Climate change is a health issue

There are still no effective means of preventing climate change with very serious health consequences. Preventive measures will entail an about-turn in societal development and lifestyle, to bring about a rapid reduction in the use of fossil fuels. Healthcare workers have a particular responsibility to contribute to this change.

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According to the fifth report of the Intergovernmental Panel on Climate Change (IPCC), published in September 2013, the current trend implies global warming far in excess of 2 °C. This will have very serious consequences for health and the environment (1). Last year the USA experienced the driest summer in living memory. The summer of 2012–2013 in Australia was the hottest on record (2). The typhoon that hit the Philippines in November 2013 was the most powerful in the country's records (3).

Drought and famine

Climate change is described as the greatest threat to global health in our century (4). Climate models show that at the end of the century we can expect serious drought in southern Europe and much of Africa, the Middle East, central and South-East Asia and Australia and North and South America (5). At the same time, the rise in temperature is projected to be so large that the great majority of summers towards the end of the century will be hotter than the hottest summer in the period 1900–2006 (6).

Almost a billion people already suffer each year from severe food insecurity (7). Increasing drought and failed crops will make it much more difficult to feed the global population, which is expected to rise to 9–10 billion by 2050. In 2008 we saw poverty-stricken communities in many countries, including Haiti, Egypt and Bangladesh, rioting in the streets against inadequate food supplies and rising food prices (8).

Climate refugees

Drought, floods and sea level rise are making ever larger areas uninhabitable. The increased melting of inland ice in Greenland and Antarctica and warmer seas may result in an average rise in sea level of over half a metre during the present century (1), and considerably more over time. Low-lying islands and coastal areas are increasingly subjected to flooding. If the sea level rises 40 cm, it is calculated that the number of people at risk of flooding in South and East Asia will increase to 94 million (9). By 2050, there could be 150 million climate refugees (10). A migration of this order of magnitude will cause health problems that are exacerbated by already declining food security and problems obtaining fresh water. This could increase the conflict level and contribute to social unrest and armed revolt.

Extreme heat is in itself a major health problem. The heatwave over Europe in 2003 contributed to about 70 000 more deaths than occur in a normal summer (11). The extremely hot summer in Russia in 2010 led to over 50 000 deaths due to heat and smog (12).

What is needed to curb climate-related damage?

Since the UN Climate Change Conference in Copenhagen in 2009, there has been international agreement that the global rise in temperature must be limited to a maximum of two degrees Celsius over pre-industrial levels. It is crucial to prevent a larger increase (13). Even two degrees will result in very serious harm. This means that from 2015, emissions must be reduced by over 5 % per year (14). In recent years, global emissions have increased by 2–3 % per year (15). In order to have a reasonable chance of curbing the rise in temperature to a maximum of two degrees, about 80 % of the world's known sources of fossil fuel that the industry plans to recover, must remain unused (16).

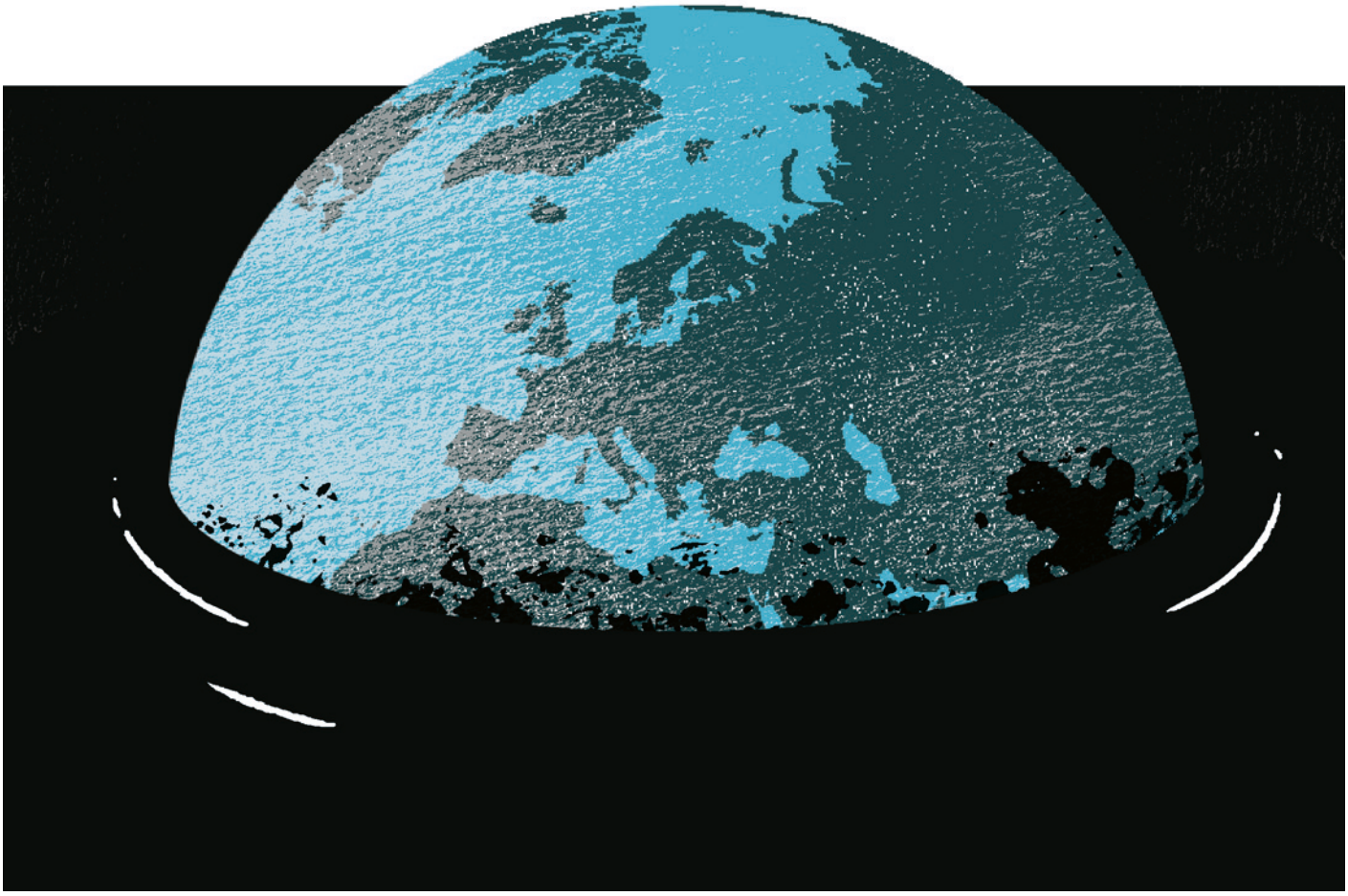
It is still possible, but a very demanding proposition, to limit global warming to less than 2 °C (17). The increase in use of fossil fuels must be reversed to a climate-neutral, sustainable trend in all parts of the world. The longer the necessary emission cuts are postponed, the more difficult it will be, and the more serious the consequences for health, the environment and the economy. In parallel with a rapid reduction in the production and use of coal, oil and gas, a gigantic effort is needed to cut energy consumption and produce renewable energy (solar, hydro and wind). To facilitate the transition to a renewable society, the large subsidies now enjoyed by the fossil fuel industry must be phased out as soon as possible, and subsidies for renewable energy stepped up.

New strategy necessary

The international climate conferences under the auspices of the United Nations have demonstrated that a global agreement on sizeable emission cuts is difficult to put in place. Should a climate agreement be reached in 2015, which is the aim, it is not planned to come into operation before 2020. If we do not achieve cuts in global emissions before this, it will be difficult to achieve the target of limiting global warming to a maximum of 2 °C.

A new and more ambitious strategy is therefore necessary. We know that most of our fossil fuel reserves cannot be recovered. A logical consequence of this will then be to introduce restrictions on companies' right to produce and a global tax on production that is high enough to make energy

Facsimile from BMJ's April edition, which featured climate change



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from renewable sources preferable. The recognised climate researcher James Hansen has proposed a system of imposing a progressive fee on producers and imports of fossil fuel (18) with return of the dividend to the population. The scheme has been successfully introduced in British Columbia, Canada (19).

Bill McKibben, winner of the Sophie Prize in 2013, has pointed out that we have an economic «carbon bubble», because around 80 % of the fossil fuel reserves identified by the industry and factored into their share value must remain under ground to prevent very serious climate-related damage (16). McKibben has started a «fossil-free» campaign which points out that it is not only ethically questionable, but also economically risky to invest in coal, oil and gas. Many investors, also in Norway, have decided to withdraw their investments from the fossil fuel industry. In a speech to the World Economic Forum in January 2014, the president of the World Bank also recommended that both public and private investors should consider divesting from coal, oil and gas (20).

What can Norway do?

As a wealthy, petroleum-producing country with an abundant supply of renewable energy, Norway is in a unique position to take the lead in the essential switch from a society based on fossil fuels to a sustainable society based on renewable energy.

Prime Minister Erna Solberg should learn from Germany's energy transition (Energiwende), the aim of which is to reduce greenhouse gas emissions by 80–95 % by 2050 through a policy of targeted investment in energy efficiency and renewable energy (21). Since 1999, this policy has resulted in a more than fourfold increase in the proportion of total energy production that is renewable.

The fossil fuel industry is opposing necessary changes by continuing to advocate for indefensibly high production and use of fossil fuels. The Norwegian state oil company Statoil is no exception. In the report *Energy Perspectives – 2013*, the market outlook for fossil fuels is described, with the basic assumption that emission reductions will only fall substantially after 2040 (22). Statoil does not mention that this will result in a global temperature increase of 3–4 °C, with a global climate crisis as a result.

The role of health professionals

Reversing this trend is primarily a political responsibility, but leading scholars in cultural and intellectual life religious groupings and academics from various disciplines have an important responsibility to contribute to this change.

Doctors and other healthcare workers responsible for preventing ill-health have a particularly important part to play. As Richard Horton et al. recently wrote in an editorial in *The Lancet:* «We need a new vision of cooperative and democratic action at all levels of society and a new principle of planetism and wellbeing for every person on this Earth… The voice of public health and medicine as the independent conscience of planetary health has a special part to play in achieving this vision» (23). The BMJ also takes up the matter in an editorial: «This is an emergency. Immediate and transformative action is needed at every level: individual, local, and national; personal, political, and financial» (24). Just

as in the battle against tobacco-related harm, health professionals should be at the forefront of the struggle for necessary prevention of harm to health due to climate change. In this way we contribute to the creation of a popular movement as a basis for political support for the changes needed to transition to a renewable society.

A moral question

Climate change represents one of the greatest moral challenges the world has ever faced. In contrast to smoking, overconsumption of fossil fuels primarily impacts others who are not to blame for the situation into which the wealthy countries of the world have brought our planet. If we are unsuccessful in bringing about a rapid and substantial reduction in the consumption of fossil fuels, the damage will be considerably more serious than that caused by tobacco smoking through the ages.

We have a moral responsibility, both as individuals and as a society, to reduce greenhouse gas emissions, on the basis of the simple moral principle of not harming others. The Norwegian Lutheran Church states the following on its website: «When we choose to follow a pathway of sustainable development, we must act in such a way that others can act in the same way as us. Otherwise we have not shown that we understand the moral nature of the climate issue» (25).

This is a strong statement. Work for climate-friendly societal development and individual efforts must go hand in hand. Increasingly more groups of engaged individuals are striving for the turnaround operation that is necessary, both in Norway and internationally (26).

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The author has completed the ICMJE form and reports no conflicts of interest.

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Received 4 February 2014, first revision submitted 11 April 2014, accepted 14 May 2014. Editor: Kari Tveito.