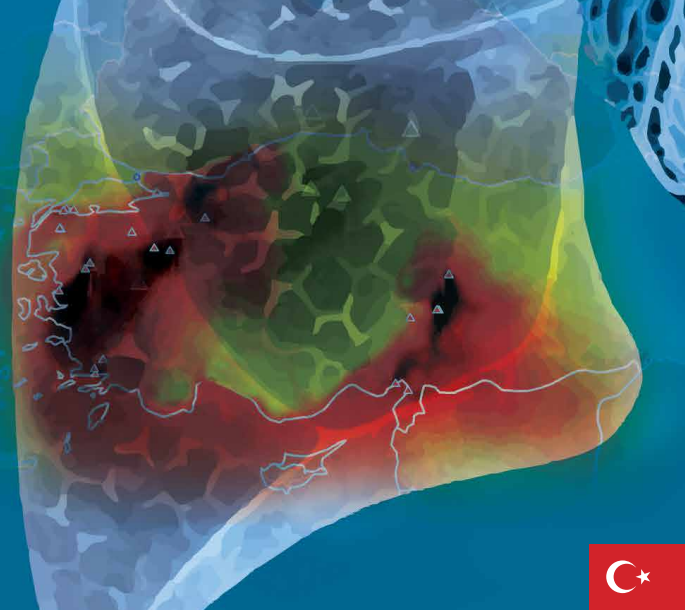


Chronic coal pollution Turkey: Iskenderun Bay



1. Turkey has a persistent chronic coal pollution problem, costing money and lives

At the end of 2021, Turkey entered a new era on climate and energy, with the country's ratification of the Paris Climate Agreement and the setting of a 2053 net zero carbon target. However, Turkey has not yet set a date to phase out coal, and is still pushing ahead with plans to double its current coal power capacity¹. Recent studies show a 2030 phase out is feasible and would lead to a reduction of carbon emissions from the power sector by 82.8%².

Coal power generation fuels climate change and harms health, through the release of thousands of tons of CO₂ and hazardous air pollutants. HEAL's Chronic Coal Pollution Turkey report³ quantified for the first time the health burden of Turkey's 28 large operating coal power plants in 2019. Unlike in many other countries, in Turkey, data on emissions

to soil, water and air at facility level is not publicly available. HEAL's chronic coal pollution analysis aims to respond to this gap by providing for estimates on coal plant stack emissions and related health impacts and cost (for details on the methodology see HEAL's website⁴).

With this briefing, HEAL provides evidence on the significant health toll of chronic coal pollution in Iskenderun Bay, across the lifetime of the three plants currently in operation. For Turkey as a whole, the country's chronic coal addiction has led to 196,091 premature deaths since 1965 (the year the oldest still active coal plant was commissioned), with health costs of up to 320 billion EUR, or 4.8 trillion Turkish Lira⁵.

¹ Considering plants with a capacity over 50 MW, 74 units in 31 coal plants have a total capacity of 19.4 GW, while 34 new units in 20 coal plants are planned, with a total capacity of 14.5 GW.

² Europe Beyond Coal et al. (November 2021). First Step in the Pathway to a Carbon Neutral Turkey: Coal Phase out 2030 <https://caneurope.org/new-report-the-roadmap-for-paris-compatible-turkish-coal-exit/>

³ Gacal, F., Gierens, R., Jensen, G., Myllyvirta, L., Stauffer, A., Zander E., (January 2021). Chronic coal pollution Turkey, the health burden caused by coal power in Turkey and how to stop the coal addiction. Health and Environment Alliance.

⁴ Methodology can be found on HEAL's website.

⁵ December 2021 monthly rate of 1 EUR = 15 TRY.

2.

The cumulative health burden from coal power in Iskenderun Bay (Adana and Hatay cities)

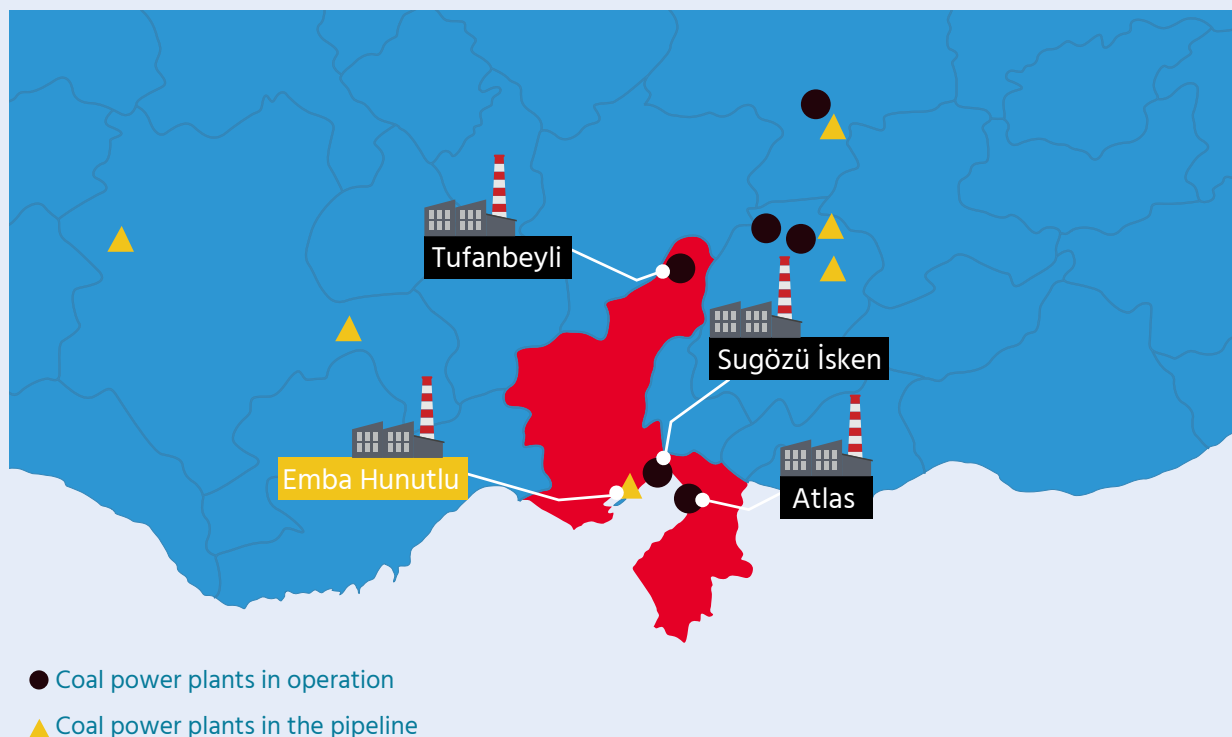
Iskenderun Bay, in the south-east Mediterranean region of Turkey, is a densely populated area with three metropolitan cities - Adana, Mersin and Hatay. The total population of the region is almost six million and is expected to grow with migration from Syria and beyond. The region's major economic activity is agriculture, but it is also one of the major industrial regions of Turkey, hosting a large number of energy-intensive industrial facilities.

There are three operating coal power plants in the Iskenderun region: Sugözü İsken in Adana city (in operation since 2003, with a capacity of 1,210 MW, and hard coal combustion), Atlas in Hatay city (in operation since 2014, with a capacity of 1,200 MW, and hard coal combustion), and Tufanbeyli in Adana city (in operation since 2016, with a capacity of

450 MW, and lignite combustion). All these plants are equipped with dust filters and desulphurisation systems. However, as HEAL's analysis shows, filter systems which keep emissions in line with national limits do not mean that there is zero pollution and zero health impacts.

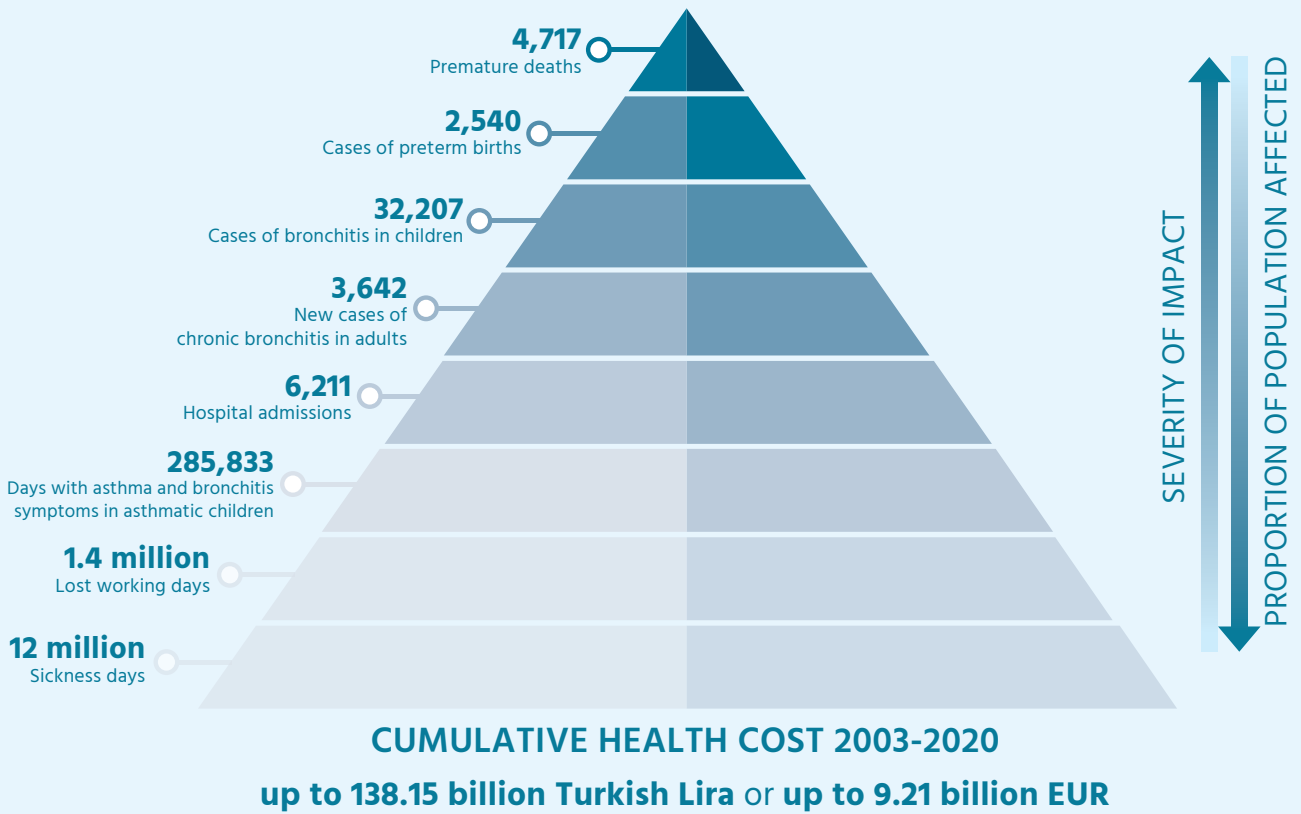
One new coal plant, the EMBA Hunutlu plant (with a capacity of 1,230 MW, and hard coal combustion), is currently being built near Sugözü village, in the Yumurtalik district of Adana province. The plant is expected to be operational in 2022 and will burn imported hard coal. Investments from Chinese banks supported Hunutlu's construction⁶. As China pledged to cut financial support to overseas coal plants, Hunutlu is expected to be one of the last coal power plants funded by the country.

Iskenderun Bay - coal power plants in operation and in the pipeline

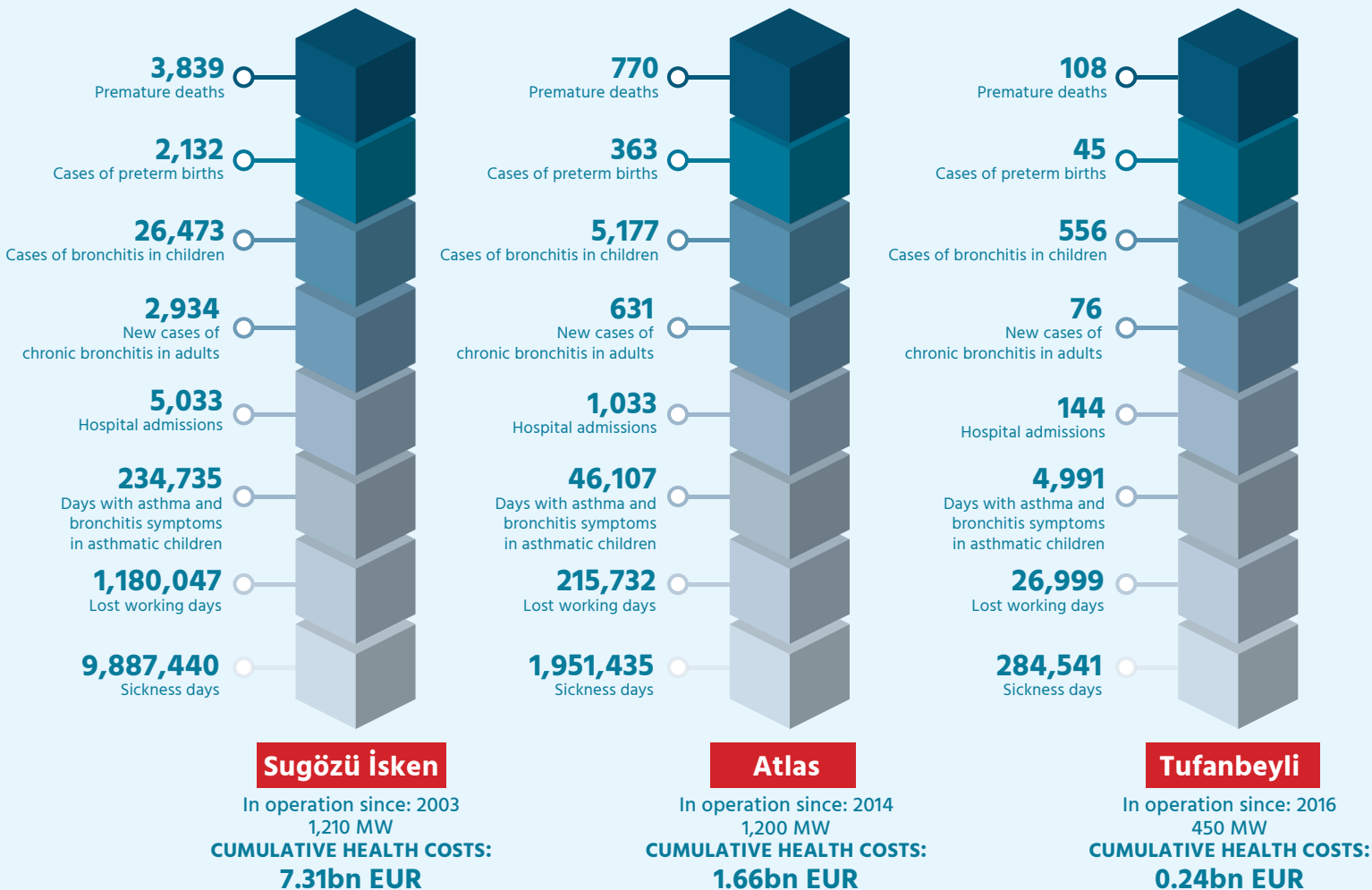


⁶ Letter by over 20 NGOs to Chinese banks: <https://www.env-health.org/letter-to-chinese-banks-by-more-than-20-turkish-ngos/>

The health burden from the three existing coal plants in Iskenderun Bay has added up to:



The economic cost of cumulative health impacts of three operating plants across the region (starting with the first in operation in 2003, to end 2020) are up to 138.15 billion Turkish Lira, or up to 9.21 billion EUR⁷.



⁷ Health and Environment Alliance. (January 2021). Chronic coal pollution Turkey. The health burden caused by coal power in Turkey and how to stop the coal addiction. https://www.env-health.org/wp-content/uploads/2021/02/Chronic-Coal-Pollution-Turkey_web.pdf

3. Health statements

As air quality in Adana city centre has been very poor already, so concerns about the health burden of existing coal power plants and the new one has been growing, among citizens, but also among health professionals. Since 2016, HEAL has worked with health experts who have been concerned about the effects of coal-fired power plants and are actively involved in the Iskenderun region⁸. The health experts are already witnessing the health burden created by the pollution – here are their views:

“



“An investment of this scale (EMBA Hunutlu plant) needs to benefit both China and Turkey, most importantly the local communities who will bear the impacts of the coal plant. We do not believe that the project that will operate on imported coal will provide any benefit to our communities and our country due to the negative impacts on the environment, climate and biodiversity. We demand support for clean sectors such as solar and wind which would benefit stakeholders in Turkey and China and we ask the Chinese banks to act on the basis of sustainable life and comply with China’s green financing policies.”

Dr. Sadun Bölükbaşı

President of Adana Environment and Consumer Protection Association

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“The three existing coal-fired power plants Adana, Mersin and Jatay, heavy industry and the extensive use of fossil fuels for transportation and domestic heating pose a serious threat to public health in the Çukurova region.

In 2004, the BOLD study found a prevalence for COPD in adults over 40 in the Adana province at 19.6 percent, and the number of deaths from PM_{2.5} pollution in the region was estimated at 3,746 in a 2021 study by healthcare professionals in Turkey.

Now that Turkey has ratified the Paris Climate Agreement, all health organisations will demand the closure of its coal-fired power plants by 2030 and the cancellation of new projects, including Hunutlu. If Turkey wants to keep the promise made at COP26, this is of great importance, and it will prevent thousands of deaths and unnecessary illnesses such as COPD, lung cancer and strokes.”

Prof. Dr. Ali Kocabaş, Pulmonologist, Adana

Çukurova University Faculty of Medicine,
Department of Chest Diseases, Retired Lecturer

”

⁸ Gümüsel D., Stauffer, A. (February 2016). Coal power generation and health in Iskenderun Bay, Turkey. Health and Environment Alliance. https://www.env-health.org/wp-content/uploads/2018/06/heal_toolkit_iskenderun_bay.pdf

4. Recommendations

FOR POLICY-MAKERS



Immediately halt the construction of the Hunutlu coal power plant.



Set a date for phasing out the 3 existing plants, by 2030 at the latest. Continuing with coal power generation in Iskenderun Bay is unhealthy and will add to the already existing huge health bill.



When setting the phase out date, carry out a health impact assessment to quantify the health cost, to inform decisions on how swift the phase out needs to happen.



In order to understand the true health cost from coal power in Iskenderun Bay, improve transparency and allow for scientific assessments by reporting emissions from the electricity sector in a transparent manner. This includes making data on emissions from large combustion plants, including coal power plants publicly available (and reporting data to E-PRTR).



Prepare for a Just Transition mechanism and plan in Iskenderun Bay, to promote health and better jobs to thousands of people working in lignite coal mines, lignite and hard coal plants and to local communities.

FOR HEALTH BODIES AND HEALTH PROFESSIONALS



Increase the capacity of health and medical organisations and individuals (such as patients) in Iskenderun Bay to engage on environmental pollution and climate change through communication and by providing evidence. The Lancet Countdown's publications on climate change, the WHO special report to COP26⁹, and the WHO manifesto on a healthy recovery¹⁰ can serve as a guidance.



Highlight the true costs of coal power generation in economic and public health deliberations and decisions, and work towards increasing public understanding of how public health will benefit from reducing coal's unpaid health bill.

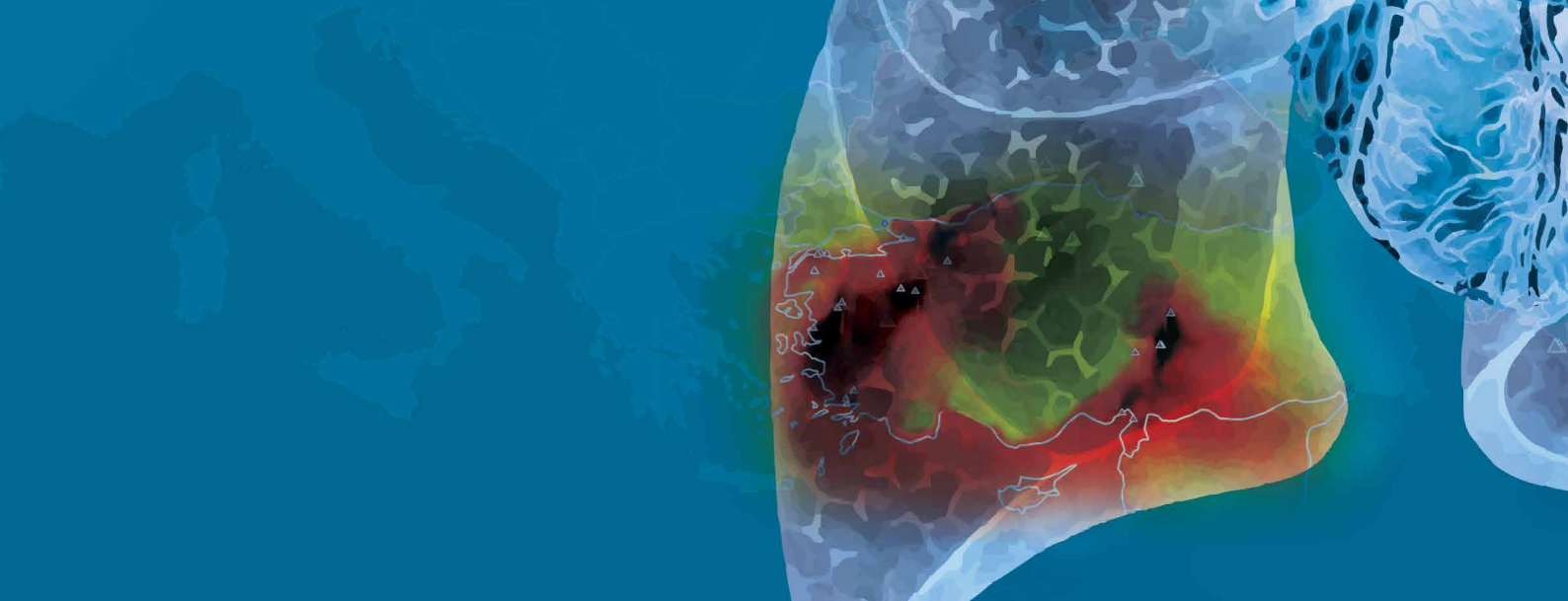


As Turkish Ministry of Health, participate in the development and implementation of clean air activities and plans, as well as energy and climate policies. Both Adana and Hatay have clean air plans approved by the Governorship, Municipality and Provincial Directorate of Environment and Urbanization in 2014. In the Adana report emissions from coal power plants are not considered as an environmental health threat and no actions are planned.¹¹ These plans should be updated for swifter and more ambitious clean air action, considering the latest scientific evidence and the fact that air pollution is now the biggest environmental health threat for Turkey.

⁹ World Health Organization. (October 2021). COP26 Special Report on Climate Change and Health. <https://www.who.int/publications/i/item/cop26-special-report>

¹⁰ WHO Manifesto for a healthy recovery from COVID-19. Released in May 2020. <https://www.who.int/news-room/feature-stories/detail/who-manifesto-for-a-healthy-recovery-from-covid-19>

¹¹ Adana Provincial Directorate of Environment and Urbanization. (2014). Adana Temiz Hava Eylem Planı (in Turkish). <https://webdosya.csb.gov.tr/db/adana/webmenu/webmenu13702.pdf>



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The Health and Environment Alliance (HEAL) is the leading non-profit organisation addressing how the environment affects human health in the European Union (EU) and beyond. HEAL works to shape laws and policies that promote planetary and human health and protect those most affected by pollution, and raise awareness on the benefits of environmental action for health. HEAL's over 90 member organisations include international, European, national and local groups of health professionals, not-for-profit health insurers, patients, citizens, women, youth, and environmental experts representing over 200 million people across the 53 countries of the WHO European Region. As an alliance, HEAL brings independent and expert evidence from the health community to EU and global decision-making processes to inspire disease prevention and to promote a toxic-free, low-carbon, fair and healthy future.

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For details on the methodology and plants see: env-health.org

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