

2 Relating evidence to significant themes

Introduction

2.1 This chapter summarises the evidence in the following sections around three significant themes: social welfare, economic growth, and climate change adaptation and mitigation. For further information, please refer the relevant chapters indicated in brackets (for example, 4c).

2a Social welfare

- 2.2 Social welfare refers to the overall happiness and life satisfaction of members of society. The primary focus of this report is on how the natural environment contributes to changes in social welfare. Measurements of economic VALUE refer to the extent to which a good or service contributes to raising levels of social welfare.
- 2.3 Social welfare is affected by not just access to material goods, but also by numerous intangible factors. The natural environment provides key material goods essential to welfare, such as food (4c). It provides important spaces for recreation and tourism (3e) and improves people's mental health (4f).
- 2.4 There is evidence that the natural environment provides physical health benefits through improvements in air quality (4a), noise (4g) and temperature regulation (4i). The natural environment can reduce the impacts of extreme events such as flooding, which negatively impact on people's welfare (4b, 4c).
- 2.5 The extent to which people benefit from the natural environment is partly evidenced by our desire to live near to it, reflected in higher house prices near greenspaces (3b).

2b Economic growth

- 2.6 There is a great deal of interest in the way in which the natural environment contributes to economic growth. For a more comprehensive review, please see the Defra and Natural England commissioned report, *Green Infrastructure's Contribution to Economic Growth: A Review* (eftec and Sheffield Hallam University 2013)³.
- 2.7 There is evidence linking the natural environment to improved physical and mental health outcomes (4a, 4f, 4g and 4i). Logically this should lead to improved productivity and reduced worker absence.
- 2.8 There is evidence that the natural environment contributes to the attractiveness of a local area and that this may attract people to the area, to live (3b), to shop (3a) and to recreate (3e).
- 2.9 There are examples where the natural environment offers much better value for public investment than the alternative. For example natural water filtration can be much cheaper than the alternative (4m); natural flood defence even more so (4b). Cost savings to the public purse due to investment in the natural environment could lead to a reduced need for taxation, which can translate into increases in economic output.
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³ Available at: <http://randd.defra.gov.uk/Default.aspx?Completed=0&Location=None&Menu=Menu&Module=More&ProjectID=19056>.

- 2.10 The points above highlight some of the ways in which the natural environment may positively contribute to economic growth. The evidence in this review does not examine some critical issues linking the environment and economic growth, namely:
- Economic dependencies on limited natural resources such as coal and food products.
 - The capacity of the environment to absorb the wastes produced by the economy.
 - Other negative impacts of economic growth on the environment.
- 2.11 These interdependencies are likely to seriously impact on the extent to which the economy can grow sustainably into the future.

2c Climate change adaptation and mitigation

- 2.12 Climate change is a major long-term security threat to the economy. The Stern Review in 2006 estimated that the impacts of climate change were equivalent to losing at least 5 per cent of global Gross Domestic Product (GDP) each year, indefinitely (Stern 2006).
- 2.13 On a national level, the UK Government is committed to reducing emissions and has set in place legally binding carbon budgets to achieve reductions to 2027. The Government notes that investment in energy infrastructure, diversification and efficiency is critical to reducing emissions, saving money and insulating the economy against fossil fuel price shocks (HM Government 2013).
- 2.14 Land use change can reduce or increase the rate of carbon emissions, as well as sequester carbon (4e). Deliberate investment in the carbon sink function of land is therefore a priority for climate change mitigation.
- 2.15 Meeting carbon reduction targets will require significantly increased energy efficiency. Trees and plants can reduce the need for heating and cooling of buildings (4i). Using the natural environment can be a solution with lower energy cost.
- 2.16 Unfortunately, current cuts in carbon emissions are far from sufficient to keep average global temperature increase below 2 degrees, pointing to the need for increased effort in mitigation and adaptation (European Environment Agency 2010).
- 2.17 Climate change is set to make freshwater availability an issue for some regions of the UK, due to an increased risk of drought. It poses a significant threat to food production (4d). Using the natural environment to encourage water filtration and enhance food production is an option to help reduce these threats.
- 2.18 Flood risk has increased due to development on flood plains and an increasing amount of impermeable surfaces such as driveways. Climate change will further intensify this. Natural environment interventions can help to reduce this risk (4c).
- 2.19 Urban centres in particular may in future suffer from dangerous heat and air pollution. Some of the impact may be reduced by investment in the natural environment (particularly trees) (4a, 4i).

References

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