

# UNHEALTHY INVESTMENTS

FOSSIL FUEL INVESTMENT AND THE  
UK HEALTH COMMUNITY

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## FOREWORD

We simply cannot go on this way. Over the past two centuries we have been burning fossil fuels at ever increasing rates. Until about 50 years ago, people worried about what would happen when they ran out. We now know that there is a much more immediate problem. Unless we keep most known reserves of fossil fuels underground, the 21<sup>st</sup> century will see a rise in average global temperatures unprecedented in human history. Though we are only in the early stages of this process, we can already see the severe consequences for human health, with extreme weather events, food insecurity, displacement of populations and civil unrest. There are also many other health effects of dependence on fossil fuels, from the resulting air pollution, physical inactivity and unhealthy diets. We may risk the very survival of our civilisation.

Yet it does not have to be this way. We can change how we do things, creating a safe and sustainable alternative future, but we must act quickly. This report makes a powerful case for action. It reminds us how climate change and the air pollution associated with fossil fuel combustion pose substantial hazards to health. Taken together, this may be even greater than those posed by tobacco. Health professionals have understood the urgency of the health threat posed by man-made climate change for years, and the evidence has only become stronger with time. We now need to act on this knowledge, personally and as members of our representative bodies, and to demand that our political representatives do likewise.

So what can we do? Of course we must continue to draw the world's attention to the risks to health. But we can do much more. Extraction of the remaining reserves of fossil fuel will only be possible if investors fund the exploration and extraction. This report provides a clear warning that they would be foolish to do so. In this respect it was remarkably prescient. As it was being drafted oil prices were dropping dramatically, so that those who have invested in fracking and deep water exploration are already left with what the report calls "stranded assets", which would cost more to extract than they can currently be sold for. Major producers, such as BP, see the writing on the wall and are cutting investment substantially. We need to make these arguments loud and strong, highlighting the evidence that investors are pouring their (and in many cases our) money into what is really a "carbon bubble".

Some, while accepting these concerns, argue that it is better to work from the inside, using investments to gain a seat at the table where they can exert influence. One person who thought this way was Jonathan Porritt, a pioneer of Green politics. Yet, despite years of trying to engage with the large corporations, he has reluctantly

**"Those who profess to care for the health of people perhaps have the greatest responsibility to act [...] We should push our own organisations [...] to divest from fossil fuel industries completely and as quickly as possible, reinvest in renewable energy sources, and move to 'renewable' energy suppliers."**

- BMJ editorial on 'Climate change and human survival'

concluded it is futile, as what he terms the "hydrocarbon supremacists" have taken over. Worse, the fossil fuel industry is increasingly using the tactics developed by the tobacco industry, sowing doubt about the very existence of man-made climate change.

The UK health profession led the way in the tobacco divestment movement two decades ago, putting the issue firmly on the political agenda, strengthening public understanding of the risks, and paving the way for stronger anti-tobacco legislation. This report shows why, in 2015, fossil fuels can no longer be considered an ethical investment. I urge you to read it and share with your colleagues: this is one of the defining challenges of our time.



*M. McKee*

Professor Martin McKee CBE MD FRCP

## EXECUTIVE SUMMARY

Connections between environment and human health have long been understood. The international health community has issued many warnings that unmitigated climate change poses grave risks to human health, most recently during the 2014 UN Climate Summit in New York and a World Health Organization conference on Health and Climate Change. In 2009, a UCL-Lancet Commission described climate change as "the biggest global health threat of the 21st Century."<sup>4</sup> If warming is to be limited to two degrees above pre-industrial temperatures (a threshold already considered dangerous), we can only afford to burn a small fraction of the world's remaining fossil fuels - approximately one-fifth.<sup>5</sup> Moreover, air pollution from fossil fuels is one of the world's biggest killers. Yet many health sector organisations still invest in this industry.

This report argues that other health organisations in the UK and elsewhere should end investment in the 200 largest publicly-listed fossil fuel companies, over a period of 5 years. It is arguably both immoral and inconsistent for the health sector to continue to invest in industries known to harm health, given its clear responsibility to protect health. Continued investment in these companies runs directly counter to the health sector's repeated calls for action on climate change. Acknowledging this, in June 2014 the British Medical Association's representative members voted to end its investments in the fossil fuel industry and increase investment in renewable energy, because of the serious health threat posed by unmitigated climate change. It is the first national medical association to do so, and several others are now starting to consider following suit.

Ending fossil fuel investments makes financial as well as moral sense. Portfolios which exclude investments in fossil fuel companies can perform as well as those with no such screening criteria, and may indeed outperform them. Moreover, such investments may carry significant long-term financial risk,<sup>7</sup> as international action to address climate change will dramatically devalue investments in coal, oil and gas. A societal move away from fossil fuels - which would be supported by the adoption of more sustainable

and responsible investment strategies - can not only reduce health impacts from climate change, but brings independent short-term health benefits.

It is for these reasons that individuals and organisations - from Archbishop Desmond Tutu,<sup>8</sup> the President of the World Bank Jim Kim,<sup>2</sup> and Christiana Figueres, Executive Secretary of the United Nations' Framework Convention on Climate Change<sup>9</sup> have called for divestment from the fossil fuel industry. It is why organisations from the British Medical Association to Stanford University and the Rockefeller Brothers Fund - and over 800 other institutional and individual investors, holding over \$50bn assets (as of September 2014)<sup>10</sup> - have already heeded this call, with many others on the verge of doing so.

Thirty years ago, health professionals argued that investing in the tobacco industry was a violation of their responsibility to protect and promote health, and their commitment to do no harm. They triggered a wave of divestment that played a significant role in the tobacco control movement's subsequent successes. Health organisations today bear the same responsibilities, and so we argue that they should likewise end their investments in fossil fuel companies and increase investment in alternative energy sources. The health sector bears a uniquely privileged role in public discourse - divestment provides an opportunity to state unambiguously the need for a transition to a more sustainable society, for the health of people and planet alike.

<sup>†</sup> For the purposes of this report, we define 'fossil-free' portfolios as those that do not hold investments -directly, or indirectly via hedge/pool funds - in any of the top 200 fossil fuel extraction companies, listed by current carbon reserves. These are termed 'fossil fuel companies' or, collectively, 'the fossil fuel industry' in this report. An up-to-date list of these companies is provided by Fossil Free Indexes' Carbon Underground report.<sup>6</sup> Further information on the rationale for this definition is given in Appendix 1.

# INTRODUCTION

The UK health sector has increasingly sought to act responsibly on environmental sustainability in recent years, and many UK-based health organisations have added their voices to advocacy efforts about the health impacts of climate change, and the health benefits of climate action (see Appendix 3).<sup>11,12</sup> Last year, members of the British Medical Association voted to end investment in companies whose primary business is fossil fuel extraction, joining of hundreds of cities and organisations including the Rockefeller Brothers Fund, the Quakers in Britain, Oxford City Council, and Stanford University. However, many other health organisations continue to invest in such companies. Capital invested in these companies facilitates exploration of new sites and the development of unconventional fossil fuel reserves. Equally importantly, continuing investment by well-regarded institutions lends social legitimacy to an industry whose core business model, unless dramatically altered, threatens the environmental and socioeconomic systems which underpin good health.

It is true that, historically, fossil fuels have contributed to improving health: economic growth partly facilitated by their use has lifted billions from poverty and helped to facilitate improved sanitation, healthcare and research. However, these accumulated benefits may already be outweighed by the rapidly-growing negative health impacts of our continued fossil fuel dependence. Air pollution and physical inactivity, both connected to rising fossil fuel use, are contributing to

an unprecedented global epidemic of non-communicable diseases such as obesity, heart disease, stroke and cancer. The extraction of fossil fuels also harms health through impacts on local air, soil and water quality, occupational hazards and disruption of communities. At the same time, greenhouse gas emissions continue to rise apace, and the health impacts of climate change are becoming increasingly severe. A transition from fossil fuel-based to renewable energy therefore has significant potential to protect global public health into the future.

To avoid dangerous climate change, the majority of fossil fuel reserves listed on international stock exchanges must remain unburned. The fossil fuel industry's reserves therefore risk becoming valueless 'stranded' assets if adequate climate policy is enacted, yet their core business model assumes that we will continue to develop new reserves indefinitely, despite these risks. This helps explain the industry's short-term vested interest in policy which leaves climate change unmitigated, and their consequent attempts – much like those of the tobacco industry during the last century – to undermine public understanding of climate change and its health risks.<sup>13,14</sup> We support the British Medical Association's recent commitment, and argue that other UK health organisations should likewise phase out their investments in the fossil fuel industry, and instead invest their resources in such a way as to help accelerate the transition to a healthy, sustainable future.

## THE CASE FOR DIVESTMENT: A FOUR-POINT SUMMARY

1. It goes against health organisations' **values**, objectives and responsibilities to invest in the fossil fuel industry, in view of the health hazards posed by climate change and fossil fuel-related air pollution, alongside other impacts of fossil fuel extraction and consumption.
2. Health professionals have an influential **voice** in public debate, and divestment has historically been a successful strategy in campaigning against injustices that threaten health.
3. The global carbon budget, and the associated concept of stranded assets or a 'carbon bubble', create a long-term financial case for divestment as a strategy for managing **risk**, while the risk indicators for divestment are low. Data shows that fossil free portfolios track the market well, and in some cases outperform their fossil fuel equivalents.
4. The leadership example of other institutions has shown the benefits to **reputation** associated with divestment and re-investment in alternative energy sources, and risks to sustained investment in fossil fuel companies.

# THE SCIENCE OF CLIMATE CHANGE

Combustion of fossil fuels results in the release of greenhouse gases (GHGs), the most important being carbon dioxide (CO<sub>2</sub>), with others such as methane released by mining and hydraulic fracturing. As a result of fossil fuel combustion and deforestation over just 200 years, atmospheric GHGs have reached levels unprecedented in human history: 400 parts per million (ppm) in 2014, compared to a pre-industrial average of 285ppm. These gases trap long-wave electromagnetic radiation, and when their concentration rises this creates what is known as radiative forcing, leading to a positive net energy balance in the Earth's system, which manifests as warming.

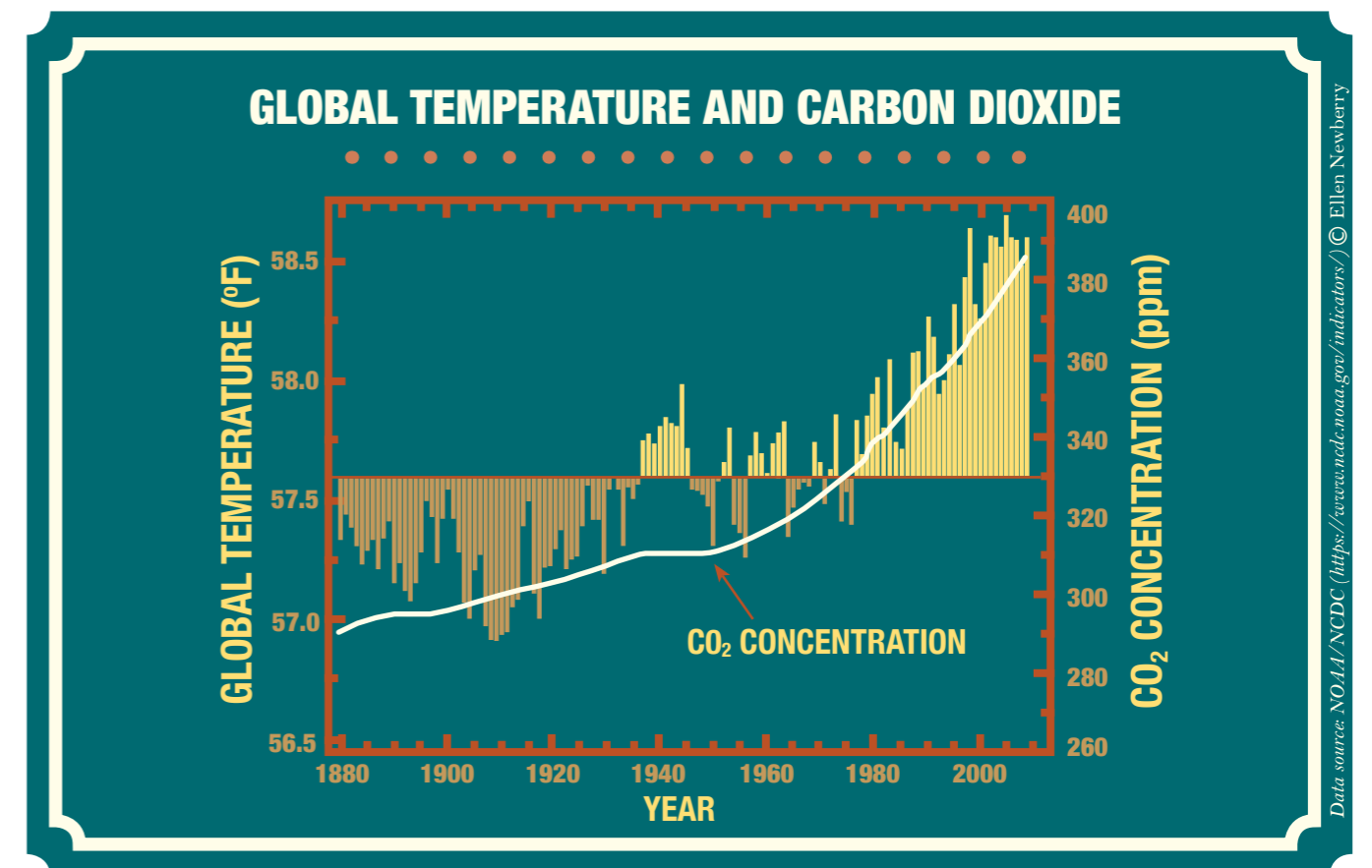
This predicted warming is borne out by data across the atmosphere, land and sea, over multi-decadal timescales; polar ice is melting and sea levels are rising. As a result of this energy imbalance, the world's climate (i.e. 'the weather conditions prevailing in an area over a long period')<sup>15</sup> is already changing, although the long-term trend resulting from rising GHG concentrations is of course superimposed upon shorter-term natural changes. Global average temperatures have risen by 0.9°C since pre-industrial times, and by 0.7°C since 1950. The 20

hottest years on record have all occurred since 1981,<sup>16</sup> 2014 was the hottest year on record, and heavy rainfall and flooding have increased in many regions. These impacts are measurable, and recognised by national and international scientific bodies worldwide (see appendix 3).

The Intergovernmental Panel on Climate Change (IPCC) is the world's most authoritative body on the science and impacts of climate change, comprising hundreds of expert scientists from around the world, who have synthesised many thousands of peer-reviewed scientific and economic papers in their reports. By the end of the century (under a business-as-usual, high-emissions scenario), they project a rise in global mean surface temperatures of up to 4.8°C – a difference similar in magnitude to that between today's temperatures and those of the last Ice Age.<sup>17</sup>

Higher average temperatures interact with more erratic rainfall patterns and rising sea levels, so that as global temperatures rise, extreme weather events such as heatwaves, droughts, floods and storms become more frequent and severe. As discussed in the following section, these changes will have profound impacts on the health of the biosphere, and that of humanity.

FIGURE 1. The global annual average temperature, measured over land and oceans. Yellow bars indicate temperatures above the 1901-2000 average; orange bars indicate temperatures below this. The white line shows atmospheric CO<sub>2</sub> concentration in parts per million (ppm)



Data source: NOAA/NCDC (<https://www.ncdc.noaa.gov/indicators/>) © Ellen Newberry

# FOSSIL FUELS HARM HEALTH

The adverse health effects of fossil fuel use are seen most prominently in the health effects of climate change, and in the 7 million premature deaths annually due to air pollution - the majority of which results from the combustion of fossil fuels. However, fossil fuels harm human health at all stages of the supply chain, from the disproportionate occupational health risks associated with their extraction, to the contributions of carbon-dependent transport and agriculture, to the non-communicable disease epidemic.

## HEALTH IMPACTS OF CLIMATE CHANGE

Anthropogenic climate change - already responsible for an estimated 400,000 deaths annually<sup>18</sup> - poses significant threats to human health and survival, necessitating urgent emissions reductions.

The health impacts of climate change fall broadly into three categories: direct effects of extreme weather and sea level rise, effects mediated primarily through ecosystems, and those mediated primarily through social systems.<sup>19,20</sup> Direct impacts include deaths and injuries in climate-related floods, storms and wildfires, and the effects of higher temperatures on mortality, morbidity, and productivity. Rising temperatures are also likely to increase the production of ground-level ozone from precursor molecules in cities, leading to direct negative impacts on respiratory health.

Changing temperature and rainfall cause ecological changes, which in turn affect health. Such changes include biodiversity loss and, under higher-end warming scenarios, ecosystem collapse. These threaten to undermine health and livelihoods, as both rely on functional ecosystems for food production, infectious disease regulation and many other 'ecosystem services'.<sup>21</sup> Through changes in pathogens' distribution and lifecycles, climate change is projected to increase the number affected by vector-borne diseases such as dengue fever, hantavirus and Japanese encephalitis, and by toxins from algal blooms. Many new pathogens have been documented in Europe and elsewhere in recent years.<sup>22</sup> Elevated temperatures and heavy rainfall, as well as drought in some cases, are known to correlate with increased risks of many food- and water-borne diseases, including cholera and rotavirus. Water contamination by rainwater run-off is a problem faced by many countries.<sup>23</sup>

The largest impacts of unmitigated climate change on human health over the coming century are likely to be the effects mediated principally through social systems,

under the most severe scenarios. Climate change and sea level rise are likely to worsen food insecurity, malnutrition and starvation, exacerbate poverty and drive increased migration and conflict.<sup>24</sup> In the UK, economic losses due to our increasingly erratic weather are already putting a severe strain on many British farmers, whilst the flooding seen in recent years has been found to have profound effects on mental health.<sup>25</sup>

The effects of climate change are made worse by weak health systems, pre-existing socio-economic inequalities, and poor governance, and so affect those least responsible for climate change most severely. However, in our globalised society, food price rises, economic impacts, climate-related population displacement and social unrest are likely to affect health everywhere.

The imperative to reduce rates of fossil fuel consumption in order to avoid these 'worst-case scenarios' is thrown into sharp relief by the IPCC's global 'carbon budget' (the amount of emissions we can release into the atmosphere), which totals just 565-886 gigatonnes CO<sub>2</sub>e up to 2050 for an 80% probability of staying below 2°C.<sup>17</sup> Yet the fossil fuel reserves already listed on stock exchanges would, if burned, produce 2860 GtCO<sub>2</sub>e of emissions. We are currently on track to exceed the IPCC's global carbon budget within approximately 30 years on our current trajectory.<sup>26</sup>

## ENERGY, TRANSPORT AND AIR POLLUTION

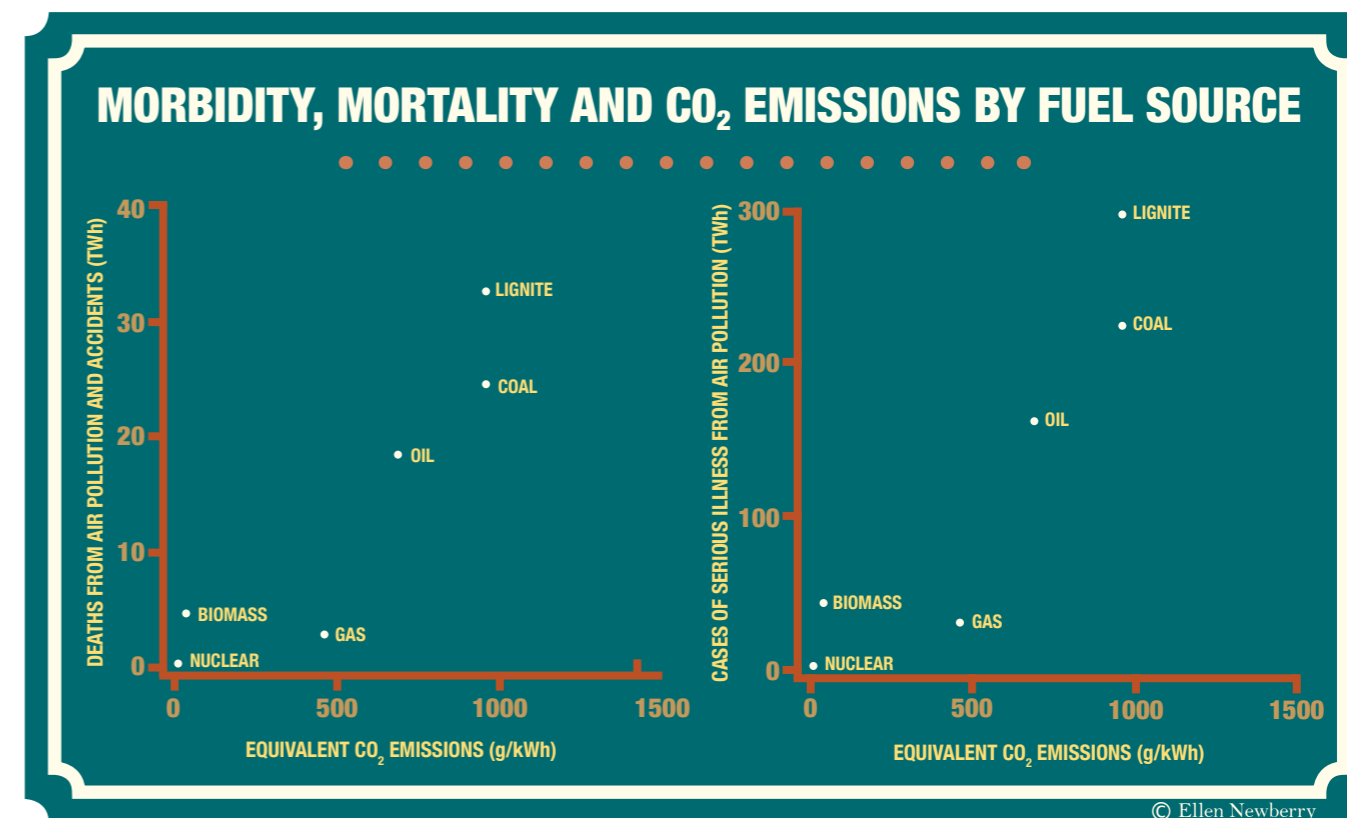
Air pollution is closely linked to climate change, because ambient air pollution in most countries is produced primarily by fossil fuel combustion for energy and transport. In addition to particulate matter, the major pollutant which affects health, many short-lived climate pollutants (SLCPs), such as ozone, also have adverse health effects. According to the World Health Organisation, air pollution is now responsible for one in every eight deaths worldwide, or 7 million premature deaths annually.<sup>27</sup>

Air pollution is not only a health hazard in industrialising countries: an estimated 29,000 deaths annually in the UK (5% of all deaths) are attributable to air pollution, and the proportion in London is higher still. This corresponds to an average reduction in life expectancy of half a year per member of the UK population.<sup>28</sup> But premature mortality is only part of the problem: even at low levels, long-term exposure to particulate air pollution elevates the risk of respiratory diseases (such as asthma, COPD and lung cancer), cardiovascular disease and stroke<sup>29</sup> and low birth weight.<sup>30</sup> Such impacts occur across ages and geographical boundaries.<sup>31</sup> A transition away from fossil fuel-powered transport also has the potential to offer health benefits beyond those from reduced air pollution. Whilst improved public transport and low-emissions vehicles are likely to offer part of the solution, a large-scale shift towards active travel (i.e. walking and cycling) has the dual advantage of improving health through both cleaner air and increased physical activity.<sup>32</sup>

Physical inactivity is a major risk factor for many of today's commonest diseases.<sup>33</sup> Increasing availability and consumption of fossil fuels worldwide has been associated with increasing car usage, alongside decreasing rates of active travel. Longitudinal studies have found that age-specific all-cause mortality is 30-40% lower amongst cyclists than those who do not

use active travel, even accounting for confounding and road traffic accidents,<sup>34</sup> whilst acquiring a car has been found to be associated with weight gain.<sup>35</sup> Reversing this widespread trend towards high-carbon, obesogenic transport systems will require policies and investments designed to promote active travel and disincentivise driving, and can save large sum of public money.<sup>36</sup>

FIGURE 2. Markandya and Wilkinson's (2007) estimates of the health impacts of different energy sources per unit of energy produced, against their carbon intensity. The majority of these health impacts are associated with the air pollution produced during combustion. Renewables are not included in this figure, but have overall health impacts and emissions similar in magnitude to those of nuclear energy.



## OTHER HEALTH IMPACTS

Many policies in other areas also have significant potential to benefit health and tackle climate change simultaneously. For example, in the food system, fossil fuels and oil-based fertilisers have played a role in creating the current obesity epidemic. Their ready availability facilitates the production of foods high in fat and sugar at low cost, and at a scale that enables them to dominate the market. These have thus become the cheapest options in many places, whilst healthier, lower-carbon alternatives have become less accessible.<sup>37</sup> UK health professionals have a role in promoting healthier, more sustainable diets, and in advocacy for agricultural and food policies that promote human and environmental health.

In many countries, improving home insulation can prevent cold deaths and energy consumption, whilst

the provision of cleaner cookstoves in developing country settings saves both energy and lives, by reducing indoor air pollution (linked to 4.3 million premature deaths worldwide, according to WHO research).<sup>27</sup>

Health impacts also arise from fossil fuel extraction. Coal and oil extraction in particular are two of the highest-risk occupations, with the mining industry causing 8% of all occupational fatalities worldwide.<sup>38</sup> Additional local environmental and social impacts are of particular concern with the exploitation of 'unconventional' fossil fuels such as tar sands and hydraulic fracturing ('fracking').<sup>39,40</sup> Such activities often go ahead before their potential health risks - including contamination of land and water supplies, ecosystem degradation, noise and air pollution, and risks from transport, such as oil spills, fires or explosions - and disruption to local communities have been adequately researched.<sup>40</sup>

## HEALTH SECTOR INVESTMENTS IN FOSSIL FUELS

**“As medical professionals, we call for immediate preventative action through a drastic reduction of greenhouse gas emissions and rapid transition to a zero-carbon world, at a pace far beyond that which is already planned. This will require transformative and radical change [...] Never before have we known so much and done so little. Failing to act decisively and quickly will inevitably cause great suffering and have potentially catastrophic consequences.”**

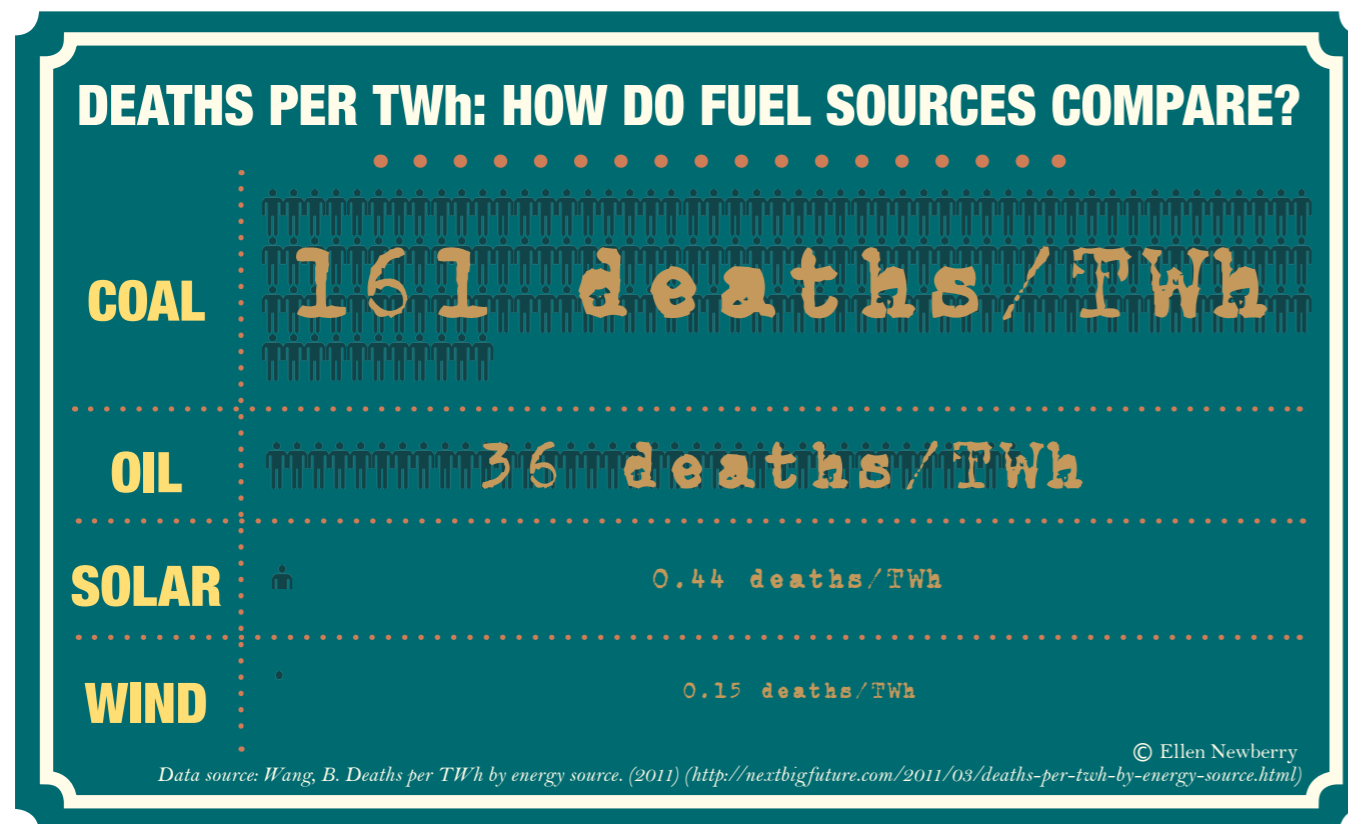
- Letter published in the Times, signed by over 60 leading health professionals and medical scientists<sup>3</sup>

At present, there is a lack of transparency around the extent of current investment in fossil fuel companies by many health organisations, both in terms of direct holdings and pooled funds. In the UK, institutional investors invest on average 5-8% of their total investments in these companies, although research by Trucost indicates that the true figure may be higher still.<sup>41</sup> We call for urgent research into and greater transparency about the extent of carbon exposure of all UK health organisations. We argue that all health organisations, however large or small their investments, have a moral responsibility to remove their investments from companies whose activities cause direct harm to health, and so ensure that they neither have a vested interest in delaying climate mitigation policy nor lend legitimacy to the fossil fuel industry.

The Wellcome Trust is one of the world's largest health-focused organisations, and is starting to work on the connections between climate change and health through their 'Sustaining Health' programme. They are to be congratulated on the transparency of their investment portfolio, publishing a list of their largest direct equity holdings in their Annual Report. The make-up of these investments, however, shows how deeply invested in fossil fuels major health sector institutions are at present. Of Wellcome's £18.0bn investment portfolio, their largest direct equity holdings alone include £142million in Shell, £118m in BP, £114m in Schlumberger, £97m in Rio Tinto and £93m in BHP Billiton (these investments alone thus constitute over 3% of the Trust's portfolio).

At a public event held at St. Paul's Cathedral in 2014, Peter Pereira Gray, the Managing Director of the Trust's Investment Division stated that shareholder engagement was their preferred means of influencing such companies. While we admire the Trust's willingness to engage with civil society on this issue, their preferred strategy has thus far failed to have any demonstrable effect in reducing either emissions or the overall rate of fossil fuel extraction, whether from Wellcome's actions or any other investor's. Additionally, the specifics of such a strategy and what it would entail are as yet unclear, as is the question of whether the Wellcome Trust would consider divestment were shareholder engagement to prove unsuccessful in motivating a sufficient shift away from high-carbon to clean energy production within a defined length of time.

FIGURE 3. Estimates of human mortality associated with selected forms of energy generation.



## THE HEALTH SECTOR'S LEADERSHIP ROLE

As discussed, continuing on a path of increasing dependence on fossil fuels is incredibly dangerous for the climate and for health. An alternative path is not only possible but also offers significant benefits for public health. We believe that the health community therefore has an opportunity, and a responsibility, to take the lead in this agenda by discontinuing its investments in fossil fuel companies, and encouraging other sectors to do likewise.

Time and again, professional bodies have emphasised the social contract between the health community and wider society, and health professionals' responsibility to protect public health and to look beyond the doors of the clinic.<sup>42,43</sup> The British Medical Association (BMA) acted in this tradition when, in 1985, having ended its own tobacco investments, it published a report on the subject of health institutions' investments in the tobacco industry, which implicated nearly all the major UK health institutions.<sup>44</sup> Soon after this, many announced that they would sell all of their tobacco stocks. A year later, the American Medical Association wrote to every US medical school calling for tobacco divestment.<sup>45</sup> By 1990, the campaign had

gained significant public interest.<sup>41</sup> Though complex to evaluate, these moves are widely regarded to have been integral to the tobacco control movement's successes.<sup>41,46-48</sup>

Today, UK health institutions - from the medical Royal Colleges and the British Medical Association to the Wellcome Trust - exclude investments in the tobacco industry as a matter of course, to avoid having a vested interest in an industry hazardous to human health.<sup>49</sup> The UK health community - like those in many other countries - has unambiguously reached a consensus that investment in the tobacco industry is unacceptable.

By divesting from tobacco, health organisations acknowledged their social responsibilities as investors. But those same responsibilities would also seem to preclude investment in fossil fuels - both because of the magnitude of fossil fuels' health impacts, and because of the anti-social practices of the industry (see 'The smoking gun', below). If investment in the tobacco industry is incompatible with healthcare institutions' objectives because of tobacco's adverse health impacts, then the same creates a clear moral imperative for fossil fuel divestment.

## THE SMOKING GUN: THE CASE AGAINST THE TOBACCO AND FOSSIL FUEL INDUSTRIES

The parallels between the tobacco and fossil fuel industries are many. First, their health impacts are comparable in scale. The 2010 Global Burden of Disease attributes 6.3 million avoidable deaths in 2010 to smoking,<sup>50</sup> meanwhile, approximately 7 million were caused by air pollution,<sup>27</sup> much of it derived from fossil fuels, whilst climate change is believed to pose one of the greatest threats to health of this century. Second, institutions may have less incentive to advocate for legislation which would likely limit an industry's growth, whilst maintaining a financial interest in that industry's future.

The parallels between the industries run deeper still. The health community's opposition to investment in the tobacco industry stems at least in part from the industry's attempts to conceal the health impacts of smoking. In a now-infamous internal memo, tobacco company Brown and Williamson proclaimed, "Doubt is our product, since it is the best means of competing with the 'body of fact' that exists in the minds of the general public."<sup>51</sup> This statement epitomises the industry's systematic attacks on research and campaigns about smoking's health impacts: funding biased research and 'pseudo-scientists', fomenting an illusion of controversy, and cherry-picking data.

Exactly the same tactics - often even involving the same institutions - have been adopted in efforts to discredit climate science,<sup>13</sup> often funded by fossil fuel companies: for example ExxonMobil alone spent \$27.4 million on such work from 1998 to 2012.<sup>51</sup> This is in addition to their extensive lobbying and PR work, which significantly skews the discourse around climate change policy.<sup>14</sup>

## MAINTAINING A HEALTHY PORTFOLIO

There is growing acknowledgement that investment in fossil fuel extraction companies poses risks to investing institutions' long-term financial health, since the assumption that the world will continue to rely upon coal, oil and gas indefinitely is fast becoming anachronistic. Renewable energy technology is increasing its market share, while international climate policy could rapidly reduce the value of fossil fuel assets. This section outlines the financial argument against continuing investment in fossil fuels, and responses to some common counter-arguments are given in Appendix 2.

**"Be the first mover. Use smart due diligence. Rethink what fiduciary responsibility means in this changing world. It's simple self-interest. Every company, investor, and bank that screens new and existing investments for climate risk is simply being pragmatic."**

- Jim Yong Kim, public health physician and World Bank President, speaking at the World Economic Forum<sup>2</sup>

## THE FINANCIAL CASE FOR DIVESTMENT

- Climate change mitigation poses a significant, largely unacknowledged, risk to the valuation of fossil fuel companies, since legislation sufficient to prevent dangerous anthropogenic warming would turn their reserves into 'stranded assets'.
- Sustainable investment portfolios show similar performance to standard benchmarks, while the financial performance of both fossil fuel extraction companies and conventional energy utilities is falling as many countries transition to more sustainable energy sources.
- Fossil fuel divestment affords an opportunity to reinvest in ways that benefit long-term financial and environmental stability, and which also improve health, for example through measures on-site or community renewable energy and improved building energy efficiency.

## THE CARBON BUBBLE

The financial case for divestment is most strongly predicated on the 'carbon bubble', the threat of devaluation that fossil fuel assets would face if adequate political action is taken to keep climate change in check. As discussed, staying within the upper limit considered reasonably safe by climate scientists (a 2°C warming scenario) - requires that approximately 60-80% of known fossil fuel reserves remain in the ground.<sup>7</sup>

Bloomberg's Michael Liebreich calls the resulting situation "a systemic failure of valuation, an overvaluation of the fossil-related and extractive industries."<sup>52</sup> Adequate legislative steps to mitigate climate change would turn unburnable carbon reserves into 'stranded assets' - and this overvaluation could be as high as \$27 trillion,<sup>53</sup> a significant fraction of these companies' total estimated worth. Even without international legislation, individual

225  
GtC

319  
GtC

762  
GtC

fossil fuel reserves currently listed

governments' mitigation policies can pose a serious threat: for example, it is estimated that China's efforts to move away from coal could strand up to \$21 billion of investments.<sup>54</sup>

Many investors have already taken action to reduce their exposure on the basis of this risk, which is the basis upon which HESTA (the Health Employees Superannuation Trust Australia) has recently decided to restrict their investments in thermal coal. Even the Norwegian government's Sovereign Wealth Fund - worth \$840 billion - is engaging with the issue.<sup>55,56</sup> Awareness of these financial risks has reached the financial mainstream: in December 2013, Bloomberg released a new Carbon Risk Evaluation Tool, and the FTSE Group together with the major investment management firm, Blackrock, are launching a fossil-free stock index.<sup>57</sup> Divestment can itself help to 'burst the carbon bubble', by shaping market norms and expectations, since investors are influenced by other investors' decisions.

## THE FOSSIL FUEL INDUSTRY'S RESPONSE

While financial analysts and investment managers are increasingly warning of the risks posed by the carbon bubble, fossil fuel companies have variously rejected their arguments, or acknowledged but ignored them. BP has dismissed the idea of 'unburnable carbon' as overly simplistic.<sup>58</sup> Royal Dutch Shell has warned in its annual strategic report of the threat to its profits of mitigation action, yet in the same report clearly states its commitment to exploiting "higher energy-intensive sources than at present."<sup>59</sup>

ExxonMobil, meanwhile, has issued a more substantive report on the stranded asset risk to their operations, in response to a shareholder resolution from Arjuna Capital and the investors' coalition, 'As You Sow'. The report rejects the stranded asset threat, but not on the basis of new analysis of climate mitigation policy; instead simply stating that they think it "highly unlikely" that the necessary action to keep warming below the 2°C threshold will be taken, and as such they will be able to exploit their reserves. It is a clear statement of ExxonMobil's intent to continue with their current business model, irrespective of the risk to the climate.<sup>60</sup> Shell has recently pursued a similar strategy, writing to its shareholders stating that it does not think there is a significant stranded asset risk posed to its operations - but only because it predicts fossil fuel consumption sufficient to cause six degrees of warming by the end of the century.<sup>61</sup>

## MARKET GROWTH OF RENEWABLES

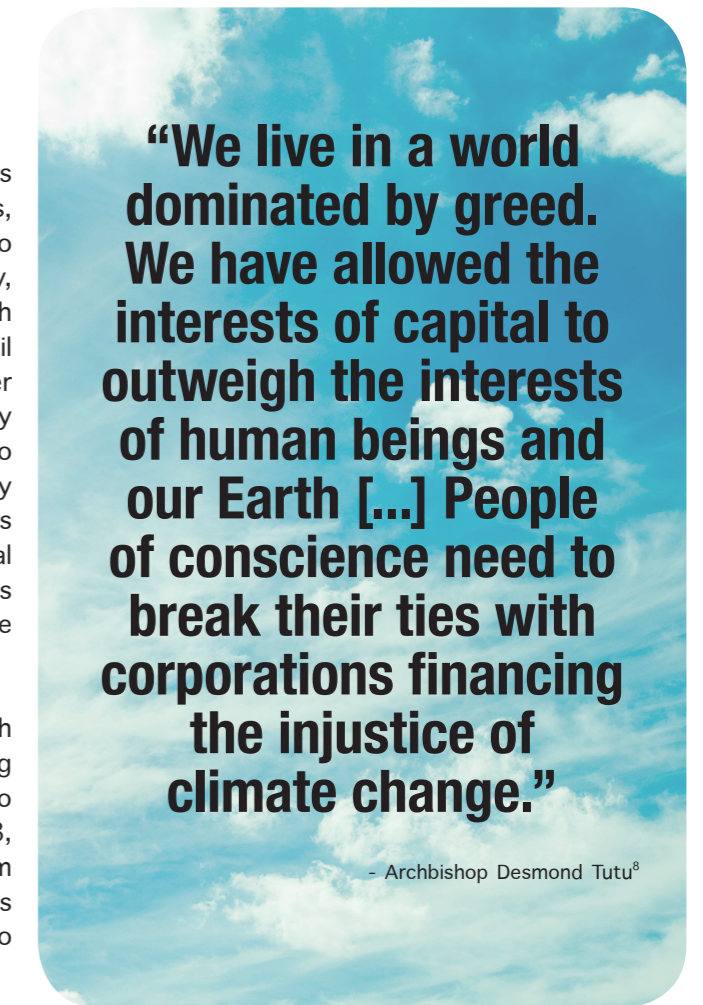
In some markets, the value of fossil fuel companies is already collapsing as investment in renewables, and a regulatory environment favourable to renewable energy, affect their bottom line. In Germany, increasing renewable energy use, and a market in which renewable energy has priority over that from fossil fuels, are increasingly undermining coal and gas power plants' profitability. In 2013, Germany's largest utility company, RWE, lost \$3.8 billion, while Vattenfall (who hold Germany's second largest conventional energy generation portfolio) lost \$2.3 billion.<sup>63</sup> Falling costs of renewables are increasingly threatening conventional utilities, with some wind and solar power projects already price-competitive with fossil fuels across the globe.<sup>64</sup>

Extraction companies are suffering similarly, with extraction (particularly of unconventional fuels) proving more costly and markets more uncertain, leading to diminishing returns on capital expenditure.<sup>65</sup> In 2013, Shell's profits, for example, fell by £3.5 billion from the previous year,<sup>60</sup> while some coal mining companies have seen their profits decline by over 75% in just two years.<sup>65</sup>

## SUSTAINABLE INVESTMENT PORTFOLIOS

Alongside the longer-term arguments made above, it is pertinent to examine how screening (exclusion) of fossil fuels affects short-term portfolio performance. Recent performance can provide a guide to divestment's likely financial impact even without political action on climate change. Such analyses are inevitably subject to uncertainty, but the available evidence suggests that divestment from fossil fuel companies has minimal negative impact on the returns and risk of investment portfolios, and may even improve both.

Although analyses vary, the past performance of sustainable investment portfolios tends to track non-divested ones closely, and sometimes outperform them.<sup>66</sup> Share index provider MSCI compared a portfolio that had applied screening on fossil fuels to a benchmark portfolio. They found that past performance of the fossil free



portfolio loosely tracked the benchmark. It had slightly underperformed over the past ten years overall, but outperformed the benchmark during the last few years, after the 2007 crisis. Additionally, MSCI show that fossil fuel companies have become one of the riskiest sectors.<sup>67</sup>

Future predictions tell a similar story, with many investors (including Impax Asset Management, Aperio Group, and Tom Steyer of Farallon) all predicting performance of fossil-free portfolios similar to, or even better than, the current standard.<sup>68,69</sup> Additionally, such portfolios insulate investors from stranded asset risks, which are not included in these predictions. Sustainable investment, including full or partial screening of fossil fuels from investment portfolios, is fast becoming mainstream, with new divestment announcements now appearing on a regular basis: a collaboration between the US' Natural Resources Defense Council, BlackRock and FTSE on a 'fossil free' investment index is testimony to this growing momentum.



## OUR RECOMMENDATIONS FOR UK HEALTH ORGANISATIONS

1. Review the extent of current direct and indirect investments in the top 200 publicly-listed fossil fuel companies and commit to transparency, for members or direct stakeholders at the least, in relation to such investments.
2. Commit to freeze all fossil fuel investments – i.e. not to make any new investments in these companies – with immediate effect.
3. Commit to selling off all direct equity holdings in such companies within 1-2 years.
4. Commit to full divestment from fossil fuels within 5 years: investigate the options for phasing out indirect investments, by raising the issue with banks and fund managers and asking them to screen fossil fuels from their ethical investment portfolios, and commit to transfer capital to alternative funds which exclude fossil fuels should they be unable or unwilling to offer such an option.
5. Redirect investment towards technologies such as renewable energy companies to building insulation on their premises, or other options in keeping with health organisations' responsibilities to protect and promote public health via maintenance of a healthy environment.

## CONCLUSIONS

Action to tackle climate change is urgently needed, and it is everyone's responsibility. As health professionals, we are in a unique position to effect change. Stronger leadership from the health sector, with meaningful action helping to underpin a greater advocacy role in the sphere of climate and energy policy, is urgently needed.

Divestment from fossil fuels, alongside local action for sustainability, is a powerful means through which health sector organisations can demonstrate their commitment to leadership on this issue, and raise public awareness of the health risks posed by climate change, and the health benefits of reducing fossil fuel-derived air pollution and increasing active transport. This agenda need not be seen as an alternative to local sustainability activities within an organisation's day-to-day practice, but rather complementary, just as many health organisations have an on-site no-smoking policy and also refuse to invest in the industry.

The world's poorest people (and the poorest within each country) are most vulnerable to climate change's health impacts, despite contributing the smallest fraction of greenhouse gases. This represents an inexcusable global health inequity. Our failure to mitigate climate change also puts the health of today's young people and future generations at risk, even in developed countries. As WHO Director-General Margaret Chan said at the recent

Health and Climate Summit in Geneva: "The evidence is overwhelming: climate change endangers human health. Solutions exist and we need to act decisively to change this trajectory."<sup>70</sup>

Reducing fossil fuel use benefits public health in the short term, saving money which would be spent on healthcare costs, with many policies offering synergies between climate mitigation and tackling non-communicable diseases. Many of the health problems our patients suffer could be lessened – if not prevented entirely – through measures to transfer our supply from fossil fuels to renewable energy, improving air quality and levels of physical activity. Focused investments in areas such as clean energy, building insulation, waste management and many others can help to achieve these twin aims, and often offer strong financial returns in addition.

All of this gives the UK health community a clear mandate to speak out against the many health risks posed by fossil fuels and climate change and to reduce their own organisations' carbon footprints, but also, importantly, to put this knowledge into action through sustainable investment decisions. In this way, the health sector can live up to its responsibilities to the population it serves, and play a leading role in ensuring a safe and healthy future for everyone.

**Disclaimer:** This report is intended for information purposes only; the authors of this report cannot provide financial product advice. The report is not a guide to investment, nor a source of specific investment recommendations. The information contained in the document was compiled from sources that we believe to be reliable, but accuracy cannot be guaranteed, and the information is provided with the understanding that we are not engaged in providing legal, accounting, financial advisory or tax services. In particular, none of the examples should be considered advice tailored to the situation of any specific investor. We recommend that all investors seek out the services of competent professionals in the relevant area(s) prior to making investment decisions. With respect to the description of any investment strategies, simulations, or investment recommendations, we cannot provide any assurances as to future performance. Past performance is not indicative of future results and it goes without saying that any investment program has the potential for loss as well as gain.

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