

The health benefits of greenhouse gas reduction policies



Health and
Environment
Alliance

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In the recently published *Analysis of options to move beyond 20% greenhouse gas emission reductions: Member State results*, the European Commission highlights the substantial health benefits that occur as side effects, or “co-benefits”, of strong climate mitigation policies.

The objectives of this briefing are to summarize the key scientific findings on the health costs and co-benefits of climate policies, to highlight the growing involvement of the health and medical sector in advocating for fast and ambitious climate action on health grounds, and to provide conclusions for policy makers.

Research during the past few years makes it clear that the co-benefits for health would substantially offset costs of measures to reduce carbon emissions. As policy changes are introduced, falls in greenhouse gas emissions are associated with a decline in air pollutants, leading to cleaner air and improvements in respiratory and cardiac health.

CLEANER AIR, MORE ACTIVE TRANSPORT, LESS MEAT CONSUMPTION

In addition to the health benefits of cleaner air, certain **climate policies adopted to move to a low carbon economy can further contribute to better health** by encouraging people to take more exercise and eat less meat. For example, transport policy changes that reduce private car use and increase walking and cycling would reduce obesity, diabetes, and cardiovascular disease, according to a recent analysis by the leading international medical journal *The Lancet*. Agricultural system changes that prompt lower meat consumption could help reduce both obesity and some cancers.

A number of high profile scientific studies and reports examining the link between health and climate change, climate change mitigation, and pollution have been published in some of the leading medical and health journals. However, the **results of this research have not informed policy making discussion on climate in a substantial way**, and need to be much more integrated in future climate decisions on the EU's policy roadmap.

Efforts are being made towards making the health arguments more prominent. Around the Durban climate

conference several high profile events featuring the latest evidence on health impacts and potential benefits of climate policies took place. A number of statements from the health sector are now being used to highlight health concerns and opportunities and to achieve better integration of the health priorities in climate and energy policies.

KEY STUDIES AND REPORTS ON CLIMATE AND HEALTH CO-BENEFITS

2012 - Climate And Health Alliance Australia (CAHA) report: Our Un-cashed Dividend

The joint report by Climate and Health Alliance and The Climate Institute draws together the large and growing body of evidence from health and medical research for health benefits from measures to cut greenhouse gas emissions. It demonstrates that a shift from burning fossil fuels in coal fired power plants as well as for road transport in Australia would improve public health and save up to AUD 6 billion (approx. EUR 5 billion) and thousands of lives each year.¹ The study got support from the Public Health Association of Australia (PHAA), the Australian Medical Association (AMA) and Australian Healthcare and Hospitals Association (AHHA).

2012 - European Commission Staff Working Paper: Analysis of Options beyond 20% GHG emission reductions: Member State results

The analysis published by the European Commission² assesses costs and benefits of moving to a 30% greenhouse gas reduction target for the European Union (with 25% domestic reduction) instead of the existing 20% target for 2020 and gives projections on Member State level. The assessment shows that the 30% reduction scenario has become considerably less costly. Health benefits from

improved air quality are estimated with € 3.3 billion to € 7.9 billion for the whole of EU, taking into account only mortality.

2012 - British Medical Journal: Spotlight on Climate Change

In the March issue of the BMJ leading researchers and health experts provide a number of articles around health impacts and risks from climate change and policy solutions for mitigation.³ An article by Andy Haines and Carlos Dora entitled *How the low carbon economy can improve health* illustrates how many drivers for climate change are closely related to environmental and life-style related risk factors for important chronic diseases (including cardiovascular disease, chronic pulmonary diseases, and obesity related conditions). Health improvements thus cannot be maintained without safeguarding sustainable development.⁴

2012 - Science & IEA Analysis: Simultaneously Mitigating Near-Term Climate Change and Improving Human Health and Food Security, January, 2012

This paper identified fourteen measures targeting methane and black carbon emissions that would reduce projected global mean warming by about 0.5°C by 2050. The benefits of this strategy include avoiding 700,000 to 4.7 million premature deaths annually from outdoor air pollution and increased annual crop yields of 30-135 million metric tons, due to ozone reductions, by 2030.⁵

2012 - Air Quality and Exercise-Related Health Benefits from Reduced Car Travel in the Midwestern United States, University of Wisconsin, USA

This study estimates the benefits from reducing automobile usage for short urban and suburban trips. It shows that annual average urban PM_{2.5} – fine particulate matter which impacts for example cardiovascular health - would decline by 0.1 µg/m³ and that summer ozone (O₃) would increase slightly in cities but decline regionally, resulting in net health benefits of US\$ 4.94 billion/year and avoidance of about 1300 deaths per year in the area.⁶

ClimateCost research project on the economic costs of climate change impacts and benefits of mitigation

One ClimateCost sub-project assesses the potential economic costs of health impacts in Europe (heat related mortality, food borne disease, coastal flooding, labor productivity). Without mitigation and adaptation, costs could be as high as €31 billion/year by 2020 and €103 billion/year by 2050 (Value of Statistical Life approach). Under a scenario equivalent to the EU 2°C target, impacts are reduced significantly after 2040, resulting in 20,000 fewer deaths/year and €20 billion lower

costs /year.⁷

Another sub-project of ClimateCost assessed ‘The Reduction in Air Quality Impacts and Associated Economic Benefits of Mitigation Policy’ and concluded that 480,000 years of life could be won for all the citizens of the European Union per year, equivalent to prolonging the average citizen’s life expectancy by 1 month. The health benefits from cleaner air would amount to €44 to 95 billion annually. An additional €36 billion of air pollution control costs could be avoided annually (both by 2050). Thus benefits from air quality would compensate € 24 for every ton of CO₂ reduced.⁸

2011 - WHO Series on Health in the Green Economy⁹

The peer-reviewed series examines specific mitigation strategies and measures that have been reviewed by the IPCC in relation to the health co-benefits in the following sectors: transport, housing, household energy, and healthcare.

2011 - Annals of the New York Academy of Science

The study “Full cost accounting for the life cycle of coal”¹⁰ published in 2011 confirms the huge cost that economies bear from heavy reliance on coal and therefore provides a further argument to switch to renewable energies to both benefit the climate and our health.

In the USA, coal costs the economy about US\$345 billion a year in hidden expenses not borne by miners or utilities, including health problems in mining communities and pollution around power plants, the study found. Led by the late Paul R. Epstein, then Associate Director of the Center for Health and the Global Environment, Harvard Medical School, it included leading health and environment researchers from US universities.

2011 - European Environment Agency

A recent assessment entitled “Revealing the costs of air pollution from industrial facilities in Europe” by the European Environment Agency calculates that the damage caused by emissions only from the industrial facilities part of the European Pollutant Release and Transfer Register was at least €102–169 billion in 2009.¹¹ The damages were predominantly to health, . The EEA has also published an overview on the EU air quality situation in Europe, which shows that air pollution continues to be a massive public health problem.¹²

2010 - Joint report by HEAL and Health Care Without Harm (HCWH) Europe

A joint report, “Acting Now for Better Health, A 30% reduction target for EU climate policy” was published by HEAL and HCWH E in 2010¹³. The report focuses on evaluating the health benefits of greenhouse gas emissions

reductions in the European Union.

The report concludes that increasing the EU target from 20% to 30% emission reductions by 2020 could bring health co-benefits of up to € 30.5 billion. It also estimates that if the emission controls had been brought in already by 2010, the cumulative savings would have totaled between € 58-163 billion by 2020.

While the €30.5 billion per year figure might look staggering (it is the equivalent of one quarter of the EU annual budget), its magnitude has been confirmed by a number of other studies. In fact, the HEAL/HCWH figure is very conservative. First, it does not take into account any costs to health from climate change. Second, while it includes health co-benefits associated with cleaner air, it omits savings associated with the specific measures taken to reduce the carbon emissions. For example, if the reductions in carbon emissions are due to changes in transport policy (reduced private cars and more walking and cycling), health benefits will include reduced dementia, cardiovascular disease, diabetes, obesity, breast cancer, colon cancer, and depression.

2009 - The Lancet climate change series

In 2009, the medical journal *The Lancet* published a series of papers on Health and Climate change, including “Public health benefits of strategies to reduce greenhouse gas emissions: overview and implications for policy makers.” The paper is based on studies examining a range of health benefits associated with climate mitigation policies. It emphasizes that change in transport practices, dietary habits, and reduced air pollution can have substantial positive impact on health and life expectancy. These findings warrant further study, which could include an assessment of the economic benefits of health improvement as a result of climate mitigation policies.¹⁴

2009 - Climate change and respiratory disease: European Respiratory Society position statement¹⁵

The position paper published in the European Respiratory Journal in August 2009 describes the heavy burden of temperature increases and poor air quality on people whose health is already compromised due to respiratory problems, such as asthma, respiratory tract infections, and chronic obstructive pulmonary disease (COPD). For instance, a one degree Celsius increase in temperature produces a 1-3% increase in deaths in the general population, but this same temperature increase results in a

6% increase in deaths among people with respiratory conditions.

2009 - WHO Europe: Protecting health from climate change. Connecting science, policy and people¹⁶

The document is an overview of the science on the links between climate change and human health. It provides an update of the evidence on health risks caused by climate change, describes which populations are most vulnerable, and outlines the actions that will be necessary to protect health from climate change.

2008 - The Health and Environment Alliance (HEAL), Climate Action Network (CAN) and WWF Europe report

A report commissioned by the Health and Environment Alliance (HEAL), and published jointly with the Climate Action Network (CAN) and WWF Europe in 2008, highlights the link between climate mitigation and health. The report concludes that “climate change policies can make a substantial contribution to reducing air pollution” which could lead to a 105,000 reduction in life years lost, 5,300 fewer cases of chronic bronchitis, 2,800 less hospital admissions and a number of other health benefits.¹⁷

MILESTONE EVENTS AND STATEMENTS FROM THE HEALTH COMMUNITY

2011 - Durban Climate and Health Summit and Declaration¹⁸

The first-ever Climate and Health Summit was attended by more than 200 people from over 40 countries and took place on 4 December 2011 in Durban, South Africa, in parallel with the global climate treaty negotiations. Participants issued a Declaration and a health sector Call to Action, which highlights the urgent and vital need to replace fossil fuel-based energy with clean renewable energy as fossil fuels cause "immense harm" to both climate and health. It also urges governments to adopt an ambitious, fair and binding treaty by 2015, and to commit to equitable contributions to a green climate fund to assist adaptation and mitigation strategies to support human health.

2011 - British Medical Journal conference statement Health and Security Perspectives of Climate Change

On 17 October 2011, the conference "The Health and Security Perspectives of Climate Change - How to secure our future wellbeing"¹⁹ gathered over 250 high level health and security experts, policy makers and business representatives in London. The conference was organized by the British Medical Journal in cooperation with the London School of Hygiene and Tropical Medicine, Chatham House, the Health and Environmental Alliance (HEAL), the University of Cambridge Programme for Sustainable Leadership, European Climate Foundation, Climate and Health Council and others. It discussed both the health impact of climate change and the health benefits of climate mitigation policies.

Following the conference a statement calling for governments to take urgent measures for emissions reductions was signed by over 500 leading doctors, medical researchers and security experts. The statement called for the unconditional introduction of a 30% by 2020 emission reduction target, the phasing out coal power plants in Europe, and in depth research into the health impact of climate change and climate change mitigation.

2010 - Cancun Climate and Health Statement²⁰

Launched in December 2010 during COP16, the statement calls on the climate talks' negotiators to consider the "real costs" of climate change and the benefits of strong action by taking the human health dimension into account. It is endorsed by leading European and international health and medical groups.

2010 - WHO European Regional Framework for Action²¹

Endorsed by the environment and health ministries of the 53 WHO European countries, the Regional Framework for Action "Protecting health in an environment challenged by climate change" is currently being implemented. The key acknowledgements of the framework include that substantial reductions in greenhouse gases is needed to avoid adverse health impacts of climate change, and that the momentum to reduce emissions could be increased if economic valuations also accounted for health and other benefits. It cautions, however, that not all mitigation and adaptation measures can be considered to have health co-benefits.

2009 - Standing Committee of European Doctors, Global warming and Health²²

In April 2009, a position paper was published by the Standing Committee of European Doctors, which represents 27 leading medical associations of the European Union.

2009 - Copenhagen - Prescription for a Healthy Planet²³

The Prescription for a Healthy Planet statement diagnoses the global threats to public health that climate change poses, while urging the world's governments to negotiate a strong, binding agreement. The Prescription provides a simple set of policy recommendations, or 'doctors orders' for EU and global climate negotiators to heal the ailing planet. They are: protect public health, promote clean energy, set strong targets on emission reductions, and mandate major funding for developing countries. It was issued prior to the UN Climate negotiations in Copenhagen.

2008 - World Health Day – Protecting health in Europe from climate change²⁴

World Health Day 2008, organized by the World Health Organization, focused on the need to protect health from the adverse effects of climate change in recognition that climate change is posing ever growing threats to global public health security. It highlighted the need to produce education resources.

CONCLUSIONS AND POLICY RECOMMENDATIONS

On the basis of the above listed evidence and initiatives by leading medical experts the following conclusions are drawn:

- Climate change and health are deeply related. This link should be taken into account developing new policies. Instead, protecting human health and wellbeing should be a core motivation to act on climate change.
- Reducing greenhouse gases and moving to a low carbon economy will be associated with substantial health benefits. These health benefits have a substantial economic impact everywhere, including in industrialized countries.
- The health costs and economic benefits due to health improvements must be integrated into any cost-benefit analysis of climate action. However, further research that is tailored to advising policy makers is still needed.
- In order to reap the significant health benefits, more ambitious climate mitigation measures should be taken now, rather than later.
- Expertise of the health community in the field of climate policies and the involvement of the former in climate discussions should be further strengthened.

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The Health and Environment Alliance (HEAL) is a leading European not-for-profit organization addressing how the environment affects health in the European Union. With the support of its over 70 member organizations, which represent health professionals, not-for-profit health insurers, patients, citizens, women, youth, and environmental experts, HEAL brings independent expertise and evidence from the health community to different decision-making processes. Members include international and Europe-wide organisations as well as national and local groups.

Promoting environmental policy that contributes to good health