Convention on Long-range Transboundary Air Pollution and the UN Framework Convention on Climate Change.

AirClim

Editorial

This summer has once again shown that climate change is no longer a distant threat. Across Europe, temperatures have climbed above 40°C, hospitals have treated growing numbers of people suffering from heat-related illness, and preliminary estimates indicate that the late-June heatwave caused more than 4,000 excess deaths across several Western European countries [1]. At the same time, ground-level ozone has reached elevated concentrations across parts of Europe, increasing the risk of asthma attacks, cardiovascular disease and premature death.

These are not isolated weather extremes. They are the predictable consequences of our continued dependence on fossil fuels. Hotter weather accelerates the formation of ground-level ozone from emissions released by transport, industry and other combustion sources. Climate change and air pollution are therefore not separate crises—they are symptoms of the same underlying problem.

That is why the recent Santa Marta Conference on the Transition Away from Fossil Fuels is so important. Bringing together scientists, policymakers and civil society, the conference placed health at the centre of the discussion—a welcome shift. Too often, debates about the energy transition focus on economics or energy security, while overlooking one of the strongest arguments for action: protecting people's health.

This issue of Acid News highlights one aspect of this growing public health challenge. Our report on ozone and children's health shows how ozone pollution can impair lung development, worsen respiratory disease and affect lifelong wellbeing. Children are among those least responsible for the climate crisis, yet they stand to bear some of its greatest health consequences.

The Santa Marta Conference's final recommendations also send an encouraging signal. They call on governments to explicitly recognise the health benefits of reducing fossil fuel use in their national climate plans. Cleaner air should not be treated as a side benefit of climate action—it is one of its most immediate and tangible outcomes.

"Every tonne of fossil fuel burned not only warms the climate but also worsens the air we breathe"

Europe's latest heatwave is a reminder of what is at stake. Every tonne of fossil fuel burned not only warms the climate but also worsens the air we breathe. Phasing out fossil fuels is therefore not simply a climate imperative—it is one of the most effective public health measures available. The science is clear. The health benefits are immediate. What remains is the political will to act.

Ebba Malmqvist

[1] EuroNews 3 July 2026 https://www.euronews.com/health/2026/07/03/heatwave-leaves-europe-with-thousands-of-excess-deaths?

People walk through a misting gate in Budapest city centre during a severe heatwave.

Air pollution in early pregnancy linked to delayed child development

Exposure to air pollution during early pregnancy may impair infants' language and motor development, according to a new study. The researchers found that babies exposed to higher pollution levels in the first trimester scored on average 5–7 points lower on language tests at 18 months than those with lower exposure.

The study followed 498 infants in Greater London. Stronger effects were observed among babies born prematurely. In this group, higher pollution exposure during pregnancy was associated with significantly poorer motor skills, with scores on average 11 points lower.

The pollutants analysed—fine particulate matter and nitrogen dioxide—mainly originate from traffic emissions. Using detailed modelling, researchers estimated exposure levels based on mothers' home addresses during pregnancy.

Importantly, pollution levels in the study were within current legal limits in the UK, but above the stricter guideline values recommended by the WHO. The findings add to growing evidence that air pollution can affect brain development from the earliest stages of life, raising concerns that current standards may not be sufficiently protective.

The authors emphasise the need for further research to determine whether these developmental differences persist into later childhood, but argue that reducing exposure during pregnancy should be a public health priority.

Source: Kings College London 29 April 2026 *https://www.kcl.ac.uk/news/air-pollution-exposure-in-the-womb-linked-to-worse-language-and-motor-development*

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Air quality in the EU is improving

Air pollution across Europe continues to decline. However, a large majority—94%—of the urban population still lives in areas where levels of fine particulate matter ($PM_{2.5}$) exceed the World Health Organization (WHO) guideline values. $PM_{2.5}$ is considered the air pollutant most harmful to human health.

A new report from the European Environment Agency presents the latest data for 2023–2024, comparing observed concentrations with current EU air quality standards, the stricter targets set for 2030, and WHO recommendations. It highlights both the progress made and the areas where further action is needed to reduce the health risks from air pollution.

Source: European Environmental Agency *https://www.eea.europa.eu/en/topics/in-depth/air-pollution*

UN expert calls for urgent action on air pollution as human rights crisis

Air pollution is a global public health and human rights crisis requiring urgent action from governments and businesses, according to a new report presented to the UN Human Rights Council by Special Rapporteur Astrid Puentes Riaño.

The report highlights that air pollution contributes to an estimated 6–8 million premature deaths each year, affecting nearly every organ of the human body and increasing the risk of heart disease, stroke, cancer and chronic respiratory illnesses. Vulnerable groups—including children, pregnant people, older persons and those with already existing health conditions—face the greatest risks, particularly in low- and middle-income countries and marginalised communities.

Puentes Riaño stresses that under international human rights law, states have a duty to prevent harm by strengthening air quality standards, improving monitoring and enforcement, and prioritising action in pollution hot spots. The report also calls on businesses to reduce emissions, protect workers and disclose pollution from their operations.

This growing recognition reflects a broader shift in international environmental governance, as institutions and advocates push for stronger accountability mechanisms linking environmental protection with human rights obligations. In 2022, the United Nations recognised the right to a clean, healthy environment as a human right, reinforcing calls for stronger action to ensure everyone can breathe clean air.

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People exposed to air pollution in Gurgaon, India.

Source: The Office of the High Commissioner for Human Rights Press release 6 Match 2026: *https://www.ohchr.org/en/press-releases/2026/03/air-pollution-driving-widespread-human-rights-violations-un-expert*

Ambient Ozone and Children's Health

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and mortality, this trend is particularly concerning.

Children are widely recognised as especially vulnerable to air pollution. They inhale more air relative to their body weight, and their lungs and immune systems are still developing, which increases both their exposure and susceptibility to harmful effects.

A systematic review published in 2024 examined the global evidence on ozone exposure and children's health, identifying multiple outcomes with strong supporting evidence—including effects observed at levels below current World Health Organization (WHO) guideline values (3). The review consistently showed associations between ozone pollution and reduced birth weight, childhood asthma, other respiratory diseases, and obesity. Maternal exposure to ozone during pregnancy was linked to lower birth weight, with some variation depending on the timing of exposure across trimesters (3). Evidence also indicated increased risks of preterm birth and stillbirth, including in relation to short-term peaks in ozone levels (3).

Respiratory effects were among the most robust findings. Ozone exposure was associated with respiratory symptoms, asthma exacerbations, emergency department visits, and hospitalisations. Short-term peaks in ozone were also linked to acute respiratory symptoms (3). Additionally, consistent evidence showed reduced lung function, including subclinical changes detectable by spirometry, with some studies suggesting that even brief exposure peaks may affect lung development (3).

Beyond respiratory outcomes, the review identified associations with metabolic effects, including increased risk of childhood obesity, as well as potential effects on blood lipids, blood pressure, and hormonal development, such as earlier puberty in girls (3). Evidence for other outcomes, such as inflammatory diseases, infections, and mental health, was more mixed. The review also highlighted environmental inequalities, with differences in exposure and health impacts observed across social groups and regions (3).

Studies published since the review provide further insight into additional potential impacts of ozone on children's health. While these studies have not been assessed for bias in the same systematic way, they contribute to a growing body of evidence linking ozone exposure to a wider range of outcomes. One large study examined long-term ozone exposure and overall mortality among 1.2 million children under five years old in low- and middle-income countries. Their findings indicated that a 10 ppb increase in life-course average peak-season ozone was associated with a 6.4% increase in mortality risk (4).

Other emerging associations include acute leukaemia, negative mental health symptoms, behavioural and peer relationship difficulties, and sleep disorders (5-8). Evidence also suggests that prenatal and early-life exposure may be linked to intellectual disability and reduced bone density in children (9, 10).

Taken together, the evidence indicates that ozone pollution has broad and potentially far-reaching effects on children's health. Some of these effects have been observed at concentrations below WHO guideline levels, and patterns of environmental inequality are apparent. Given that most tropospheric ozone originates from human-driven emissions, these findings strengthen the case for reducing precursor pollutants to better protect children's health.

As most tropospheric ozone pollution is anthropogenic in origin, controlling emissions of precursor pollutants is key to limiting health impacts. Effective action requires the reduction, control, and regulation of these precursors, alongside the establishment of clear limit values for ozone itself. Both long-term averages and short-term peaks need to be addressed, as each can affect children's health in different ways.

Tropospheric Ozone

Tropospheric ozone is a secondary pollutant that forms in the lowest layer of the atmosphere (up to ~10 km above the Earth) when precursor pollutants—mainly nitrogen oxides (NOx) and volatile organic compounds (VOCs, including methane)—react in sunlight (3). Reducing these emissions is therefore key to lowering ozone levels.

Tropospheric ozone should not be confused with stratospheric ozone, which forms a protective layer shielding the Earth from harmful ultraviolet (UV) radiation and is linked to the "ozone hole" caused by chlorofluorocarbons (CFCs). Only about 10% of ozone at ground level comes from stratospheric exchange; the vast majority, up to 85%, originates from the secondary transformation of mostly human-related pollutants (3, 11).

Ozone also harms plants and ecosystems, a concern that intersects with climate change. Warm, sunny conditions favour ozone formation, and rising temperatures, more frequent heatwaves, and stagnant air associated with climate change may increase ozone levels in some regions (3, 12, 13). Shifts in seasonal timing can further influence when and where ozone forms.

The World Health Organization (2021) Air Quality Guidelines recommend that ozone concentrations should not exceed 100 µg/m^3 (~47 ppb) as a daily maximum 8-hour average, and 60 µg/m^3 (~28 ppb) averaged over the six highest months of the year (3).

Policy progress has sometimes been hindered by the argument that ozone formation occurs naturally. However, given that the majority of tropospheric ozone is driven by human emissions, this should not delay action. More ambitious standards are needed, and existing regulatory frameworks—such as those within the European Union and under the UNECE Air Convention—should be strengthened to reflect current scientific evidence.

There is also a strong case for integrated climate action. Sources of ozone precursors are closely linked to greenhouse gas emissions, and climate change is expected to amplify ozone formation. Addressing these interconnected challenges offers important opportunities to protect both children's health and the environment.

Note: This article is a shorter version of the report Ambient ozone and children's health. The full report can be downloaded here: *https://www.airclim.org/publications/ambient-ozone-and-childrens-health*

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What happens when wildfires reach buildings?

Wildfires are becoming more frequent and intense as the climate changes, affecting communities in multiple ways. People living close to fires are exposed to smoke and hazardous air pollutants, while smoke can also travel long distances and affect the health of people far from the fire zone. Understanding what is contained in wildfire smoke is therefore important for both nearby communities and those further away.

When forests and vegetation burn, they release a range of air pollutants. But what happens when fires spread into built areas and structures begin to burn?

A research team led by the U.S. National Science Foundation's National Center for Atmospheric Research has produced the first comprehensive inventory of emissions from buildings destroyed in wildland–urban interface fires. The study, published in Nature Communications, shows that fires involving buildings emit a far more complex mix of hazardous pollutants than vegetation fires alone.

According to the researchers, when structures burn they release additional toxic substances—including hydrochloric acid and lead—due to the combustion of materials such as plastics, treated wood, wiring, and other household products.

Lead author Wenfu Tang explained: "If you think about what's in a home or office, there are many things that could be harmful to humans if ignited. For example, if you burn a smartphone, you wouldn't want to inhale the gas."

Source: Nature Communications volume 16, Article number: 11443 (2025), *https://www.nature.com/articles/s41467-025-66292-9*

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Wildfire near residential area in Florida US, May 2025.

Netherlands takes next step to cut nitrogen emissions

On 26 June, the Dutch minority government presented a package of measures aimed at reducing nitrogen emissions. The main elements include:

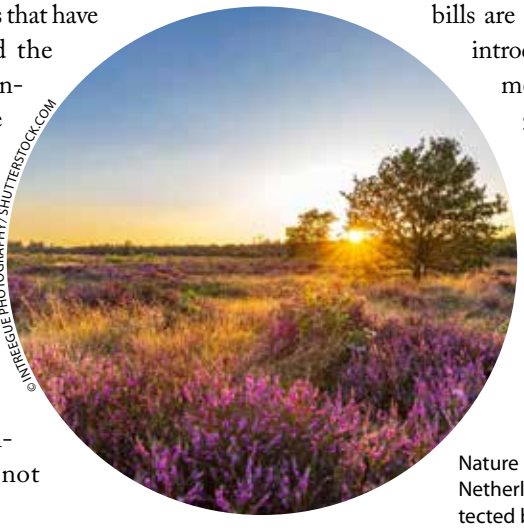
- Farmers must cut ammonia emissions by 42–46 per cent by 2035, compared with 2019 levels. Since 2019, emissions have already fallen by 18 per cent.
- Industry and the transport sector must halve their nitrogen oxide (NOx) emissions.
- An additional 20 per cent reduction in nitrogen emissions is required within buffer zones around Natura 2000 sites.A 1,000-metre restriction zone will be established around the 15 most heavily affected Natura 2000 areas, and a 500-metre zone around a further 85 protected areas.
- Farmers within these zones will be required to adopt low-emission technologies, reduce livestock numbers, relocate, or cease farming altogether.
- If voluntary measures prove insufficient, a mandatory guarantee mechanism" will be triggered, requiring compulsory reductions in livestock numbers.
- The current threshold of 0.005 mol nitrogen deposition per hectare per year will remain in place until 2027, although provinces that have already increased the threshold may continue to apply the higher limit.

The package is the government's latest attempt to comply with a 2019 ruling by the Dutch Council of State, which found that the country's nitrogen policy did not comply with European nature protection rules. The ruling effectively brought permits for housing and infrastructure projects to a standstill.

The proposals must now be approved by parliament and the Senate before being translated into legislation. If the process proceeds as planned, the first bills are expected to be introduced in parliament in October.

Source: DutchNews, 26 June 2026

https://www.dutchnews.nl/2026/06/dutch-cabinet-agrees-plan-to-slash-nitrogen-pollution-levels/



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Nature reserves in the Netherlands will be protected by a bufferzone.

Most EU countries meet current air pollution targets, but tougher cuts loom

Most EU member states are meeting their current national air pollution reduction commitments, but far greater efforts will be needed to achieve stricter targets that take effect in 2030, according to a new briefing from the European Environment Agency.

Based on 2024 emissions data, 21 of the EU's 27 member states met their 2020–2029 commitments for all five major air pollutants regulated under the National Emission reduction Commitments Directive: ammonia (NH_3), nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOCs), fine particulate matter ($PM_{2.5}$) and sulphur dioxide (SO_2). However, six countries failed to meet at least one target, with ammonia remaining the greatest challenge.

Looking ahead, only six member states have already achieved all of their more stringent 2030 commitments, while 21 still need to reduce emissions of at least one pollutant. Nitrogen oxides, ammonia and $PM_{2.5}$ will require the greatest additional reductions.

The report highlights agriculture as the dominant source of ammonia emissions, while road transport remains a key source of nitrogen oxides. Residential heating with solid fuels continues to contribute significantly to $PM_{2.5}$ emissions in several countries.

Since 2005, EU emissions of most major air pollutants have fallen substantially, with sulphur dioxide down by 86% and nitrogen oxides by 54%. By contrast, ammonia emissions have declined by only 18%, underscoring the need for stronger action in the agricultural sector.

The EEA notes that air pollutant emissions have continued to decline while the EU economy has grown by nearly 50% since 2005, demonstrating that economic growth can be decoupled from air pollution through stronger regulation, cleaner technologies and improved energy efficiency.

Source: EEA Briefing, 1 July 2026 *https://www.eea.europa.eu/en/analysis/publications/air-pollution-in-europe-2026-reporting-status-under-the-nec-directive*

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Ozone disrupts social life in ant colonies

Ground-level ozone can disrupt the chemical signals ants use to recognise nestmates, causing them to attack members of their own colony, according to a new study from the Max Planck Institute for Chemical Ecology.

Researchers exposed ants from six species to ozone levels commonly recorded during summer pollution episodes. In five species, ozone-exposed ants were treated as intruders and attacked when they returned to the colony.

The study found that ozone degrades key scent compounds that enable nestmate recognition. In a separate experiment, ozone also disrupted brood care, with adult ants neglecting their larvae.

The findings suggest that air pollution may be an overlooked driver of insect decline by disrupting the social behaviour of ants and potentially other insects, including bees.

Source: Max-Planck-Gesellschaft 2 February 2026
https://www.mpg.de/26073819/air-pollution-causes-social-instability-in-ant-colonies

Santa Marta report strengthens case for a Fossil Fuel Treaty

The final outcome report from the First Conference on Transitioning Away from Fossil Fuels, presented during London Climate Action Week, signals growing international support for stronger global governance to phase out fossil fuels. The conference, co-hosted by Colombia and the Netherlands in Santa Marta earlier this year, brought together representatives from 57 countries as well as Indigenous Peoples, civil society, youth, scientists and workers.

One of the report's strongest messages is the need for new international mechanisms to manage a just and equitable transition beyond existing UN climate processes. Around 80% of participating stakeholder groups called for an international framework such as a Fossil Fuel Treaty, arguing that current multilateral institutions have failed to deliver operational tools for a global fossil fuel phase-out.

Of particular interest from a public health perspective, the report highlights broad agreement among governments and stakeholders that national climate plans should explicitly recognise the health benefits of reducing fossil fuel use, including cleaner air through reduced air pollution.

The Santa Marta Process will continue with a second conference in Tuvalu in 2027, where participants hope to move from dialogue to concrete international cooperation and implementation

Source: Fossil Fuel Treaty Press Release 23 June 2026, https://www.fossilfueltreaty.org/santa-marta-report

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Indigenous Peoples and organisations from multiple regions of the world are supporting the Fossil Fuel Treaty initiative.

Progress on Gothenburg Protocol revision as countries discuss black carbon target

Delegates from 42 UNECE countries met in Geneva on 18–20 May for the 64th session of the Working Group on Strategies and Review, continuing negotiations on the revision of the Gothenburg Protocol.

Discussions focused on strengthening the Protocol, closing regulatory gaps and encouraging broader participation, particularly from Eastern and South-Eastern Europe, the Caucasus and Central Asia.

Among the main outcomes was the review of updated guidance on emission control techniques for mobile sources, including road vehicles, non-road machinery, inland watercraft and aircraft. The revised guidance distinguishes between measures for new, existing and future fleets, allowing countries to choose technologies that best suit their economic, environmental and technical circumstances.

The Working Group also considered updated guidance on reducing ammonia emissions from agriculture, an important source of eutrophication, soil acidification and fine particulate matter.

Black carbon also received increased attention during the meeting. Canada proposed establishing a collective goal for black carbon reduction, and many parties expressed support for reporting black carbon emissions and introducing some type of common goal, commitment or target under the Protocol.

The outcomes of the meeting will feed into the ongoing revision of the Gothenburg Protocol and inform discussions at the 46th session of the Executive Body in December 2026.

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Worlds largest shipping Emission Control Area adopted

By setting binding limits on pollutants from ships, the new North-East Atlantic Emission Control Area will prevent over 4000 premature deaths and save up to €29 billion in health costs by 2050.

On 1 May, the United Nations International Maritime Organization (IMO) formally adopted the world's largest emission control area (ECA) in the North-East Atlantic Ocean, establishing stricter emissions limits for ships operating in one of the world's busiest maritime corridors.

"This is a milestone for addressing harmful air pollution from ships in Europe and the Arctic," said Bryan Comer, Marine Program Director at the International Council on Clean Transportation (ICCT). "ICCT was honoured to lead the technical research supporting the establishment of the ECA, which showed that the expected emissions reductions are substantial and will improve air quality for coastal communities, ultimately saving thousands of lives."

The new ECA is expected to be fully implemented in September 2028 and covers the exclusive economic zones of France, Ireland, Portugal, Spain, the United Kingdom, Iceland, Greenland, and the Faroe Islands—a region home to more than 190 million people. It will also link existing ECAs in the Baltic, North, and Mediterranean Seas, and connect them with recently approved ECAs in the Norwegian Sea and Canadian Arctic.

Ships operating these waters will face binding limits on the maximum fuel sulphur content to control sulphur dioxide (SO_2) and fine particulate matter ($PM_{2.5}$). Ships built 1 January 2027 or later will also face stricter engine limits on nitrogen oxides (NOx). These pollutants are linked to serious health impacts like respiratory and cardiovascular disease, in addition to premature death. Beyond the impact on air quality, shipborne SO2 and NOx emissions also contribute to ocean acidification, harming marine ecosystems and disrupting the development and habitats of marine species.

The decision was formalized at the 84th session of the IMO's Marine Environment Protection Committee (MEPC), concluding a process initiated by a joint submission from 27 EU member states, Iceland, the United Kingdom, and the European Commission. The submission was supported by technical analysis from the ICCT in collaboration with Porto University.

ICCT's research projects that under a likely compliance scenario, the ECA will reduce emissions of SO_2 and $PM_{2.5}$ by 64 per cent. Nitrogen oxide emissions are projected to decline steadily over time as

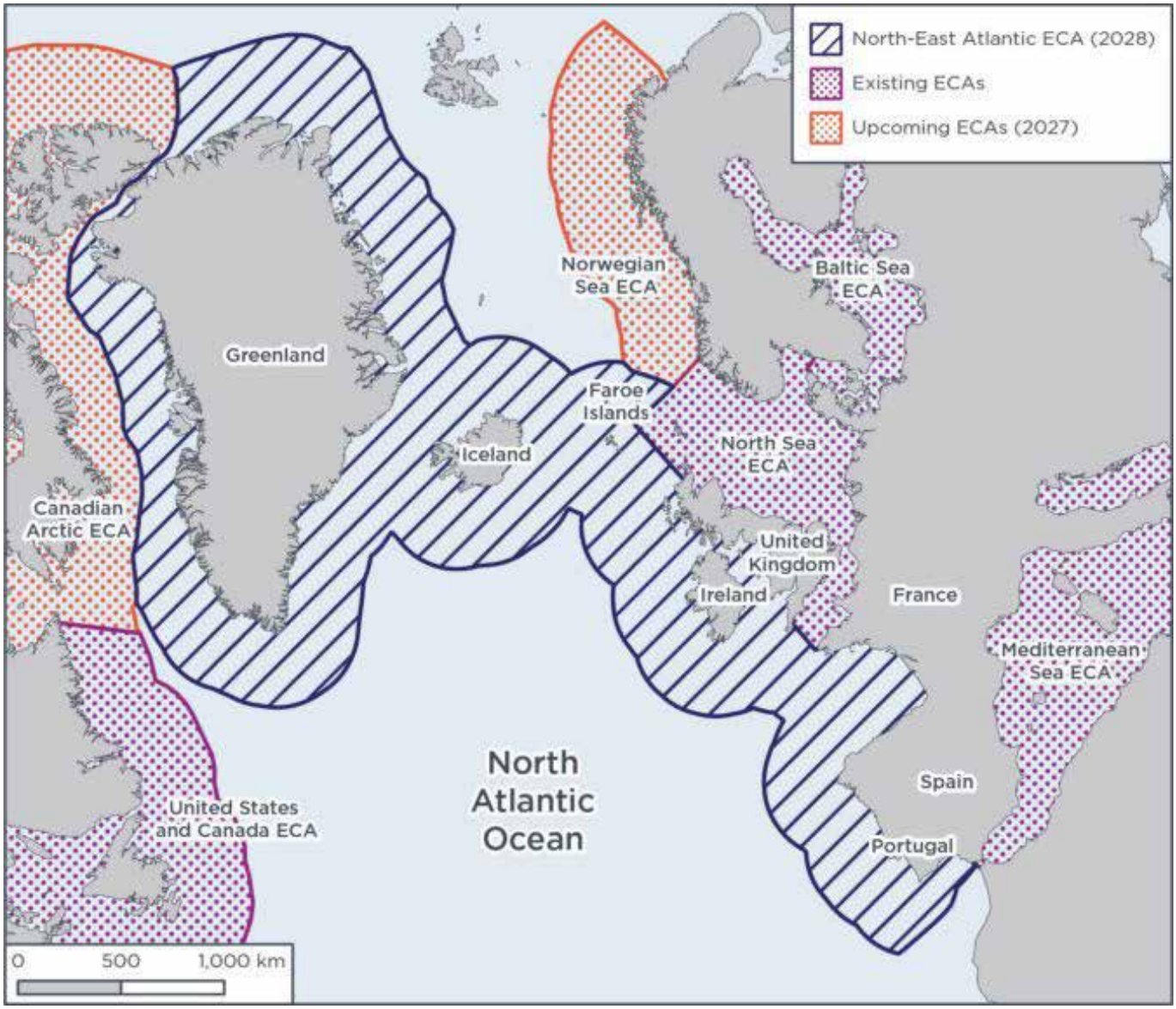

Figure: The North Atlantic Emission Control Area and other established and recently approved emission control areas.

new ships enter the fleet, with maximum reductions of 71 per cent possible as the fleet gradually turns over.

Together, these emission reductions are estimated to prevent over 4000 preature deaths between 2030 and 2050, and save up to €29 billion in health costs by 2050.

Emissions of black carbon, a climate super-pollutant and driver of Arctic warming in particular, are also projected to decrease by 36 per cent.

"ECAs can be one of the most efficient tools at IMO Member States' disposal to tackle air pollution from ships, but it is important they remain as effective and as environmentally sound as possible", said Dr. Liudmila Osipova, Technical Lead of the impact assessment report submitted to the IMO. "Even though this new ECA covers a large area with highly diverse ecosystems, it has met all the MARPOL Annex 6 criteria for designation, and the impact assessment study took into account all ecosystems in the areas. However, additional measures are still needed to realise their full potential, particularly a ban on scrubbers, which remain allowed despite serious concerns about air and water pollution. Our research shows that banning scrubbers could reduce black carbon emissions by over 30 per cent in the Atlantic ECA and prevent at least 300 premature deaths by 2050. Such bans have already been introduced in countries including Denmark, Finland, and Sweden."

"This is indeed a massive win for coastal and Indigenous communities and for the marine environment from Portugal to Greenland, but also an opportunity to look ahead and fill in the gaps", said Carolina Silva, shipping policy officer at ZERO. "The Atlantic ECA will connect existing ECAs in the North and the Baltic Seas, and the recently adopted Canadian Arctic waters and Norwegian ECAs, to the Mediterranean SO2-ECA in the south. It's very clear that moving forward, the Portuguese islands of Madeira and the Azores, as well as the Spanish Canary Islands, should be included both to guarantee an economic level playing field, but most importantly to protect the coastal communities from the harmful effects of air pollution from ships."

Sources: ICCT Press Release 1 May 2026 *https://theicct.org/pr-imo-adopts-worlds-largest-emission-control-area-to-regulate-ship-emissions-in-north-east-atlantic/*

Clean Arctic Alliance Press Release 1 May 2026 *https://cleanarctic.org/2026/05/01/worlds-largest-emission-control-area-adopted-by-international-maritime-organization/*

Slovenia introduces air pollution fee for trucks

Slovenia has become a frontrunner in implementing the EU Eurovignette Directive by introducing external cost charges for trucks related to air pollution and noise. The new fee was adopted through an amendment to the Toll Act and applies to trucks with a maximum permissible weight of over 3.5 tonnes.

The amendment was approved by parliament with a clear majority and reflects the polluter-pays (or user-pays) principle. Revenues from the fee will be earmarked: half will be used to improve the transport system, reduce the environmental impact of transport, and develop transport infrastructure. The remaining half will fund non-refundable financial incentives to promote rail freight transport, further develop national road infrastructure, digitalise the transport system, and improve traffic safety.

Source: Forbes Slovenia, 11 Februari 2026, *https://forbes.n1info.si/novice/tovornjakarji-na-slovenskih-avtocestah-bodo-placevali-za-hrup-in-onesnazenje/*

Clean air at risk in United States

Air pollutants, measured as ozone and particulate matter, cause more than 100,000 premature deaths each year in the United States and affect the health of millions of people. In a controversial move, Lee Zeldin, administrator of the United States Environmental Protection Agency (EPA), announced that the agency will no longer consider these health costs when drafting new regulations.

Democratic lawmakers have strongly opposed the change. The following week, members of the United States Congress sent a letter to the EPA warning that ignoring health benefits when setting air quality standards could lead to weaker protections.

"That EPA may no longer monetize health benefits when setting new clean air standards does not mean that those health benefits don't exist," the letter reads. "It just means that you will ignore them and reject safer standards, in favor of protecting corporate interests.

Source: Inside Climate News 17 Febaruary 2026, *https://insideclimatenews.org/news/17022026/trump-epa-weakens-air-pollution-standards/*

Problems for LNG-powered ships to use onshore power

Many LNG-fuelled ships are technically unable to switch to onshore power supply (OPS) during their time in port, according to a new study commissioned by German NABU and carried out by CE Delft.

The reason for this is boil-off gas produced when storing LNG at extremely low temperatures (-162°C). This boil-off gas must be continuously vented and burned to prevent dangerous pressure increases in the tanks.

When ship engines are shut down during OPS operation, there is often no safe way to utilize this vented gas which can result in methane emissions or inefficient combustion, partially outweighing the environmental benefits of using OPS.

OPS is a key measure to cut emissions of air pollutants and greenhouse gases from shipping and will become mandatory for many ships in the EU ports from 2030.

"The results clearly show that LNG is not a viable transition technology for shipping," Sönke Diesener, shipping expert at NABU said.

The study: "LNG boil-off gas at berth. LNG-fuelled container ships fit for mandatory On-shore Power Supply?" Link: https://en.nabu.de/topics/traffic/20873.html

Environmental damage by food and fossil fuel production costs $5bn per hour

The unsustainable production of food and fossil fuels causes 5 billion US dollars of environmental damage per hour, according to the United Nations report "Global Environment Outlook", produced by 200 researchers for the UN Environment Programme.

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Overall, environmental damage caused by the burning of fossil fuels, and the pollution and destruction of nature caused by industrial agriculture, costs 45 trillion US dollars a year, the report said. The food system carried the largest costs, at 20 thousand US dollars, with transport at 13 thousand US dollars and fossil-fuel powered electricity at 12 thousand US dollars.

These costs – called externalities by economists – must be priced into energy and food to reflect their real price and shift consumers towards greener choices, professor Robert Watson, the co-chair of the assessment said: "So we need social safety nets. We need to make sure that the poorest in society are not harmed by an increase in costs."

The GEO report emphasises that the costs of action are much less than the costs of inaction in the long term, and estimates that the benefits from climate action alone would be worth 20 thousand US dollars a year by 2070 and 100 thousand US dollars by 2100.

The report suggests measures such as a universal basic income, taxes on meat and subsidies for healthy, plant-based foods.

According to the report, there are also about 1.5 thousand US dollars in environmentally harmful subsidies to fossil fuels, food and mining. These need to be removed or repurposed, it added. Watson noted that wind and solar energy was cheaper in many places but held back by vested interests in fossil fuel.

Link: https://www.unep.org/resources/global-environment-outlook-7

Source: The Guardian, 9 December 2025

Major drop in ship sulphur emissions confirmed

A new international study led by researchers at the National Centre for Atmospheric Science (NCAS) has confirmed that recent global regulations have significantly reduced sulphur emissions from ships, helping to improve air quality in coastal regions.

The research, published in Environmental Science: Atmospheres, used aircraft and ground-based instruments to measure sulphur dioxide and nitrogen oxides emitted by ships in the North-East Atlantic and European coastal waters between 2019 and 2023.

The team found that the average sulphur content in ship fuel dropped nearly tenfold in open ocean areas following the International Maritime Organisation's 2020 regulation, which capped sulphur content in marine fuel at 0.5 per cent.

Before the change, many ships exceeded the previous global limit of 3.5 per cent sulphur. After 2020, however, only a small number of ships were found to breach the new, stricter standard.

"I think it was generally expected that the regulations would be adhered to and this research shows evidence that this is the case. I'm not sure why some ships still exceed the limits – it could be that exhaust scrubbing systems are not working very well or that high sulphur fuel is still being used in some cases," said Professor James Lee, an atmospheric chemist at NCAS and the University of York.

In the European Sulphur Emission Control Areas (SECAs), such as the English Channel, fuel sulphur levels were even lower – well below the stricter SECA-limit of 0.1 per cent. Interestingly, ports outside these zones, like Valencia in Spain, also showed low sulphur levels, likely due to EU rules requiring cleaner fuel when ships are docked for extended periods.

This is the first study to use aircraft-based measurements and predictions from the Ship Traffic Emission Assessment Model (STEAM3) to assess ship emissions outside of sulphur control zones since the global 2020 regulation came into effect. The findings support the widely held view that ships now emit around seven times less sulphur than before the rule change – an important step toward cleaner air and healthier coastal environments.

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Link to the article: https://pubs.rsc.org/en/content/articlelanding/2025/ea/d5ea00089k

Source: NCAS News, 28 November 2025

Campaign to weaken EU methane rules gathers pace

The EU Methane Regulation (EUMR) has come under mounting political pressure in recent months. Following an intensive lobbying campaign by the US government, Qatar and the fossil fuel industry, several member states have called for delays or changes to its implementation. So far, however, the European Commission has refused to reopen the legislation.

The debate intensified ahead of the EU Energy Council in June after a leaked draft Commission recommendation proposed a three-year suspension of penalties under the Regulation, citing the ongoing energy crisis. Even this preventive compromise was not enough for some governments. Czechia and Slovakia circulated a non-paper[1] calling for the Regulation to be reopened, a position later backed by 15 other member states [2].

Supporters of the Regulation argue that the energy security concerns are unfounded. A growing body of evidence from researchers and independent analysts concludes that the EUMR is not contributing to current gas market pressures and that delaying its implementation would not improve Europe's energy security. Analyses by Clean Air Task Force [3], Environmental Defense Fund Europé [4], Ecologic Institute [5], Rystad Energy [6] and Data Desk [7] all challenge claims that the Regulation threatens gas supplies or creates excessive legal uncertainty.

The political campaign has also prompted a broad response. Opposition members of the US Congress urged Commission President Ursula von der Leyen to maintain the Regulation [8], while 96 US organisations sent a similar appeal [9]. European NGOs coordinated by Climate Action Network Europe have likewise called on the Commission not to weaken or postpone the leagislation [10].

At the Energy Council, Commissioner Dan Jørgensen reaffirmed the Commision's position, argueing that reopening the Regulation would only increase market uncertainty. France, Spain and Luxembourg explicitly supported the Commission's approach.

The importance of methane action also received fresh international attention during London Climate Action Week, where UN Secretary-General António Guterres called for stronger global efforts to curb emissions [11]. Among his priorities were eliminating routine flaring and venting, ensuring methane emissions are measurable, reportable and verifiable, and establishing a science-based global methane standard for fossil fuels—all measures closely aligned with the EU Methane Regulation.

The next key milestone comes on 17 July, when the European Commission is expected to publish its Energy Package. With implementation of the methane rules continuing to feature prominently in discussions on Europe's energy security, the package may provide further signals about the Commission's direction.

The EU Methane Regulation

The EUMR, adopted in 2024, is the world's first legislation regulating methane emissions from both domestic production and imported fossil fuels. Importers are already subject to reporting requirements for new contracts. From 2027, they must demonstrate that systems are in place to measure, report and verify methane emissions during extraction, while from 2030 imported fossil fuels will have to meet the same methane performance standards as gas produced within the EU.

[1] https://data.consilium.europa.eu/doc/document/ST-10728-2026-INIT/en/pdf

[2] Austria, Belgium, Bulgaria. Germany, Greece, Hungary, Italy, Latvia Lithuania, Malta, the Netherlands,Poland, Romania, Slovenia and Sweden

[3] https://www.catf.us/resource/eu-methane-regulation-penalties/

[4] https://library.edf.org/AssetLink/8o8773p15m4v0bttsld0tusv15e6364y.pdf

[5] https://www.ecologic.eu/sites/default/files/publication/2026/EUMR-Article-27-The-Case-Against-a-Grace-Period-web.pdf

[6] https://library.edf.org/AssetLink/7000haw3l6ml1w87b58kilq13tirkfoh.pdf

[7] https://research.datadesk.eco/eumr-supply/

[8] https://drive.google.com/file/d/1RNn1NSwbUjy7uLs_wrla0mf-iv4CJZ_u/view

[9] https://oilchange.org/wp-content/uploads/2026/06/US-Organizations-Urge-the-European-Union-to-Resist-Fossil-Fuel-Lobbying-and-Preserve-Methane-Regulation-.pdf

[10] https://caneurope.org/app/uploads/2026/06/260610-joint-csom-letter-protect-the-eumr-and-implementation-of-sanctions.pdf

[11] https://www.un.org/en/climatechange/methane

French court says TotalEnergies must consider Scope 3 emissions

A Paris court has ruled that TotalEnergies must take account of greenhouse gas emissions from the use of its oil and gas products when assessing its environmental responsibilities under France's corporate duty of vigilance law.

The case, brought by four environmental organisations and the Paris, centred on whether climate-related risks fall within the scope of the 2017 law requiring large companies to identify and prevent environmental harm. The court concluded that they do, stating that emissions from end users – known as Scope 3 emissions – are inherently linked to the company's activities because they result from the combustion of the fuels it produces.

However, the court stopped short of ordering the measures sought by the plaintiffs, including an end to new fossil fuel projects and mandatory cuts in oil and gas production.

The ruling is regarded as an important milestone in French climate litigation. The city of Paris described it as a landmark decision because it establishes that climate risks are covered by the corporate duty of vigilance, potentially strengthening future legal challenges against major fossil fuel producers.

Source Le Monde 25 June 2026 *https://www.lemonde.fr/en/environment/article/2026/06/25/french-court-orders-totalenergies-to-account-for-clients-emissions_6754869_114.html*

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Air pollution may alter sperm DNA

Exposure to air pollution during sperm development may alter how genes are regulated in sperm cells, according to research presented at the annual meeting of the European Society of Human Reproduction and Embryology.

The study of more than 2,000 men found that exposure to ozone (O_3) and nitrogen dioxide (NO_2) was associated with changes in sperm DNA and poorer semen quality, including reduced sperm count and abnormal sperm morphology.

Although the findings do not prove that these changes cause infertility, they add to growing evidence that air pollution may harm male reproductive health. Further research is needed to determine the long-term effects.

Source: The Guardian 7 July 2026 *https://www.theguardian.com/science/2026/jul/07/air-pollution-dna-changes-sperm-men*

WHO: Progress on air quality has stalled

New data from the World Health Organization show that global progress towards reducing air pollution exposure has slowed, while large inequalities between high- and low-income countries persist.

According to updated indicators tracking the Sustainable Development Goals (SDGs), global concentrations of fine particulate matter ($PM_{2.5}$) declined until 2020 but have since largely plateaued. In 2023, around 6.5 billion people were exposed to $PM_{2.5}$ levels above the least stringent interim target in the WHO air quality guidelines, with exposure rates 13 times higher in low- and middle-income countries than in high-income countries.

The data also show that around 2 billion people still rely on polluting fuels and inefficient stoves for cooking. Household and ambient air pollution continue to contribute to heart disease, stroke, chronic respiratory disease and lung cancer, with around 90 per cent of the health burden falling on low- and middle-income countries.

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Regional trends remain uneven. Air pollution levels are highest in Asia, although the region has also recorded the greatest improvements. In contrast, little progress has been made in Africa and parts of western Asia. Access to clean cooking has expanded across much of Asia but remains particularly limited in sub-Saharan Africa, where nearly one billion people still lack access.

WHO says the updated indicators provide an important evidence base for stronger policies on clean air and energy, supporting its target of halving air pollution-related mortality by 2040.

Source: WHO 29 June 2026 *https://www.who.int/news/item/29-06-2026-new-sdg-data-shows-stalled-progress-on-air-pollution-and-health*

New AirClim report calls for stronger climate–ocean policy integration

Ocean acidification remains one of the most overlooked consequences of climate change, despite being a direct result of rising atmospheric CO_2 concentrations. A new AirClim report examining the Baltic and Black Sea regions argues that climate and marine policies must be better integrated if Europe is to protect vulnerable marine ecosystems.

The report highlights that the Baltic Sea is acidifying faster than the global average in several areas while also experiencing rapid warming and widespread eutrophication. The Black Sea is also warming at an alarming rate, with coastal ecosystems facing growing pressure from nutrient pollution, acidification and declining oxygen levels.

According to the authors, these multiple stressors reinforce one another, threatening biodiversity, fisheries, tourism and other ecosystem services. Yet ocean acidification remains largely absent from climate policy frameworks, including National Energy and Climate Plans (NECPs), and is only weakly linked to international climate targets.

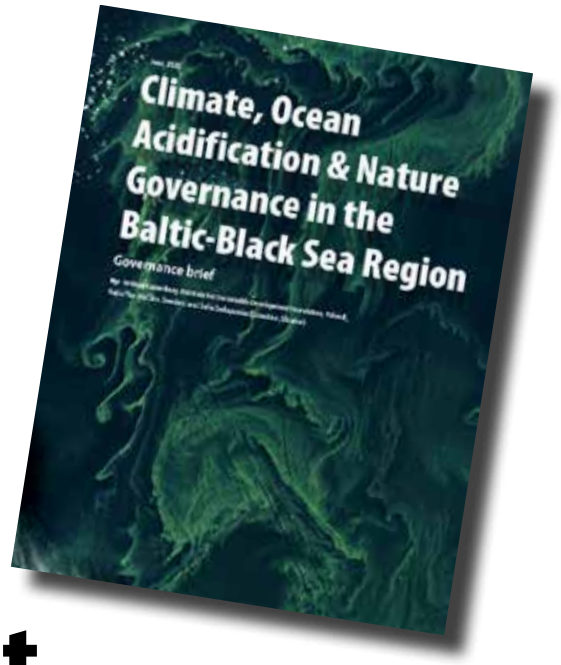
The report identifies fragmented governance as a major barrier to effective action. Climate policy, marine protection, river basin management and agricultural policy are often developed separately, despite their close interdependence. The authors argue for a "source-to-sea" approach that links emissions reductions, river basin management and marine protection.

Among the report's recommendations are stronger integration between SDG 13 (Climate Action) and SDG 14 (Life Below Water), harmonised monitoring of acidification indicators such as pH, pCO_2 and alkalinity, greater use of satellite observations alongside in situ monitoring, and the establishment of a Baltic–Black Sea Climate & Ocean Initiative to strengthen regional cooperation.

The report also calls for increased investment in ecosystem restoration, improved land–sea governance and expanded blue finance mechanisms to support adaptation and the protection of marine ecosystems.

With climate change accelerating, the authors conclude that ocean acidification should no longer be treated as a separate marine issue but recognised as an integral part of climate policy.

The report: *https://www.airclim.org/publications/climate-ocean-acidification-nature-governance-baltic-black-sea-region*



Europe issues first joint roadmap for seagrass restoration

More than 50 scientists from 17 European countries have published the first continent-wide recommendations for protecting and restoring seagrass meadows. Developed by the European Seagrass Restoration Alliance (ESRA), the guidance outlines eight priority actions to help reverse decades of habitat loss and support implementation of the EU Nature Restoration Regulation.

Seagrass meadows are among the world's most valuable coastal ecosystems. They provide habitat for marine life, reduce coastal erosion, improve water quality and store large amounts of carbon, making them an important ally in climate change mitigation. Healthy seagrass ecosystems may also help buffer local seawater against ocean acidification through photosynthesis, potentially providing temporary refuges for sensitive marine species.

Despite these benefits, seagrass meadows continue to decline across Europe due to pollution, coastal development, invasive species and other human pressures. The new recommendations call for stronger protection of existing meadows, increased restoration efforts, long-term monitoring and greater investment to ensure these ecosystems can continue to support biodiversity and strengthen the resilience of Europe's coasts in a warming and increasingly acidifying ocean.

Source: European Sea Grass Alliance 29 May 2026
https://esra-europe.eu/blog/