

Making the link: **climate change** and health equity

The World Health Organization's **Commission on the Social Determinants of Health** (CSDH) has identified principles and recommendations to tackle health inequities: the factors responsible for avoidable health inequalities, which persist globally and in the European Union. This series of summaries, updated and expanded online at [www.equitychannel.net](http://www.equitychannel.net), introduces how those and other recommendations, as part of evidence based health promoting approaches, could be applied to a range of European Union legislations, policies and programmes. The aim is to improve international, national and local policies and practices within and beyond health systems, in order to promote better health and well-being for all.

### Why making the link matters

The impacts of climate change are not limited to physical geographical changes and changing climate patterns but more importantly, to the conditions in which people are born, grow, live and work. Climate change and its associated threats put at risk the protection and improvement of human health and well-being by increasing the likelihood of temperature-related morbidity and mortality, flood-related injuries and death, air pollution, increase in water and food-borne diseases, vector-borne and rodent-borne diseases, as well as food and water shortages.<sup>i</sup>

Climate change threatens the basic elements of life such as access to food, water, shelter and clean air, which in turn severely impacts on human health.<sup>ii</sup> It is generally the poorer and most vulnerable social groups who are more exposed to the risks. A WHO assessment of the burden of disease caused by global warming suggested that the modest warming that has occurred since the 1970s was already causing over 140 000 excess deaths annually by the year 2004.<sup>iii</sup>

Thus, gains made in health and in overall well-being in the preceding decades are endangered as climate change threatens to slow, halt or reverse the progress that the global health community has made against many of the causal factors of some of the world's leading diseases.



## The situation

The World Health Organization, in its 2009 report 'Protecting Health from Climate Change: Connecting Science, Policy and People', highlights the negative consequences on health and well-being due to the interaction between climate change and its effects and the social determinants of health. For example:

- **Air.** Extreme high air temperatures can kill directly: it has been estimated that more than 70 000 excess deaths occurred in the extreme heat of summer 2003 in Europe. By the second half of this century, such extreme temperatures may be the norm. In addition, rising air temperatures may increase levels of important air pollutants such as ground-level ozone, particularly in areas that are already polluted. Urban air pollution currently causes about 1.2 million deaths each year, mainly by increasing mortality from cardiovascular and respiratory diseases.<sup>I</sup>
- **Water.** Shifting rainfall and flood patterns combined with population and economic growth, are expected to increase the number of people living in water-stressed water basins from about 1.5 billion in 1990 to 3–6 billion by 2050. Almost 90% of the burden of diarrhoeal diseases is attributable to lack of access to safe water, sanitation, and reductions in the availability and reliability of freshwater supplies are expected to amplify this hazard.<sup>I</sup>
- **Shelter.** Repeated floods and droughts may force population displacement – which, in turn, is associated with heightened risks of a range of health effects, from mental disorders such as depression to communicable diseases and, potentially, civil conflict.<sup>I</sup>
- **Freedom from disease.** Rising temperatures, shifting rainfall patterns and increasing humidity affect the transmission of diseases by vectors and through water and food. Vector-borne diseases currently kill approximately 1.1 million people a year, and diarrhoeal diseases 2.2 million.<sup>I</sup>

The ongoing process of climate change is likely to widen the existing health disparities between the richest and the poorest populations. The current illness burden overwhelmingly falls on those who have contributed least to the problem, with the poorest one billion people in the world accounting for only 3% of global carbon emissions.<sup>I</sup>



Many of the measures taken to reduce greenhouse gas (GHG) emissions are themselves likely to have not only a positive impact on health but also curb the cost associated with climate change and ill health. For example, promoting alternatives to carbon based transport such as walking and cycling would additionally contribute to improved physical health as well as improvements in air quality.<sup>IV</sup> In Scotland for example, it is estimated that if 40% of all short journeys were switched from car to bicycle, this would result in a saving of at least £2 billion per year due to reduced mortality and closer to £4 billion per year when improved health is included.<sup>V</sup>

The broad-ranging policies required to address climate change have both positive and negative implications for health and health equity. Similarly, interventions to reduce health gaps will not necessarily help stabilise the climate. Poorly designed policies could easily undermine both climate and health equity goals, and reduce public support for their implementation.<sup>VI</sup>

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## Setting an example

The **East End Quality of Life Initiative** in Sheffield is part of the URBAN MATRIX project, a EUROCITIES led project funded by the EU Sixth Framework Programme for Research and Technological Development. The initiative, which monitors the air quality for nitrogen dioxide, began because local citizens were concerned about the effects of air pollution and traffic congestion on their health and quality of life. The community air quality monitoring network allows local communities and schools to become actively involved in local air quality management.<sup>vii</sup>

The **Rotterdam Climate Campus** (RCC) is geared towards creating a unique institute that will act as a hub for research and development of sustainable and innovative technology in water management and clean energy. The institute relies on the collaboration of Rotterdam's business sector, universities and government authorities.<sup>viii</sup>

## Pathways to progress

Combating climate change is both written into The Treaty of Lisbon (Art.3) and established as one of the EU's most significant political priorities (the 20-20-20 targets). These targets commit the EU to achieving 20% reduction in greenhouse gases, 20% reduction in energy use, and reaching 20% renewable energy share by 2020 (using 1990 as a baseline). A raft of measures have already been agreed to achieve this, including the EU Emissions Trading Scheme, binding national targets for non-ETS sectors (effort-sharing), renewable transport fuel targets, research investment in Carbon Capture and Storage solutions for power plant emissions and into renewable energy, as well as many initiatives on energy efficiency (see Energy Efficiency policy précis). The drive towards a greener, low-carbon economy is a key part of the Europe 2020 Strategy. The strategy sets out means to promote technological innovation, green jobs, reductions in industrial emissions (also to be tackled through the revised Industrial Emissions Directive), as well as energy efficiency measures through flagship initiatives such as a 'resource efficient Europe' and 'an industrial policy for the globalisation era.'<sup>ix</sup>

The implementation of these measures over the coming years is likely to dominate the EU's political landscape, with more regulatory measures likely if the EU increases its level of ambition to target a 30% reduction in greenhouse gases (it has already made this offer, conditional upon reaching an international agreement).

Beyond these measures to mitigate climate change, the EU is also addressing how Europe needs to adapt to the likely impact of the climate change which is already inevitable. The EU Adaptation to Climate Change framework will set out a framework for adaptation measures and policies to reduce EU's vulnerability to the impacts of climate, in particular assessing the impacts of climate change and adaptation policies on employment and on the well-being of vulnerable social groups. Measures being discussed include White Papers on water management policies, waste, agriculture, forestry, health, coasts and marine issues. From 2013, the EU plans to adopt a comprehensive EU Climate Adaptation Strategy.



## Additional Information

- **EUROCITIES** - [www.eurocities.eu](http://www.eurocities.eu)
- **Health and Environment Alliance (HEAL)** - [www.env-health.org](http://www.env-health.org)
- **East End Quality of Life Initiative** - [www.sheffieldeastend.org.uk](http://www.sheffieldeastend.org.uk)
- **DETERMINE** - [www.health-inequalities.eu](http://www.health-inequalities.eu)
- **Rotterdam Climate Campus** - [www.rotterdamclimatecampus.nl](http://www.rotterdamclimatecampus.nl)
- **Protecting health from climate change: Connecting science, policy and people.** WHO, Geneva, 2009.
- **Closing the gap in a generation.** Report of the World Health Organisation Commission on the Social Determinants of Health.
- **EU Sustainable Development Strategy**
- **Directorate General for the Environment**
- **Directorate General for Climate**

## Contacts

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## Sources

- <sup>i</sup> Protecting health from climate change: connecting science, policy and people. P. 3, WHO, 2009.
- <sup>ii</sup> Closing the gap in a generation. Report of the World Health Organization Commission on the Social Determinants of Health, Geneva, 2008.
- <sup>iii</sup> The global burden of disease. World Health Organization, Geneva, 2008.
- <sup>iv</sup> Climate Change, Public Health and Health Inequalities: A resource for environmental health practitioners: Issue 1, version 1. Chartered Institute of Environmental Health, 2008.
- <sup>v</sup> Towards a healthier economy, Why investing in sustainable transport makes economic sense. Warren J., 2008
- <sup>vi</sup> <http://www.who.int/bulletin/volumes/87/10/09-067116/en/>
- <sup>vii</sup> Good practice directory – East End Quality of Life Initiative. Eurocities. [http://www.eurocities.eu/include/lib/sql\\_document\\_card.php?id=9219](http://www.eurocities.eu/include/lib/sql_document_card.php?id=9219)
- <sup>viii</sup> Good practice directory – Rotterdam Climate Campus. Eurocities. [http://www.eurocities.eu/include/lib/sql\\_document\\_card.php?id=7796](http://www.eurocities.eu/include/lib/sql_document_card.php?id=7796)
- <sup>ix</sup> European Commission., Europe 2020: A strategy for smart, sustainable and inclusive growth. COM(2010) 2020