

The economic reasons to act on climate change, and to act immediately

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Our global commons and economic systems are now under intense pressures and face major global risks. This is in large measure the result of the extraordinary advances, unprecedented in human history, over the past 70 years. These include an increase in world life expectancy from around 40 to around 70 years, income per capita rising by a factor of around four, and huge declines in absolute poverty. These outcomes have in large measure been fostered by the international economic order created after the Second World War.

At the same time, we have seen fundamental changes to our natural capital (atmosphere, oceans, forests, glaciers, rivers, biodiversity, etc.) and are facing severe challenges to sustainability. In 142 tropical countries, the overall area of natural forest declined by 11% between 1990 and 2015 (Keenan et al., 2015). The acidity of the oceans has increased by 30% since the start of the Industrial Revolution and is projected to reach a pH level this century that has not been experienced for more than 20 million years (NOAA, 2013). In addition, indoor and outdoor air pollution were responsible for an estimated 6.5 million premature deaths in 2015 (Landrigan et al., 2017), a problem that is particularly prevalent in the large, rapidly developing countries such as India and China.

While on so many key dimensions of development we have seen extraordinary advances, on the environmental side the growth of global output by a factor of 12 since 1950, together with very dirty and polluting production methods, has put the planet in an extremely vulnerable position, indeed a deep crisis. The next two decades will be decisive: they will determine if we are to suffer severe and irreversible damage to lives, livelihoods and the natural world or if we follow a much more attractive path of sustainable and inclusive development and growth.

The science of climate change is clear that we must cut emissions by at least 30% in the next two decades to be consistent with the goals of the Paris Agreement, in other words to avoid dangerous climate change. Carbon dioxide (CO₂) emissions were around 6 gigatonnes (Gt) a year in 1950; now they are around 37 Gt (Ritchie and Roser, 2018). CO₂ concentrations in the atmosphere were around 300 parts per million (ppm) in 1950 and rising at 0.5ppm a year; now they are over 400ppm and rising at more than 2ppm a year (ibid.). If we continue to emit CO₂ at current rates for the next two decades, it is unlikely that we will be able to limit the increase in average global surface temperature to 3°C (compared with the late 19th century, the usual benchmark), let alone to 'well-below 2°C', the target of the Paris Agreement. A rise of 3°C would be extremely dangerous, taking us to a temperature we have not seen on this planet for around 3 million years (remember that modern Homo sapiens has inhabited the Earth for only around a quarter of a million years). And we risk considerably greater temperature rises than that if we do not radically change how we produce and consume.

Climate change could transform where we can live, severely damage livelihoods, cause billions of people to move, and lead to severe and extended conflict.

In recognition of these enormous risks, and of the opportunities the great advances have brought, the world has built a remarkable global agenda, including the UN Sustainable Development Goals (SDGs) and the Paris Agreement (COP21 of the UNFCCC), both agreed in 2015. Careful planning and wise diplomacy were essential to creating that agenda. But so too was a shared understanding of the fundamental issues at stake: these included not only the immense risks of unmanaged climate change but also that the transition to a low-carbon economy could provide the growth story of the 21st century. That growth, in the language of the G20 in Hamburg in 2017, could be 'strong, sustainable, balanced and inclusive'. It could be enormously attractive.

Delivery on this global agenda, at scale and with urgency, is now crucial. The world's infrastructure will double in around 15 years, its economy will double in about 20 years, and the population of its towns and cities will double in 40, with their structures determined in the next 20. These will be a decisive two decades for the future of the world. The new infrastructure and economy must look very different from the old if we are to reduce emissions by at least 30%, as we need to in this period to deliver on the Paris Agreement. And we have the opportunity to make our infrastructure and economies much more resilient to those aspects of climate change that are now unavoidable.

We must act now to change radically the relationship between economic activity and damage to the environment. The economics of that change are compelling. We can reduce poverty and build a new form of growth that is clean, sustainable and inclusive. If the world responds effectively to these challenges, the prize is strong and sustainable growth, cities in which people can move and breathe, ecosystems that are robust and supportive, and societies that are more inclusive and cohesive. Such growth cannot go on forever but it will be crucial over the next few decades for the fulfilment of the SDGs and poverty reduction goals.

If we act urgently, on scale and wisely, we can deliver on the SDGs, meet the goals of the Paris Agreement and overcome poverty. The cost of renewable energy is now less than the cost of fossil fuel plants in many countries (IRENA, 2017). Capital costs for renewables also continue to fall much faster than those for conventional technologies (Bloomberg New Energy Finance, 2017). Since 2006 the costs for solar PV modules have fallen by 79%, and since 2010 battery prices for storage have also decreased by 79% (ibid.; EIA, 2017). This will lead to a form of growth and development that is much more attractive, robust, lasting and inclusive than that which current models offer.

However, more can be done to reduce the capital costs of clean investments. Many clean, low-carbon investments such as renewables involve mainly capital costs rather than current or variable costs. Many such investments, particularly in poorer countries, face high costs of capital because risks are poorly managed and capital markets are weak. Sound and stable policies and institutions can radically reduce risk. The multilateral development banks also have a crucial role to play in sharing risk and helping to decrease government-induced risk. Through their convening power they can bring together different stakeholders; their instruments, such as global equity, long-term loans and guarantees, can mobilise large sums of capital for clean investments.

The world is starting to realise the attractiveness of the new growth model, as well as the risks of unmanaged climate change. We can see what is to be done, that it can be done and that it is very attractive. But we must build the political will, and quickly, to take the strong decisions that are necessary. His Holiness the Pope is showing extraordinary leadership in trying to bridge the gap between moral obligation and the will to act. He can serve as a notable example to academics, politicians, civil society and the financial sector. Only by combining political and moral leadership and social movements will the necessary decisions be taken with the urgency required.

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