

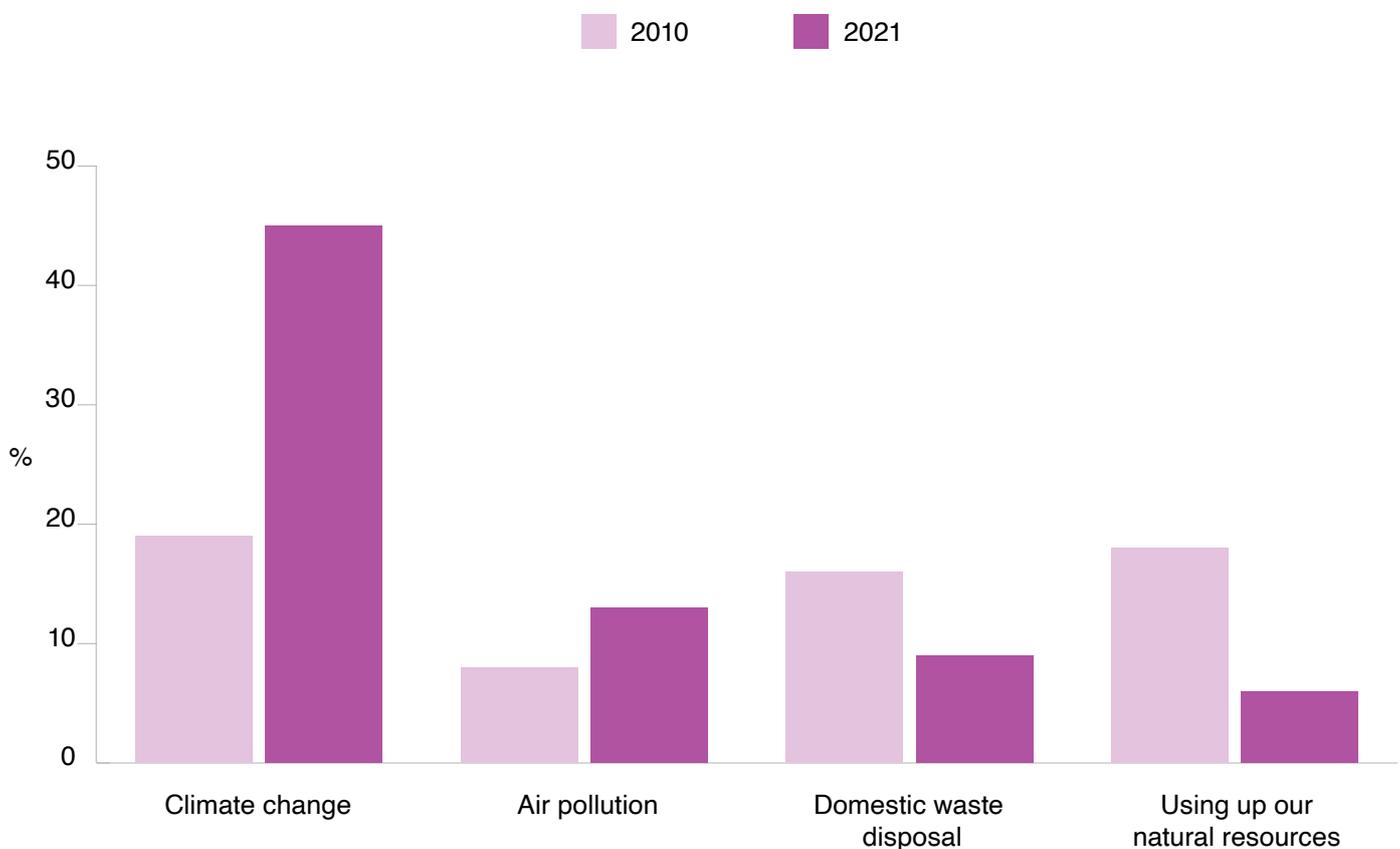
# Environment

## Has climate change become our main concern?

This chapter examines the public's attitudes to the environment. It considers whether concern for the environment has increased and whether climate change has become our main environmental topic of concern. It examines beliefs about the causes and impacts of climate change and support for different approaches to paying for the protection of the environment.

The proportion who believes that climate change is the most important environmental problem for Britain increased from 19% to 45% between 2010 and 2021. The proportion viewing air pollution as the main problem also increased, but by a much smaller amount. There have been falls in the proportions identifying domestic waste disposal and the running out of natural resources, such as oil and gas, as the most important environmental problems.

**Most important environmental problem for Britain, 2010-2021**



Source: British Social Attitudes 2010 and NatCen/ScotCen panels 2021

## Overview

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### Concern for the environment is increasing

**People are more concerned about the environment than they were a decade ago and it is viewed by more people as a political priority.**

- 40% are very concerned about the environment, almost double the proportion who reported this in 2010 (22%).
  - The proportion who considers the environment to be one of the two most important issues facing Britain increased from 8% in 2010 to 21% now.
  - Only health care, the economy and education are viewed by more people as being among the two most important issues facing Britain.
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### Climate change is the dominant issue

**Climate change has become the dominant environmental issue but is certainly not the only one.**

- 45% view climate change as the most important environmental issue, up from 19% in 2010.
  - A majority (60%) believe that the world's climate has been changing mostly due to human activity, while only 6% say the climate has not been changing or that it has been changing mostly due to natural processes.
  - 64% see a rise in the world's temperature caused by climate change as extremely or very dangerous – comparable to the proportions that see air pollution caused by industry (62%) or pollution of Britain's rivers, lakes and streams (62%) as dangerous.
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### The majority are willing to pay for the environment

**The majority of people are willing to pay in some way for the protection of the environment, but there is no consensus on the best way to do this.**

- 57% say they are willing to pay either through higher prices, higher taxes, or by a change in their standard of living, while 18% are unwilling to pay in any of these ways.
  - 76% of those who are very concerned about the environment are willing to pay for its protection, while 10% remain unwilling, despite their concern.
  - The most commonly suggested route for getting business and industry to pay for the protection of the environment is with heavy fines for polluters (38%), while, for individuals and families, there is most support for information and education (42%).
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## Authors

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**Stephen Hinchliffe**

Senior Researcher  
National Centre for Social Research

## Introduction

The jury has reached a verdict and it is damning. This report of the Intergovernmental Panel on Climate Change is a litany of broken climate promises. It is a file of shame, cataloguing the empty pledges that put us firmly on track towards an unliveable world. We are on a fast track to climate disaster.

(António Guterres, UN Secretary-General, 4 April 2022 (United Nations Web TV), talking about the IPCC (2022) “Mitigation of Climate Change” report).

When the Intergovernmental Panel on Climate Change (IPCC) produce a report, the world’s press pay attention. Climate change is important news in the 21<sup>st</sup> century. While there are people who disagree with the evidence presented by the IPCC and other scientists, they are in a small minority. Debate over the reality of climate change is rarely given time in the mainstream media anymore, and even the likes of Google have banned advertisements, “referring to climate change as a hoax or a scam, claims denying that long-term trends show the global climate is warming, and claims denying that greenhouse gas emissions or human activity contribute to climate change” (BBC News, 8 October 2021).

The environment has received greater media attention over the last few years than in previous decades, although one issue has come to dominate, that of climate change. In the latter part of the 20th century there was a lot of concern about air pollution causing acid rain (Grennfelt et al., 2020) and the depletion of the ozone layer (Mazur, 1998), leading to major international agreements such as the Montreal Protocol on Substances that Deplete the Ozone Layer (United Nations Environment Programme, 2020). There was also worry about risks from genetically modified crops (Hellsten, 2003) and accidents at nuclear power plants, including that at Chernobyl in 1986 (Koerner, 2014). Much of the press coverage of the environment in the 1990s was concerned with the need to preserve the natural environment. At the start of the 21<sup>st</sup> century, however, media conceptualisations broadened to include more of a focus on social and built environments and, in doing so, there was a move away from the reporting of purely scientific evidence to include both political and editorial opinions on matters such as sustainable development (Castrechinia et al., 2014).

While some issues are no longer reported regularly, others have morphed in light of the current focus on climate change. Concerns about water shortages across the world, once largely about famine and later about potential international conflict, are now regularly provided as examples of extreme weather events used to highlight the reality of climate change (Starr, 1991; Franks, 2010; Lyons et al., 2018). Articles about environmental issues such as water pollution or the decline of insect populations caused by poor agricultural practices, while now more prominent, are often framed in terms of biodiversity loss as a result of climate change or the necessity to

retain biodiversity to help us deal with a world shaped by climate change (Stoate et al., 2009; Outhwaite et al., 2022).

The terminology used around climate change has also changed. What was once termed the ‘greenhouse effect’ (Carvalho, 2005) is now increasingly viewed in terms of a ‘climate crisis’ (Parks, 2020; Kunelius and Roosvall, 2021). The idea that we have reached crisis point emerges from the report of the IPCC, ‘Global Warming of 1.5 °C’, which highlights the difficulties in staying below this target, given how far down the line we already are (IPCC, 2018).

Does the fact that the number of newspaper column inches and airtime minutes dedicated to the environment has increased mean that we have become more concerned about the environment? To answer this question, we draw on data from the International Social Survey Programme (ISSP), which included questions about the environment on the British Social Attitudes (BSA) survey in 1993, 2000, and 2010, and on the NatCen and ScotCen Panels in 2021<sup>1</sup>, allowing us to examine long-term changes in attitudes<sup>2</sup>. The data from 2010 actually showed a decrease in the levels of concern about the dangers of a number of environmental issues, compared with earlier years (Taylor, 2012). While this may appear to contradict the idea that the rise in press coverage of the environment over recent decades might be matched by a rise in levels of public concern, it is necessary to consider that data in the context of the aftermath of the financial crash of 2008. The main issue at the general election of 2010 was the economy, with both public and private finances having been hit hard. Under such circumstances it is likely that the environment was less of a priority for many people. Meanwhile, the 2021 data were collected during the COVID-19 pandemic. Again, this is likely to have affected what people considered to be important. Public spending on health and employment security measures was very high at the time, although the cost of living crisis did not kick in until later.

As countries become wealthier, it is suggested that there is less of a need to focus on the economy, and that their populations are more willing and able to turn to other matters, such as the environment. This change is predicted to be led by those with post-materialist values (those of autonomy and self-expression), who tend to be younger, better educated and wealthier than their counterparts, with less of an interest in material possessions, having grown up in economically-secure communities, and with more of a desire to act for the benefit of the whole of society (Inglehart, 2008; Booth, 2021). Recent polling evidence suggests that concern about climate change is actually

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1 The environment module is part of ISSP 2020. However, as a result of the COVID-19 pandemic, data were not collected until 2021. The NatCen and ScotCen panels involve random probability samples, comprising people who have participated in the BSA/SSA surveys in recent years and have agreed to take part in one or more further surveys. Details of the way these data were collected on the panels are provided in appendix 1 of this chapter.

2 Data from all participating countries will be made available via the ISSP website: <https://issp.org/>. These data are designed to be directly comparable to data collected as part of the BSA survey and the NatCen and ScotCen panels.

quite high among all groups of people, and there is no age divide on the matter, although there are divisions based on political affiliations (Curtice, 2021). Other studies have similarly found that those with left-wing views tend to be more environmentally motivated (Taniguchi and Marshall, 2018).

In this chapter we attempt to answer a number of questions about attitudes towards the environment in Britain. Firstly, linked with increasing media coverage, is our concern for the environment increasing? The changing media portrayal of environmental issues also raises a second question: has climate change become our only concern? Next, we focus specifically on climate change to examine what the public believe are its causes and its impact. Finally, we look at how willing we are to pay for the protection of the environment, and what we consider to be the best ways to get other individuals and businesses to do the same.

## Environmental concern and prioritisation

We begin by examining how concerned people are about the environment, looking at levels of concern about the environment in general and where they place it in terms of government priority, and whether this has changed since 2010. We also consider our changing outlook on the environment in terms of the potential for conflict with economic growth and modern life, and whether we believe science will solve these problems.

### Levels of environmental concern

While the issues facing the environment are manifold, in order to get an overview of the level of concern the public have about the environment, we ask:

**Generally speaking, how concerned are you about environmental issues?**

The breakdown of responses in 2021, and those obtained when the question was previously asked in 2010, are shown in Table 1. The proportion of people who claim to be ‘very concerned’ about environmental issues increased considerably between 2010 and 2021, from 22% to 40%, while the proportion who were ‘not very’ or ‘not at all’ concerned fell from 14% to 4%. While it is difficult to confirm a definite trend based on two time points, polling evidence also suggests that environmental concern has been on the rise since 2013, although concern is now only slightly above levels in 2005, before the financial crash (Ipsos, 2021).

**Table 1 Level of concern about environmental issues, 2010 and 2021**

	2010	2021
<b>Concern about environmental issues</b>	%	%
1 – Not at all concerned	4	2
2	10	2
3	29	20
4	31	32
5 – Very concerned	22	40
<i>Unweighted base</i>	928	2344

Source: 2021: NatGen and ScotGen panels

The environment is often viewed as a young person's issue. National governments and previous generations are blamed for the current situation where the risk of uncontrollable climate change is imminent (Marks et al., 2021). This is not borne out by the data, with high levels of concern actually more prevalent among middle-aged and older adults than among younger people. Forty five per cent of those aged 45+ report that they are very concerned about the environment, compared with 35% of younger adults (those aged 18-44).

Those on the left of the political spectrum tend to be more concerned about the environment than those on the right (45% are very concerned, compared with 31%)<sup>3</sup>. This can also be seen with respect to the political party people most identify with. Slightly fewer than half of Labour voters (47%) say that they are very concerned about the environment, compared with 38% of Conservative and Liberal Democrat supporters and 34% of those who do not identify with any particular party. Not surprisingly, concern for the environment is highest among Green Party supporters, with 74% saying they are very concerned.

## Policy priorities

Neither 2021 nor 2010 can be considered to be typical years when it comes to government spending priorities. The 2021 survey took place during the COVID-19 pandemic, so it might be expected that the public would consider health care to be a priority at this point in time. The 2010 survey came after the financial crash of 2008, heralding a period during which the recovery of the economy was considered important. It was also conducted at a time when immigration was a significant political issue which eventually led to the 2016 referendum on EU membership.

We asked respondents which of the issues listed in Table 2 are the most important and second most important for Britain today.

<sup>3</sup> Details of BSA's left-right scale can be found in the report's Technical Details.

**Table 2 First or second most important issues\* for Britain today, 2010 and 2021**

	2010	2021
<b>Issues for British today</b>	%	%
Health care	45	59
The economy	40	28
Education	40	27
The environment	8	21
Poverty	6	17
Crime	18	13
Immigration	25	7
Terrorism	4	4
None of these	1	*
<i>Unweighted base</i>	928	2344

Source: 2021: NatCen and ScotCen panels

+ Issues are ordered on the basis of the proportions that selected them as the first or second most important issue in 2020.

In 2010, only eight per cent of the public considered the environment to be among their top two priorities for the country. By 2021 this proportion had increased to 21%. The proportions of people mentioning health care and poverty also increased between these two years. Given the COVID-19 pandemic, following on from several years of austerity measures, it is not surprising that these two issues should be considered more important in 2021 than in 2010. The increase in the proportion considering the environment as one of the two most important issues stands out as being largely unconnected to these events and clearly reflects a significant change in public thinking.

The issues people consider to be the most important vary by demographic characteristics. Older people are more likely to consider immigration to be an important issue (13% of those aged 65+ placed it among their top two issues in 2021, compared with less than 1% of those aged 18-24), and better-educated people are more likely to mention the economy (34% of those with a degree, compared with 18% of those with no formal qualifications). However, the proportion who mentioned the environment was fairly equal among all demographic groups in both years. There were only significant differences by political party identification, with selection of the environment highest among Green Party supporters (44%) and lowest among Conservatives (17%).

## Environmental outlook

To gain more of an idea about why certain people are concerned about the environment and consider it a priority for the country, and why others do not, we asked a series of questions about how people view the environment in relation to potential conflicts with modern life and economic growth. Respondents in 2021, and on a number of previous

occasions, were asked whether they agree or disagree with a series of statements, listed in Table 3. To some extent these can be viewed as measures of optimism – that modern ways of living are not in conflict with the environment, or if they are, that we can offset the problems with scientific or economic solutions –, and pessimism – that we cannot protect the environment without wholesale change to how we think about the economy. Table 3 presents the proportion who expressed a ‘pessimistic’ outlook in each instance – by disagreeing with each of the first four statements or by agreeing with the final two statements.

**Table 3 Views about how the environment relates to modern life and economic growth, 1993-2021**

	1993	2000	2010	2021
<b>% disagree</b>				
We worry too much about the future of the environment and not enough about prices and jobs today	48	50	34	60
People worry too much about human progress harming the environment	47	46	36	55
Modern science will solve our environmental problems with little change to our way of life	49	45	32	53
In order to protect the environment Britain needs economic growth	25	24	18	20
<b>% agree</b>				
Almost everything we do in modern life harms the environment	45	48	51	59
Economic growth always harms the environment	23	16	14	18
<i>Unweighted base</i>	<i>1261</i>	<i>972</i>	<i>928</i>	<i>2344</i>

Source: 2021: NatCen and ScotCen panels

There are a number of points to be drawn from this table. Firstly, people are now less likely to think that we worry too much about the environment. This is illustrated by responses to the first statement (‘We worry too much about the future of the environment and not enough about prices and jobs today’) and to a lesser extent by responses to the second statement (‘People worry too much about human progress harming the environment’). In 1993 and 2000, around half of people disagreed that we worry too much in these two instances. By 2010, shortly after the financial crash, only a third disagreed. However, 60% now disagree that we worry too much about the environment rather than prices and jobs and 55% disagree that we worry too much about human progress harming the environment.

Secondly, a clear majority now believe that the way we live our lives is harming the environment. Three in five people agree that almost everything we do in modern life harms the environment. At the same

time, more than half disagree that modern science will solve our environmental problems with little change to our way of life. However, the public largely do not place the blame on economic growth. In fact, only one in five disagree that Britain needs economic growth in order to protect the environment, and one in five agree that economic growth always harms the environment. Taken together, these responses seem to suggest that the public recognise their own part in the problems facing the environment, and expectations are that it is the economy, more than science, that will help us address them.

As discussed earlier, we might expect people to have different outlooks on the environment, depending on their age, education and income, and this is borne out by the data. Older people are more likely than younger ones to think that we need economic growth in order to protect the environment (55% of those aged 65+ agree, compared with 22% of those aged 18-24). Those on the lowest incomes are more likely to agree that we worry too much about the environment rather than prices and jobs (30% agree, compared with 11-13% of those in the two highest income quartiles). In contrast to what may be predicted from the literature on post-materialism (Inglehart, 2008; Booth, 2021), younger people tend to be more optimistic than older ones about scientific solutions solving our problems with little change to our way of life (20% of those aged 18-24 and 28% of those aged 25-34 agree, compared with 10-15% of those in older age groups). This is, however, in line with research showing that younger people tend to have more faith in science because of their greater exposure to scientific evidence through social media (Huber et al., 2019).

The first four items in Table 3 are all well correlated with each other, and have been combined to form a scale of environmental outlook. Further details on the construction of this scale are provided in the appendix to this chapter. A high score on the scale is indicative of a high level of concern about the conflict between the economy and modern life and the environment. Table 4 illustrates the change in levels of concern, as summarised by this scale, over time.

**Table 4 Levels of concern\* recorded by environmental outlook scale, 1993-2021**

	1993	2000	2010	2021
<b>Level of concern about conflict between economy / modern life and the environment</b>	%	%	%	%
Little concern	17	17	22	11
Some concern	32	35	42	27
Moderate concern	34	31	26	36
Strong concern	17	18	9	26
Unweighted base	1170	930	878	2289

Source: 2021: NatGen and ScotGen panels

+ The level of concern is defined in terms of the spread of responses in 1993. Further details are provided in appendix 2.

Around one quarter of people exhibit a strong level of concern about the conflict between the economy and modern life, and the environment, the highest proportion at any time at which the underlying questions have been asked. In common with other measures of environmental concern discussed previously, the proportion expressing a high level of concern now is substantially higher than that seen in 2010, but also than those reported across a longer time period.

The increase in the level of concern about the conflict between the economy and modern life, and the environment, is common across all age groups and for all levels of income and education. However, as shown in Table 5, the biggest increases can be seen among the youngest and oldest. The proportion of those aged 18-24 showing moderate or strong concern has doubled from two in five in 2000 and 2010 to four in five in 2021. The proportion of those aged 65+ showing moderate or strong concern has also doubled, from just over a quarter in 1993 (when they tended to be less concerned than other adults) to more than half in 2021. However, this may largely be a result of aging cohorts – those who were in their 40s and 50s in 1993 are now aged over 65, so individual attitudes among older people may not have changed as much as the overall picture suggests.

**Table 5 Proportion exhibiting moderate or strong concern on environmental outlook scale, by age, 1993-2021**

	1993	2000	2010	2021	Change over time
<b>% moderate or strong concern about conflict between economy / modern life and the environment</b>					
Age 18-24	59	42	39	80	+20
<i>Unweighted base</i>	111	74	57	125	
Age 25-64	56	53	37	61	+5
<i>Unweighted base</i>	815	664	625	1599	
Age 65+	28	34	26	55	+28
<i>Unweighted base</i>	241	191	196	564	

Source: 2021: NatGen and ScotGen panels

In summary then, it is clear that the public have become substantially more concerned about the environment over the past decade. Where longer-term data are available, it appears that levels of environmental concern are at an historical high, with the comparatively lower levels of concern recorded in 2010 clearly forming a ‘blip’. Meanwhile, the links between demographic characteristics and levels of environmental concern appear somewhat more complex than is sometimes suggested by the literature.

At the outset, we hypothesised that greater media coverage of the environment may have been accompanied by a rise in public concern about this issue; the data presented thus far lend some support to this idea. Given that media attention has increasingly focused on climate change, as a particularly problematic aspect of environmental change, we next examine whether public concern about different aspects of the environment has also responded to trends in media coverage.

## Climate change: the most important environmental issue?

In the media, climate change has become the dominant issue in recent years. This section examines whether climate change has replaced all our other environmental concerns, or whether we are still worried about the effects of pollution, chemicals and pesticides, nuclear power or genetically modified crops. It examines how dangerous we think each of these issues is, and which we consider the most important for Britain.

### Most important environmental issue for Britain

We provided respondents with the list of nine environmental problems shown in Table 6 and asked them which they think is the most important for Britain as a whole. Table 6 displays the answers obtained, presented alongside those secured when the question was previously asked in 2010.

It shows a large shift in public thinking, with climate change now the single dominant issue when people consider the environment. Nearly half consider climate change to be the most important problem for Britain, up from one in five in 2010. In that year, the using up of natural resources, for example North Sea oil and gas, was identified as the main issue by just as many as considered climate change to be the most important problem for Britain. Now these natural resources are recognised as major contributors to climate change, and only six per cent identify running out of them as the main problem, less than the proportion who mention air pollution (13%) or domestic waste disposal (9%).

**Table 6 Most important environmental problem for Britain, 2010 and 2021**

	2010	2021
<b>Most important environmental problem for Britain*</b>	%	%
Climate change	19	45
Air pollution	8	13
Domestic waste disposal	16	9
Using up our natural resources	18	6
Chemicals and pesticides	5	4
Water pollution	4	4
Nuclear waste	5	3
Genetically modified foods	2	3
Water shortage	8	1
<i>Unweighted base</i>	928	2344

Source: 2021: NatCen and ScotCen panels

+ Problems are ordered on the basis of the proportions that selected them as the being the important in 2020.

## Dangers to the environment

While the figures above seem to match the overall story that we see in the media, that climate change is the dominant issue, we wanted to know whether people remain concerned about other environmental problems. To gauge the level of concern about air pollution caused by cars, we asked the question:

***In general, do you think that air pollution caused by cars is ...***  
***... extremely dangerous for the environment***  
***very dangerous***  
***somewhat dangerous***  
***not very dangerous***  
***or, not dangerous at all for the environment?***

This was followed by questions about six other environmental issues, asked in the same format. Table 7 lists these issues and shows the proportions who said that each issue was either 'extremely' or 'very' dangerous' for the environment in 1993, 2000, 2010 and 2021.

	1993	2000	2010	2021	Change over time <sup>+</sup>
<b>% think issue is extremely / very dangerous for the environment</b>					
A rise in the world's temperature caused by climate change <sup>4</sup>	51	50	43	64	+14
Pollution of Britain's rivers, lakes and streams	61	62	46	62	+1
Air pollution caused by industry	54	63	48	62	+8
Air pollution caused by cars	48	54	28	50	+2
Pesticides and chemicals used in farming	37	48	37	46	+9
Nuclear power stations	44	n/a	36	36	-8
Modifying the genes of certain crops	n/a	39	30	27	-12
<i>Unweighted base</i>	1261	972	928	2344	

Source: 2021: NatGen and ScotGen panels

+ These figures represent the percentage point change over time since 1993, with the exception of 'modifying the genes of certain crops', which have only been asked about since 2000.

Nearly two-thirds of people think that a rise in the world's temperatures caused by climate change is extremely or very dangerous for the environment. Perhaps surprisingly, this proportion does not differ significantly from the proportions who consider air pollution caused by industry or the pollution of Britain's rivers, lakes and streams to be dangerous. While the perception that climate change is dangerous has increased more between 1993 and 2021 than is the case for any of the other issues, it is clear that this concern has not replaced other concerns about the environment and that the public recognise multiple risks. This is in line with finding that media attention on any one environmental issue raises interest in other environmental issues (Djerf-Pierre, 2012).

The first five items in Table 7 are very clearly associated with each other, and can be considered as a single dimension. People who are concerned about climate change also tend to be concerned about pollution in its various forms and pesticide or chemical use in farming. Those who mention one of these issues as being dangerous are very likely to mention at least one other, with at least two-fifths mentioning all five. Concern about these issues is also very strongly associated with general concern about the environment.

Genetically modified food and nuclear power pose different risks and the data show much weaker associations with the first five potential dangers, as well as weaker associations with general concern about the environment, suggesting that people are thinking about these two issues separately. While concern about pollution, pesticide and chemical use, and climate change have all increased or remained

<sup>4</sup> In 1993 and 2000 the question asked about 'the greenhouse effect' rather than 'climate change'.

constant between 1993 and 2021, concern about nuclear power has fallen over the same time period and concern about genetically modified crops has fallen since the question was first asked in 2000. Memories of Chernobyl have faded, and horror stories about ‘Frankenfoods’ never came to fruition. The decrease in concern about nuclear power suggests that the construction of new nuclear power stations to replace coal-burning power stations may be less of an issue than it once was, and hence could be more readily adopted as part of an approach to reduce greenhouse gas emissions. Similarly, the decrease in concern about genetically modified crops suggests that the Genetic Technology (Precision Breeding) Bill, allowing the development of gene-editing technology for use in commercial crops (Gov.uk, 2022), may also be less controversial than it would have been 20 years ago.

Clearly then, in line with media coverage, climate change is increasingly dominating public concerns about the environment, although not to the detriment of pre-existing environmental concerns. Given the increasing importance of climate change among the public’s environmental concerns, we next turn to examine attitudes to climate change specifically.

## Climate change

The ISSP 2020 survey included a number of additional questions exploring perceptions of the causes of climate change, and of its potential impact, both for Britain and for the whole world.

### The causes and impact of climate change

There is very clear scientific evidence to suggest that the world’s climate has been changing in recent years. Average temperatures in many parts of the world have been higher in the last decade than over the previous century; ice melt at both poles and in glaciers around the world has become more rapid; and extreme weather events such as heavy rainfall and hurricanes have become more common (IPCC, 2021; Gov.uk, 2014). While most scientists working in the field agree that climate change is at least in part due to human activity (Powell, 2017), there is still debate as to the extent of this contribution. We asked the following question to measure people’s beliefs about the causes of climate change:

***There has been a lot of discussion about the world’s climate and the idea it has been changing in recent decades. Which of the following statements comes closest to your opinion?***

***The world’s climate has not been changing***

***The world’s climate has been changing mostly due to natural processes***

***The world’s climate has been changing about equally due to natural processes and human activity***

***The world’s climate has been changing mostly due to human activity***

The majority of people (60%) believe that the world's climate has been changing mostly due to human activity, while a further 27% believe that it has been changing equally due to natural processes and human activity. Only one per cent say the climate has not been changing and five per cent that it has been changing mostly due to natural processes.

We then asked two questions about the impact of climate change<sup>5</sup>:

***On a scale from 0 to 10, how bad or good do you think the impacts of climate change will be for the world as a whole?***

***On a scale from 0 to 10, how bad or good do you think the impacts of climate change will be for Britain?***

In both instances, 0 equated to 'extremely bad' and 10 to 'extremely good'.

Responses to these questions are presented in Table 8. It shows that around a third of people think that climate change will be extremely bad for the world, while a quarter say that it will be extremely bad for Britain. This difference is not surprising, given that reports such as the Global Climate Risk Index (Eckstein et al., 2021) highlight that many countries have been affected much worse than Britain by extreme weather and flooding over the last two decades. Around half (47%) of people think climate change will be very bad for Britain (a score of 0 to 2), while three-quarters (74%) think it will be bad to some extent (a score of 0 to 4). A small minority (seven per cent) think that climate change will actually have a positive impact (a score of 6 to 10) for Britain and for the world. Those who believe climate change will have a negative impact are much more likely than those who think it will have a positive or neutral impact to believe climate change is mostly due to human activity (87% of those who say climate change will be extremely bad for Britain think this, compared with 25% of those who say it will have a positive impact).

**Table 8 Impacts of climate change on the world and on Britain**

	The world	Britain
<b>Impacts of climate change</b>	%	%
0 (Extremely bad)	31	24
1	9	7
2	18	16
3	15	15
4	6	12
5	11	15
6–10 (Extremely good)	7	7
<i>Unweighted base</i>	2324	2324

Source: 2021: NatGen and ScotGen panels

<sup>5</sup> These questions were not asked of the one per cent who said that the climate has not been changing.

## Climate change denial

As noted above, only a small proportion of people deny that climate change is happening at all, or think that it is happening, but mostly as a result of natural causes. We can briefly consider who these people are. They are more likely to have only lower-level qualifications (13% of those with school or vocational qualifications below A-level standard fall into this category, compared with 3% of those with a university degree or equivalent). They are more likely to agree that science will solve our environmental problems (11%, compared with 4% of those who disagree) and yet, at the same time, they tend to err on the side of distrust of university research centres<sup>6</sup> (25% of those who express distrust fall into this category, compared with 3% of those who tend to trust university research). They are also more likely to agree that we worry too much about human progress harming the environment (17%, compared with 2% of those who disagree).

There is clearly then a considerable consensus among the public that climate change is happening, at least partly as a result of human activity, and that its impacts for Britain and the world will be highly negative, although a small minority do not ascribe to either of these positions. Given that climate change is widely recognised as a problem, we next explore the public's views about possible solutions, focusing on those which would have a financial impact on the public – and so might, at least theoretically, be viewed as being less palatable.

## Paying for the environment

It is one thing to be concerned about the environment, but quite another to be prepared to make the sacrifices that are necessary for its upkeep. Caring for the environment has a cost attached to it, although many would argue that the cost attached to not caring for the environment is even larger. On the whole, European citizens recognise this cost and are willing to pay (Jones et al., 2009). They can make these payments in multiple ways: through making choices to pay higher prices for environmentally friendly products; through the tax system; through changes in lifestyle; or directly to charities promoting the protection of the environment. Businesses are also expected to pay, although some studies have found that employing sound environmental management practices may actually improve corporate financial performance (Boakye et al., 2021). Governments can legislate for environmental protection through enforcement with the threat of a financial penalty. Fines tend to work successfully as a deterrent, ensuring that most companies comply with the law. There is some evidence to suggest, however, that they do not deter companies who are already in breach of environmental law from

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<sup>6</sup> Respondents were asked: 'On a scale of 0 to 10, how much do you personally trust university research centres? 0 means you do not trust an institution at all, and 10 means you trust it completely'. Erring on the side of distrust was a score of 0 to 3, while tending to trust was a score of 7 to 10.

repeat offences (Shevchenko, 2021). Alternatively, ‘green nudges’ can be used to change consumer behaviour, for example with labelling which makes us feel better for purchasing an organic product, or schemes which allow us to compare energy bills with our neighbours, encouraging conformity (Schubert, 2017).

In this section we look at how willing people would be to pay for the protection of the environment, in terms of higher prices, tax rises, and cuts to their standard of living. We also examine what people think is the best way to get business and industry and other people to protect the environment.

## Who is willing to pay for the protection of the environment?

One way for people to make sacrifices in order to protect the environment involves paying higher prices at the till, which allows people to make a judgement about the environmental credentials and cost of a product or service at the time of purchase. A second involves paying higher taxes, which may also involve paying higher prices at the till, or may comprise money being taken from salaries or other income. This method removes the choice from the consumer, but provides a degree of fairness as there are no ‘free-riders’ who benefit from others making the right decisions for the environment without not doing so themselves. A third involves accepting cuts in one’s standard of living, for example by driving less, or not going on foreign holidays, or simply having less real income to spend. To establish people’s willingness to go down each of these routes to paying for the protection of the environment, we asked respondents, ‘How willing would you be to pay much higher prices in order to protect the environment?’, along with two similar questions set out in Table 9. The table presents the proportions who say they are ‘very’ or ‘fairly’ willing to pay more for the environment in 2021, and for each previous occasion on which these questions were asked.

**Table 9 Willingness to pay for the protection of the environment, 1993-2021**

	1993	2000	2010	2021
<b>% willing ...</b>				
...to pay much higher prices in order to protect the environment	46	43	26	49
...to pay much higher taxes in order to protect the environment	37	31	22	36
...to accept cuts in their standard of living in order to protect the environment	30	26	20	36
<i>Unweighted base</i>	1261	972	928	2344

Source: 2021: NatCen and ScotCen panels

Half of the public say they are willing to pay much higher prices in order to protect the environment, compared with 36% who are willing to pay higher taxes or to take cuts in their standard of living. These figures are similar to those recorded in 1993, although they are markedly higher than in 2010, when people were feeling the after-effects of the financial crash of 2008. Of course, it is largely the same people who are willing to take any of these measures. Of those who are willing to pay higher taxes, 94% are also willing to pay higher prices and 69% are willing to accept cuts in their standard of living. Conversely, of those unwilling to pay higher taxes, 61% are also unwilling to pay higher prices and 69% are unwilling to accept cuts in their standard of living. Looking at these three questions together, 57% in 2021 say they are willing to pay either through higher prices, higher taxes, or by a change in their standard of living, while 18% are unwilling to pay in any of these ways.

Table 10 presents the proportions who state that they are willing to pay in one of these ways, or are unwilling to pay in any of these ways, by various demographic characteristics and environment-related attitudes. It shows that concern for the environment does not necessarily translate into willingness to pay. Of those who say that they are very concerned about the environment, three-quarters are willing to pay, through at least one of higher taxes, higher prices, or a change in lifestyle. However, 10% remain unwilling to pay in any of these ways. When we look at those who are not at all concerned, or not very concerned, half are unwilling to pay in any of these ways. Similar patterns can be seen for the other measures of concern included in Table 10 (environmental outlook and beliefs regarding the impact of climate change).

Willingness to pay tends to increase with increasing levels of education, from 42% of those with no formal qualifications, to 66% of those with a university degree or equivalent. This may in part be a function of ability to pay, as the same pattern can be seen for income, with the proportion willing to pay increasing from 48% of those in the lowest income quartile to 67% of those in the highest quartile. Regression modelling, however, suggests that willingness to pay is driven by concern for the environment, environmental outlook and beliefs in the impact of climate change (see Appendix Table A.1).

**Table 10 Willingness to pay for the protection of the environment, by demographic characteristics and environment-related attitudes**

		Willing	Unwilling	<i>Unweighted base</i>
All	%	57	18	2344
<b>Educational qualifications</b>				
Degree or equivalent	%	66	11	1151
No formal qualifications	%	42	24	249
<b>Household income</b>				
£4,351 or more per month	%	67	19	525
Less than £1,410 per month	%	48	20	543
<b>Concern for environment</b>				
Very concerned	%	76	10	1052
Not very concerned	%	23	48	100
<b>Environmental outlook</b>				
Strong concern about conflict between modern life and the environment	%	80	8	711
Below average concern	%	42	27	761
<b>Believes impact of climate change will be...</b>				
...extremely bad	%	77	11	829
...fairly bad	%	56	16	960
...not so bad / climate change does not exist	%	33	32	529

Source: 2021: NatGen and ScotGen panels

## How do we get businesses or individuals to protect the environment?

There are multiple ways the government can act to encourage both businesses and individuals to protect the environment. Much international legislation on environmental protection uses the ‘polluter pays principle’, whereby the polluter is expected to pay compensation for damage to the environment, resulting in potentially unlimited fines. This principle is enshrined in the Rio Declaration on Environment and Development (United Nations, 1992). This however is backward-looking, addressing damage after it has been done, and only where there is an identifiable polluter. The urgency with which the United Nations and many others are now talking about a climate crisis (IPCC, 2018; Parks, 2020; Kunelius and Roosvall, 2021) suggests a need to protect the environment before the damage is done. This can still be assisted with the threat of large fines, as long as they act as a deterrent, beyond mere compensation. Alternatively, the tax system can be used not just as a way of raising money to pay for environmental protection, but to reward

those who protect the environment, for example, offering tax relief on the purchase of bicycles for work purposes, or the use of energy-efficient technology. A third strand available to the government is the provision of information and education about the advantages of protecting the environment. To gauge public opinion on which of these methods of encouraging environmental protection is most appropriate for businesses and industry, we asked respondents the following question:

***Which of these approaches do you think would be the best way of getting business and industry in Britain to protect the environment?***

***Heavy fines for businesses that damage the environment***

***Use the tax system to reward businesses that protect the environment***

***More information and education for businesses about the advantages of protecting the environment***

This was followed by a similar question as to the best ways of getting people and their families to protect the environment. The answers provided in response to both of these questions are presented in Table 11.

Table 11 shows that the most popular choice of approach to get business and industry to protect the environment is the use of heavy fines for those that damage the environment, followed by use of the tax system to reward businesses that protect the environment. The least popular suggestion for dealing with business and industry is through the provision of information and education about the advantages of protecting the environment.

The order of these options is reversed when considering ways to get people and their families to protect the environment. The most popular choice in this case was information and education, followed by use of the tax system and finally, heavy fines.

**Table 11 Best way of getting business and industry, and people and their families, in Britain to protect the environment**

		Best approach			
		Heavy fines	Tax system	Education	Unweighted base
Business and industry	%	38	33	20	2344
People and their families	%	16	32	42	2344

Source: 2021: NatCen and ScotCen panels

Table 12 shows that a number of different factors appear to be associated with ideas on the best way to get business and industry to protect the environment. Heavy fines is a popular choice for those on higher incomes, for those who have a high level of concern about the conflict between modern life and the environment, for those who generally mistrust business and industry, for those on the left of the political spectrum and those who are more libertarian in attitude<sup>7</sup>.

<sup>7</sup> Details of the libertarian-authoritarian scale can be found in the report's Technical Details.

Use of the tax system is a more common choice for those who tend to be neutral in their trust of business and industry, but otherwise there is less evidence of differences between subgroups than is the case for either of the other approaches to getting business and industry to protect the environment. Information and education for businesses is more commonly chosen by those on lower incomes, by those with below average concern about the conflict between modern life and the environment, and by those on the right of the political spectrum.

**Table 12 Best way of getting business and industry in Britain to protect the environment, by demographic characteristics and environment-related attitudes**

		Heavy fines	Tax system	Education	Unweighted base
All	%	38	33	20	2344
<b>Household income</b>					
Lowest quartile	%	28	27	30	543
Highest quartile	%	48	37	11	525
<b>Environmental outlook</b>					
Strong concern about conflict between modern life and the environment	%	54	33	8	711
Moderate concern	%	35	41	19	817
Below average concern	%	31	27	29	761
<b>Level of trust in business and industry</b>					
Generally trust	%	38	27	25	475
Neutral	%	35	37	20	1314
Generally mistrust	%	53	26	14	503
<b>Left-right scale</b>					
Left	%	45	31	15	1275
Neither	%	31	38	21	745
Right	%	29	37	31	203
<b>Libertarian-authoritarian scale</b>					
Libertarian	%	49	40	4	408
Neither	%	33	34	22	852
Authoritarian	%	39	33	21	962

Source: 2021: NatCen and ScotCen panels

Table 13 shows that some of the groups who support heavy fines for businesses (wealthier people, those who are most concerned about the conflict between modern life and the environment and libertarians) are the groups most likely to support use of the tax system to get individuals and their families to protect the environment. Those of an authoritarian nature are the most likely to support the use of heavy fines for individuals. Those on the right of the political spectrum are the most likely to support information and education, as they do for businesses.

**Table 13 Best way of getting people and their families to protect the environment, by demographic characteristics and environment-related attitudes**

		Heavy fines	Tax system	Education	Unweighted base
All	%	16	32	42	2344
<b>Household income</b>					
Lowest quartile	%	18	23	47	543
Highest quartile	%	13	48	35	525
<b>Environmental outlook</b>					
Strong concern about conflict between modern life and the environment	%	15	45	36	711
Moderate concern	%	15	34	46	817
Below average concern	%	19	24	45	761
<b>Level of trust in most people</b>					
Generally trust	%	16	34	42	897
Neutral	%	13	31	47	747
Generally mistrust	%	20	32	39	670
<b>Left-right scale</b>					
Left	%	17	34	41	1275
Neither	%	17	32	42	745
Right	%	13	24	61	203
<b>Libertarian-authoritarian scale</b>					
Libertarian	%	11	51	33	408
Neither	%	12	33	44	852
Authoritarian	%	23	26	45	962

Source: 2021: NatGen and ScotGen panels

In summary then, we find considerable diversity in people's views as to how they and their families, and industry and business, should pay for the environment. There is no consensus as to the best approach and while environmental concern is strongly associated with willingness to pay for the environment, it does not necessarily guarantee it. Rather than operating in isolation, preferences for paying for the environment appear to be linked to individual circumstances and wider belief systems.

## Conclusions

In this chapter we have seen that the public have a high level of concern about the environment, with it rising up our list of political priorities since 2010. While climate change is now seen as the most important issue, reflecting shifts in media coverage over recent decades, it is by no means the only one, with air pollution and water pollution also both being viewed as significant dangers. But, from a policy perspective, does it really matter whether we are concerned about the environment or whether we believe that climate change is the result of human actions?

It should be noted that concern for the environment does not always translate into action (Tam and Chan, 2018). We have seen that a small proportion of those who claim to be very concerned about the environment are unwilling to pay for its protection through higher taxes, higher prices or a change in lifestyle. On the other hand, three-quarters of those who are very concerned are willing to make such sacrifices, a much higher proportion than among those who are not concerned. In this sense, our levels of concern about the environment do appear to impact on our willingness to make sacrifices to address environmental issues. Getting the message across to individuals and corporations about the need for environmental protection, targeting those who currently do not recognise the urgency, is therefore likely to make people much more amenable to tax rises or higher prices as part of a route to persuading them to make environmentally sound choices.

While around one in six people believe that modern science will solve our environmental problems, with little effect on our way of life, a much higher proportion (two in five) agree that we need economic growth to protect the environment. This suggests a willingness on the part of the public for sustainable development practices, growing our economy so that we can afford to pay for the upkeep of the environment, rather than hoping for or expecting a scientific solution to come along.

However, we found no consensus on the best way to persuade individuals and businesses to protect the environment. The most common suggestions are through the threat of large financial penalties on businesses and through the provision of information and education for individuals and their families, while use of the tax system to provide incentives for acting in environmentally sound ways is the second most common suggestion for both situations. However, each solution was more likely to be supported by sections of society with certain characteristics and perspectives – suggesting there is no particular solution that is likely to attract wide public support.

The benefits that may accrue as a result of protecting the environment are available to everyone. The United Nations stresses the importance of not allowing global temperatures to rise more than 1.5 °C above pre-industrial levels (IPCC, 2018). To achieve this, countries need to work together, and individuals and businesses within those countries need to play their part. Leaving decisions entirely to consumers opens up possibilities for free-riding – getting the benefits from others paying extra to protect the environment without making personal sacrifices. Too many free-riders will make it very difficult to achieve environmental targets. So even if it is possible to persuade everyone of the need to protect the environment, governments will have to consider a range of measures, voluntary or compulsory to ensure that enough people make changes.

There have been some success stories in changing people's environmental behaviour. The plastic bag levy has reduced the

consumption of single-use plastic bags by 95% (Gov.uk, 2021). It seems likely that other measures for environmental protection would lead to such near-universal behaviour change only if it is similarly more expensive or more inconvenient to act in an environmentally unfriendly way.

While the data from 2021 generally show that the public demonstrate high levels of concern about the environment, and are willing to make sacrifices for its protection, we should also pay heed to the data from 2010. These were collected during a time of financial difficulties for the UK economy and for many families, and showed decreased concern about the environment compared with previous years. As we are now in another period of financial hardship for many, we may expect that this will affect people's priorities, and the environment may again be seen as less important than other issues. Governments need to consider how to avoid the environment slipping down the agenda by incorporating environmental policy into policies to deal with the cost of living crisis.

Governments must also remember that climate change is not the public's only environmental concern. Air pollution, water pollution and pesticide use are all seen as significant dangers and must continue to be part of environmental policy focus. On the other hand, nuclear power and genetically modified crops are no longer seen as much of a risk as they once were. This means that the public are now likely to be more willing to accept nuclear power as a way to reduce greenhouse gas emissions while ensuring energy supplies, and to accept genetically edited crops as a way of maintaining or improving the availability of affordable food.

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## Appendix 1

The International Social Survey Programme (ISSP) is run by a group of research organisations in different countries, each of which undertakes to field annually an agreed module of questions on a chosen topic area. Between 1985 and 2019, an International Social Survey Programme module was included on BSA as part of the self-completion questionnaire. In 2019, the ISSP module was also included as a self-completion questionnaire on the Scottish Social Attitudes (SSA) survey for the first time. Each ISSP module is chosen for repetition at intervals to allow comparisons both between countries (membership is currently standing at 44) and over time. Further information on ISSP is available on their website: [www.issp.org](http://www.issp.org).

The data collection for the ISSP 2020 module on the environment was delayed due to the COVID-19 pandemic and was not collected as part of the BSA or SSA surveys. The module was instead included on the NatCen and ScotCen Panels in July-August 2021. These are mixed mode random probability panels, which comprise people who were originally selected for interview as part of the annual BSA or SSA series and who have agreed to participate in further follow-up interviews, usually online but in some instances by phone. A total of 2,225 out of the 2,795 eligible adults (18+) recruited from BSA, and 1,235 of the 3,184 eligible adults (18+) recruited from SSA that were invited to take part in the survey did so, representing a 80% and 39% response rate respectively. Only a random half of issued participants recruited from BSA were asked the ISSP 2020 questions. Accounting for non-response at the recruitment survey and at the point of recruitment to the Panel, the overall responses rates were 12% and 12%. The NatCen and ScotCen Panel cases have been weighted to make the sample representative of the British/Scottish adult (18+) population. The weighting adjusts for unequal chances of selection and non-response to the recruitment survey (BSA or SSA), refusal to join the panel, and non-response in the survey of panel members itself.

## Appendix 2

### Environmental outlook

The environmental outlook scale was created from four of the items shown in Table 3:

- Modern science will solve our environmental problems with little change to our way of life;
- We worry too much about the future of the environment and not enough about prices and jobs today;
- People worry too much about human progress harming the environment; and
- In order to protect the environment Britain needs economic growth

The other two items in Table 3 were not particularly well correlated with these four, and so were excluded from the scale.

Each item was recoded to exclude those who said 'can't choose' or did not answer the question, to leave a five-point scale for each, with a value of 1 for 'strongly agree' up to 5 for 'strongly disagree'. The mean value for all four questions was calculated, or for three questions if there was no value for one question. Where there was no value for two questions, the whole scale was set to missing. Multiplying the mean value by four provided a scale from 4 to 20, with high values representing pessimism – recognising a conflict between modern life and the environment which cannot easily be solved by science or the economy; and low values representing optimism – that there is no such conflict or the conflict is not a problem.

To allow comparison across the four years in which these questions were asked, this scale was recoded based on 1993 means and standard deviations so that:

- greater than one standard deviation above the mean was taken to represent a strong concern about conflict between the economy / modern life and the environment (15.52 to 20);
- less than one standard deviation above the mean was taken to represent moderate concern about such conflict (12.55 to 15.51);
- less than one standard deviation below the mean was taken to represent some concern about such conflict (9.58 to 12.54); and
- greater than one standard deviation below the mean was taken to represent little or no concern about such conflict (4 to 9.57).

### Multivariate analysis

The multivariate analysis technique used is logistic regression, about which more details can be found in the Technical Details section of the report. The dependent variable in Table A.1 is whether the

respondent is willing to pay for the upkeep of the environment. A positive coefficient indicates that the group are more likely than the reference group (shown in brackets) to be willing to pay to protect the environment, either through higher prices, higher taxes or cuts to their standard of living, whilst a negative coefficient indicates the group are less likely to be willing to pay.

**Appendix Table A.1 Whether willing to pay to protect the environment logistic regression**

	<b>Coefficient</b>	<b>Standard error</b>	<b>Odds ratio</b>	<b>p value</b>
Intercept	2.46	0.25	11.75	<0.001
<b>Highest educational qualification</b>				
No qualifications	*-0.62	0.30	0.54	0.037
Other qualification	0.07	0.40	1.07	0.863
Qualifications below A levels	-0.46	0.24	0.63	0.059
A levels or equivalent and above, but below degree + missing (Degree or equivalent, and above)	-0.43	0.24	0.65	0.079
<b>Household income</b>				
Not recorded	-0.40	0.40	0.67	0.313
Less than £1,410 pm	-0.32	0.27	0.73	0.245
£1,411 - 2,560 pm	-0.40	0.25	0.67	0.116
£2,561 - 4,350 pm (£4,351 or more pm)	-0.22	0.25	0.80	0.379
<b>Environmental Outlook</b>				
Some / little / no concern about conflict between economy / modern life and the environment	** -0.82	0.26	0.44	0.001
Moderate concern + missing (Strong concern)	** -0.61	0.22	0.54	0.005
<b>Impact of climate change</b>				
Not so bad / climate change does not exist	** -0.98	0.26	0.37	<0.001
Fairly bad + missing (Extremely bad)	** -0.61	0.21	0.54	0.003
<b>Level of concern about environmental issues</b>				
1 - Not at all concerned / 2	** -1.68	0.47	0.19	<0.001
3	** -1.55	0.26	0.21	<0.001
4 + missing (5 - Very concerned)	** -0.58	0.21	0.56	0.006
<i>Unweighted base 2344</i>				
<i>Nagelkerke R square = 0.28</i>				

\* = significant at 95% level \*\* = significant at 99% level

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National Centre for Social Research  
35 Northampton Square  
London  
EC1V 0AX  
info@natcen.ac.uk