

## DESNZ Public Attitudes Tracker: Energy Infrastructure and Energy Sources, Winter 2023, UK

07 March 2024 – Revised March 2024

Official Statistics

This report covers questions asked in the DESNZ (formerly BEIS) Public Attitudes Tracker since Autumn 2021 on energy infrastructure and energy sources, and previously covered results from the quarterly question on support for renewable energy. The report also includes the latest annual results on nuclear energy from Winter 2023.

In addition, this report includes results from biannual and annual questions asked in previous surveys (see table below).

Following the creation of DESNZ, and the removal of topics not within the remit of DESNZ, the survey will be shifting from quarterly to triannually.

**What you need to know about these statistics:** These results from the DESNZ (formerly BEIS) Public Attitudes Tracker (PAT) were collected using the Address Based Online Surveying (ABOS) methodology introduced in Autumn 2021, which uses random probability sampling. The results should not be compared with previous PAT surveys, which used different data collection methods. For details, see the [Technical Report](#).

**Revision:** After the publication of the Winter 2023 report, we discovered that the data labels relating to Northern Ireland and Wales were incorrectly swapped during the data production process. This affects the Winter 2023 data only and sections on support for renewable energy and nuclear energy have been updated with corrections. More details on these changes are set out in the accompanying Revision Note.

The table below shows the topics covered in this report and when these questions were included in the Public Attitudes Tracker. Links are included to the findings for each topic within this report.

Topic	When included	Link to findings
Support for renewable energy	Triannually	<a href="#">Link</a>
Nuclear energy	Winter 2021, Winter 2022, Winter 2023	<a href="#">Link</a>
Support for different types of renewables	Autumn 2021, Spring and Autumn 2022, Spring 2023	<a href="#">Link</a>
Renewable energy and infrastructure	Spring 2022, Spring 2023	<a href="#">Link</a>
Fusion energy	Autumn 2021, Spring and Autumn 2022, Spring 2023	<a href="#">Link</a>
Shale gas	Autumn 2021, Autumn 2022	<a href="#">Link</a>
Small modular reactors	Autumn 2021, Autumn 2022	<a href="#">Link</a>
Carbon capture and storage	Spring and Autumn 2022, Spring 2023	<a href="#">Link</a>
Hydrogen as fuel	Spring 2022, Spring 2023	<a href="#">Link</a>

DESNZ Public Attitudes Tracker (Winter 2023, UK)

Topic	When included	Link to findings
Concerns about energy security	Summer 2022, Summer 2023	<a href="#">Link</a>
New electricity network infrastructure	Summer 2023	<a href="#">Link</a>

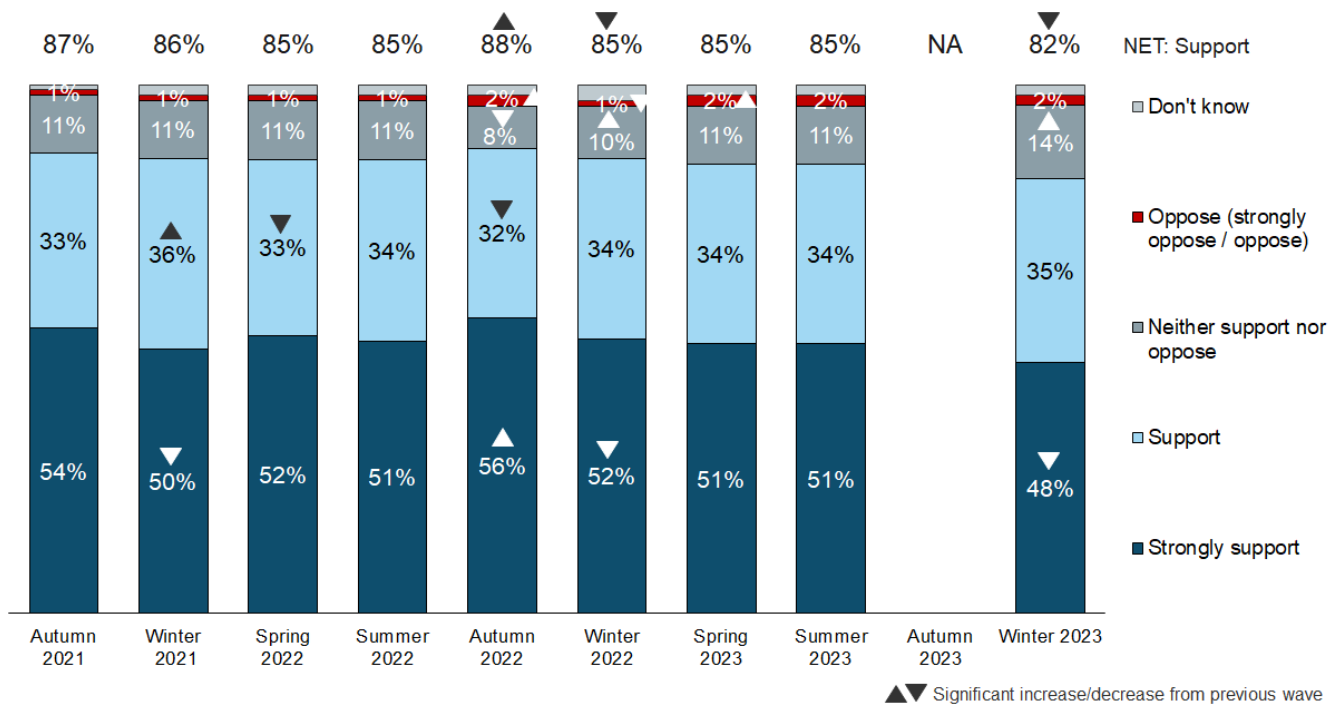
# Support for renewable energy

People were asked how much they supported the use of renewable energy such as wind power, solar energy and biomass to provide electricity, fuel and heat.

Between Summer 2023 and Winter 2023 there was a decline in overall support for renewable energy from 85% to 82%, and levels of support in Winter 2023 were at their lowest level since the current time series started in Autumn 2021.

The proportion who strongly supported renewable energy (48%) was also lower than in Summer 2023 (51%) and all previous waves. However, there was a 3% increase in “neither support nor oppose” responses, suggesting a shift from support towards higher uncertainty, rather than increased opposition, which remained stable at 2% (Figure 1.1).

**Figure 1.1: Whether support use of renewable energy (based on all people), Autumn 2021 to Winter 2023**



RENEWSUPPORT. The next question is about renewable energy. This includes a number of different forms of energy, such as wind power, solar energy and biomass. Do you support or oppose the use of renewable energy for providing our electricity, fuel and heat?

Base: All wave respondents – Autumn 2021 (5,558), Winter 2021 (3,705), Spring 2022 (4,373), Summer 2022 (4,489), Autumn 2022 (4,160), Winter 2022 (3,572), Spring 2023 (4,403), Summer 2023 (3,997), Winter 2023 (3,724) (Asked each wave)

The proportion who strongly supported renewable energy was higher for men (52%, compared with 44% of women) and people educated to degree level (65%, compared with 43% of those with other qualifications and 31% of people with no qualifications). Strong support was also higher for those aged 25 to 34 (53%) and 35 to 44 (54%) compared with other age groups (ranging 44% and 46%).

## DESNZ Public Attitudes Tracker (Winter 2023, UK)

Among those who had ever worked, people in managerial, administrative, and professional occupations were more likely to strongly support renewables (58%) than those in all other socio-economic (NS-SEC<sup>1</sup>) categories (between 31% and 46%).

By geography, the proportion who strongly supported renewable energy was highest in the East Midlands (54%) and London (52%) and was lowest in Yorkshire and the Humber (44%), Northern Ireland (43%), Wales (43%), the West Midlands (43%) and the North East (42%).

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<sup>1</sup> National Statistics Socio-Economic Classification. The PAT survey uses the self-coded method of deriving NS-SEC which classifies people into six categories.

# Nuclear energy

Questions on attitudes towards nuclear energy have been asked annually in Winter waves of the Public Attitudes Tracker.

People were asked first whether they agreed or disagreed with four statements in relation to nuclear energy. In Winter 2023, as in previous years, for each of the four statements the proportion of respondents who gave a non-opinion response (that is 'neither agree nor disagree' or 'don't know') was very high, ranging between 42% and 53%, pointing to a substantial degree of uncertainty in attitudes in relation to nuclear energy (Figure 2.1).

Amongst those who gave an opinion for each statement, the public were on balance more positive than negative about nuclear energy. Overall, in Winter 2023:

- 50% agreed that 'nuclear energy provides a reliable source of energy in the UK', with no significant change over time (9% disagreed)
- 44% agreed that 'nuclear energy will help combat climate change in the UK', with some minor fluctuations over time (10% disagreed)
- 38% agreed that 'nuclear energy offers affordable energy for the UK', up from 33% in Winter 2021 (10% disagreed)
- 34% agreed that 'nuclear energy provides a safe source of energy in the UK', up from 29% in Winter 2021 (20% disagreed)

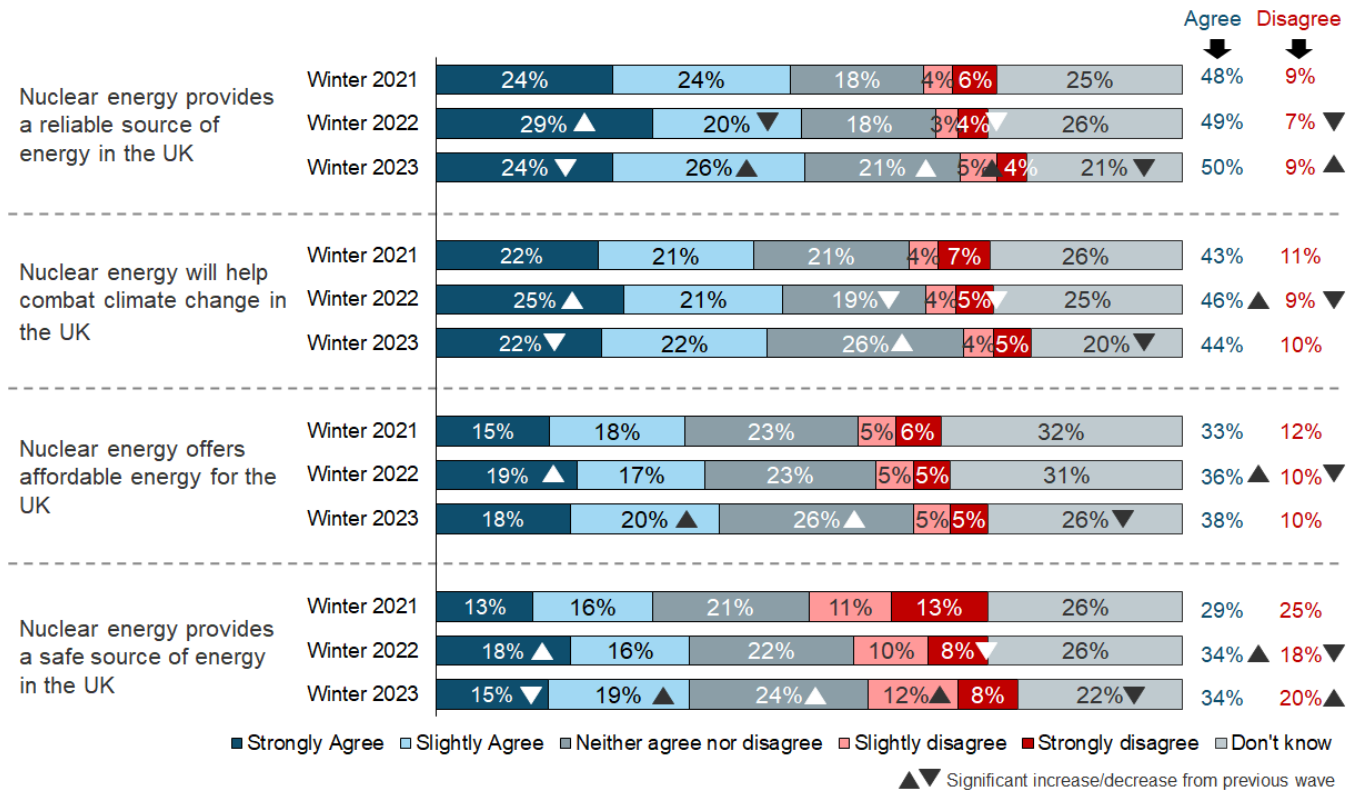
When comparing results with Winter 2022, there were some small decreases in the proportion of people who strongly agreed with three of these four statements. These changes took the levels of strong agreement back to the levels seen in Winter 2021, reversing the increases seen in Winter 2022. There was, however, no significant change in strong agreement that 'nuclear energy offers affordable energy for the UK' (18%), with this remaining above the level seen in Winter 2021 (15%).

Overall, 24% of people agreed with all four of these statements. Those most likely to agree with all four statements included men (34%, compared with 15% of women) and those educated to degree level (29%, compared with 22% of those with other qualifications and 22% of those with no qualifications).

In general, for all four statements, men were more likely than women to hold a positive opinion about nuclear energy, as were those educated to degree level compared with those with lower or no qualifications. However, this was largely explained by higher levels of 'don't know' or 'neither agree nor disagree' responses among women and those without a degree, rather than because these groups held more negative views.

Positive opinions about nuclear energy were also lower for those living in the North East, Yorkshire and the Humber, and Northern Ireland (with 46% to 50% agreeing with at least one statement), compared with those in London, East and the South East (with 61% to 64% agreeing with at least one statement). However, similar to the pattern observed for gender, this geographical pattern also reflected higher proportions of people in these areas giving a 'don't know' or 'neither agree nor disagree' response. In terms of those who disagree with any of the statements, Wales and the South West showed the highest opposition (30%) whereas the East Midlands showed the lowest opposition (19%).

**Figure 2.1: Attitudes towards nuclear energy (based on all people), Winter 2021 to 2023**



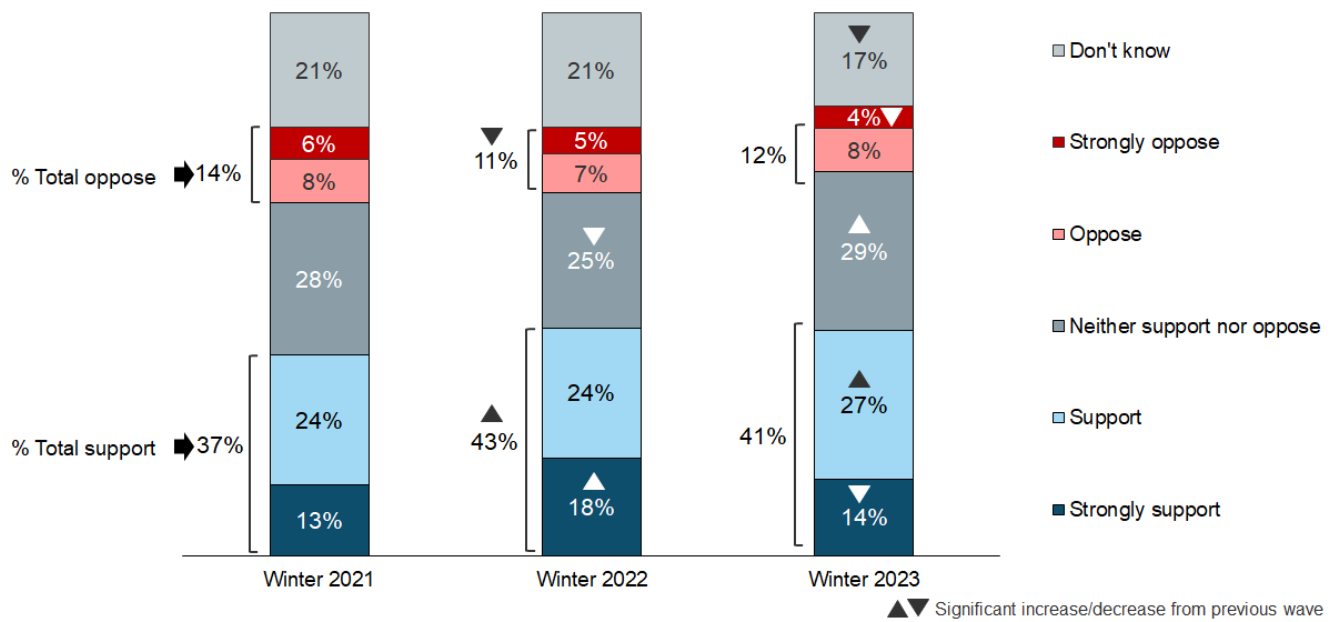
NUCATTANUCATTD. The next questions are about nuclear energy. How much do you agree or disagree with the following statements?

Base: All wave respondents – Winter 2021 / Winter 2022 / Winter 2023: Nuclear energy provides a reliable source of energy in the UK (3,669/3,546/3,706), Nuclear energy will help combat climate change in the UK (3,683/3,550/3,713), Nuclear energy offers affordable energy for the UK (3,668/3,540/3,708), Nuclear energy provides a safe source of energy in the UK (3,670/3,545/3,704).

People were also asked about their level of support for nuclear energy. In Winter 2023, 41% of the public supported using nuclear energy for generating electricity in the UK (Figure 2.2). Strong support (14%) had dropped back to Winter 2021 levels (13%) reversing the increase observed between Winter 2021 and Winter 2022 (from 13% to 18%). Opposition to nuclear energy remained broadly stable at 12%.

A little under half (46%) did not give an opinion either way, again providing evidence of uncertainty on this topic. Winter 2023 also marked a shift away from ‘don’t know’ (17% down from 21%) towards saying ‘neither support or oppose’ (29% up from 25%). This might suggest increasing familiarity with nuclear energy, if not any greater ability to give a positive or negative opinion.

**Figure 2.2: Whether support nuclear energy (based on all people), Winter 2021 to 2023**



NUCSUPPORT. From what you know, or have heard about using nuclear energy for generating electricity in the UK, do you support or oppose its use?

Base: All wave respondents – Winter 2021 (3,703), Winter 2022 (3,570), Winter 2023 (3,731)

As in previous years, in Winter 2023 support for nuclear energy was higher among men (56%, compared with 28% of women). This was largely explained by higher levels of ‘don’t know’ or ‘neither agree nor disagree’ responses among women, with no significant difference in the level of opposition by gender.

Total support was also higher for those educated to degree level (50%, compared with 40% of those with other qualifications and 31% of those with no qualifications); however this group were also more likely to oppose the use of nuclear energy (15%, compared with 12% of those with other qualifications and 6% of those with no qualifications).

Support for nuclear energy was higher in older age groups. Those aged 55 and over were more likely to support this at an overall level (44% of those aged 55 to 64 and 46% of those aged over 65), compared with those aged 16 to 54 (between 37% and 42% by age band).

By geography, in Winter 2023 levels of support for nuclear energy were highest in the South East (48%), London (47%), and the East of England (45%), and lowest in Scotland (38%), Northern Ireland (36%), the North East (34%), and Yorkshire and the Humber (33%). Opposition was also relatively higher in Scotland (18%) compared to 14% overall.

## Support for different types of renewables

As noted above in Figure 1.1, 85% of people in Spring 2023 supported renewable energy as an overall concept. A further question on the level of support for different types of renewable energy is asked bi-annually, and this was asked for the fourth time in Spring 2023 (Figure 3.1).

As in previous waves, the level of support for different types of renewable energy developments varied by type of renewable energy. At least three quarters of people were supportive of solar energy (88%), wave and tidal energy (83%), off-shore wind (83%, down from 85% in Autumn 2022), and on-shore wind (78%).

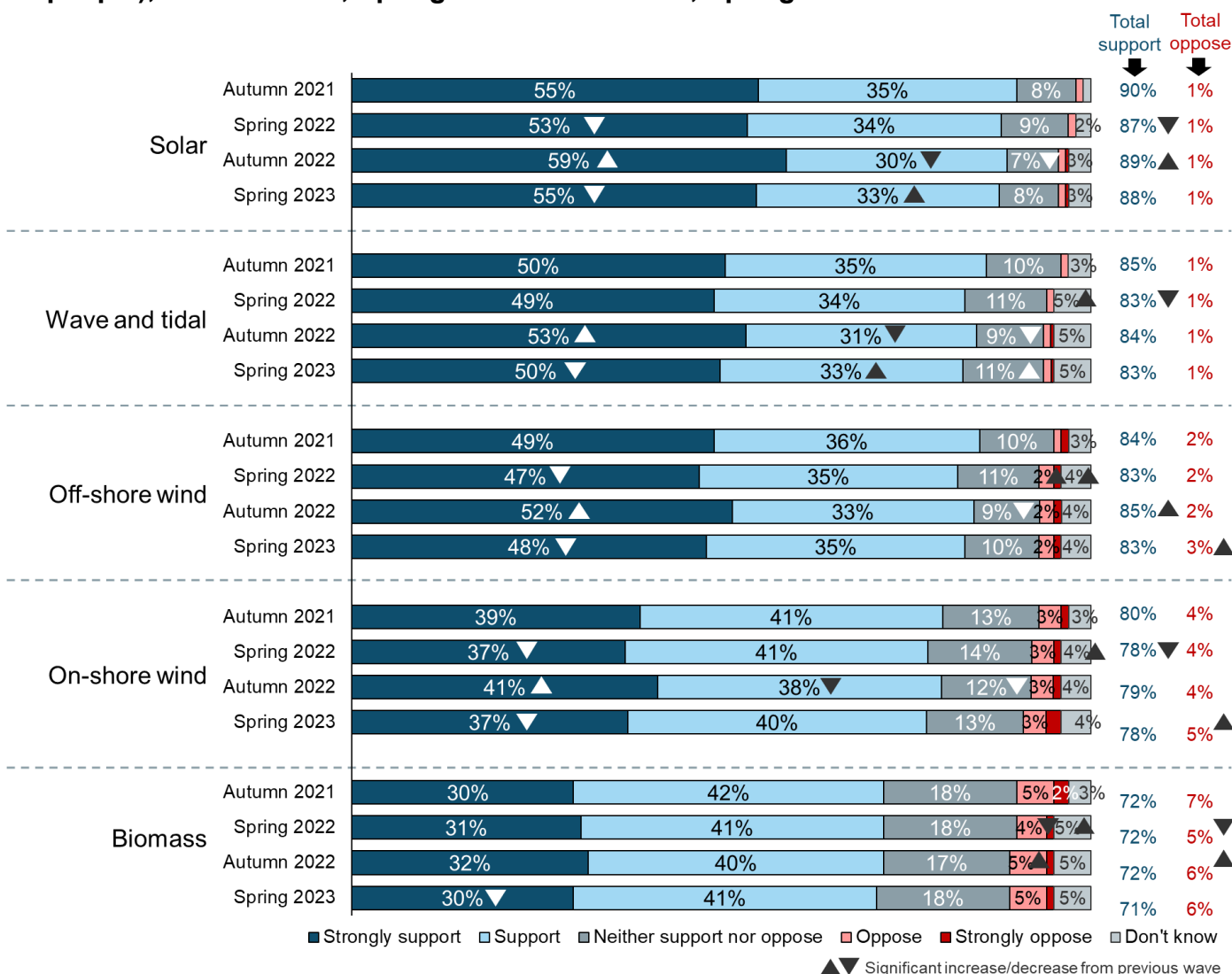
Support for biomass energy remained at similar levels to previous waves (71%) although people were more likely to give a neutral opinion on this compared with other technologies (18% said they neither supported nor opposed this technology).

Between Autumn 2022 and Spring 2023, the proportion of people who expressed strong support decreased for all types of renewable energy: solar energy (55%, down from 59% in Autumn 2022), wave and tidal energy (50%, down from 53%), off-shore wind (48%, down from 52%), on-shore wind (37%, down from 41%) and biomass (30%, down from 32%).

In Spring 2023, opposition remained very low across all renewable energy technologies (between 1% for solar energy and wave and tidal energy, and 6% for biomass energy).



**Figure 3.1: Whether support use of specific renewable energy developments (based on all people), Autumn 2021, Spring and Autumn 2022, Spring 2023**



RENEW2SUPPORTA-RENEW2SUPPORTE. Generally speaking, do you support or oppose the use of the following renewable energy developments...

\*Biomass fuller wording: this refers to any plant or animal-based material (for example food waste, branches, sawdust) or purposely grown crops which can be burned to produce heat and electricity

Base: All wave respondents (Asked Biannually): Autumn 2021 / Spring 2022 / Autumn 2022 / Spring 2023: Solar (5,498/4,317/4,130/4,380), wave and tidal (5,482/4,311/4,121/4,366), off-shore wind (5,490/4,320/4,126/4,373), on-shore wind (5,509/4,327/4,130/4,390), Biomass (5,470/4,296/4,113/4,369)

There were differences in the proportions of people who strongly supported different renewables by gender, education and socio-economic group. Although this was not always the case, some of these were consistent across all technologies.

Men were more likely than women to strongly support all five types of renewable energy; for example, men were more likely to strongly support off-shore wind energy (53%, compared with 43% of women) and wave and tidal energy (55%, compared with 45%).

For all five types of renewable energy, people educated to degree level were more likely than those without a degree to express strong support; for example, those with a degree were more likely to strongly support on-shore wind (48%, compared with 34% of those with another qualification and 27% of those with no qualification).

## DESNZ Public Attitudes Tracker (Winter 2023, UK)

By NS-SEC, those in managerial, administrative and professional occupations were more likely than average to strongly support all five types of renewable energy. In particular, people in managerial and professional occupations were more likely than average to strongly support off-shore wind (56%, compared with 48% overall) and wave and tidal (58%, compared with 50% overall).

# Renewable energy and infrastructure

## Attitudes towards renewable energy

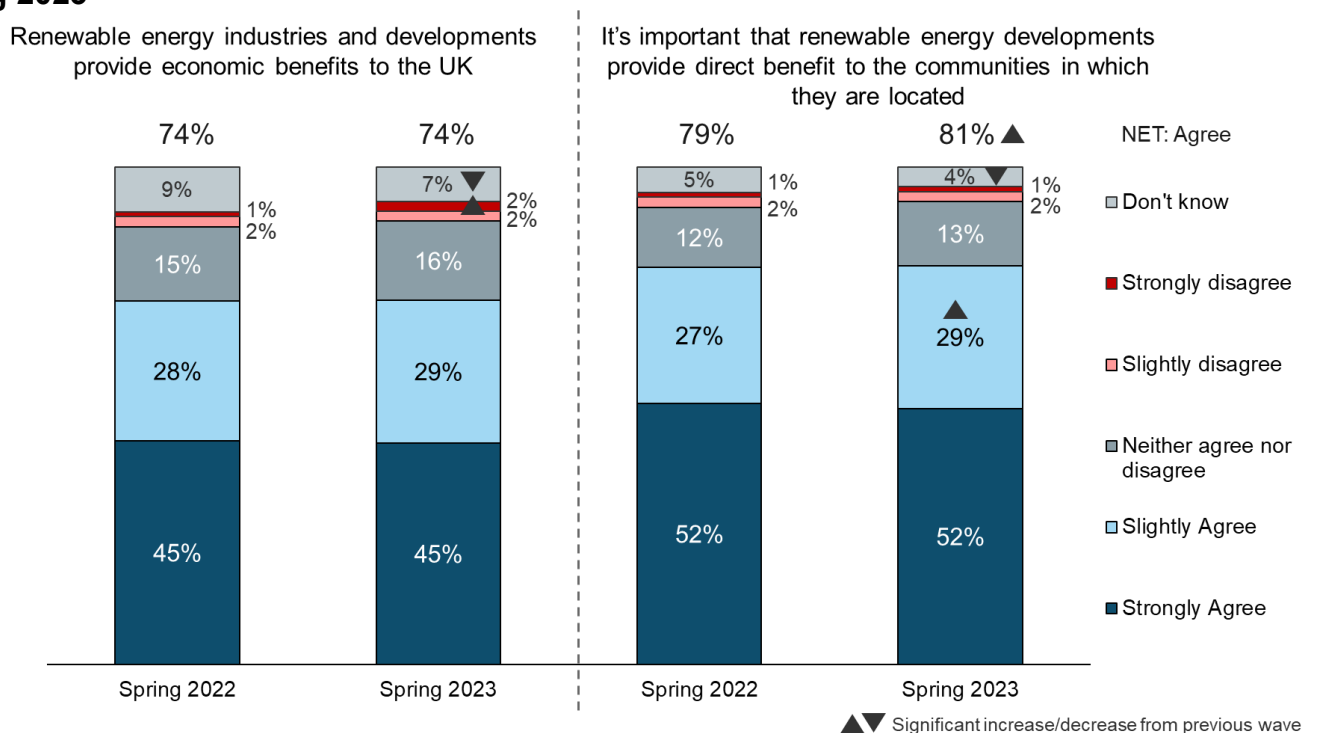
In Spring 2023, attitudes towards renewable energy were further measured by asking people how much they agreed or disagreed with the following statements:

- Renewable energy industries and developments provide economic benefits to the UK.
- It's important that renewable energy developments provide direct benefit to the communities in which they are located.

In Spring 2023, at an overall level, people were positive that renewable energy provides benefits to the national economy (74% agreed with the first statement), and that it should also directly benefit communities where they are located (81% agreed with the second statement, up from 79% in Spring 2022) (Figure 4.1).

Only a small proportion of people disagreed with each of these statements, although disagreement that renewable energy provides benefits to the national economy (4%) was slightly higher than in Spring 2022 (3%).

**Figure 4.1: Attitudes towards renewable energy (based on all people), Spring 2022 and Spring 2023**



RENEWATT. As mentioned, renewable energy covers a number of different forms, including wind power, solar energy and biomass. How much do you agree or disagree with each of the following statements?

Base: All wave respondents – Spring 2022 / Spring 2023: Renewable energy industries and developments provide economic benefits to the UK (4,344/4,395); It's important that renewable energy developments provide direct benefit to the communities in which they are located (4,328/4,386)

People with a degree were more likely to agree that renewable energy developments provide economic benefits to the UK (82%, compared with 73% of those with other qualifications and 65% of people with no qualifications).

By geography, agreement with this statement was highest in the West Midlands (77%), London (77%), South East (77%), and South West (76%), and lowest in the East Midlands (67%) and Wales (65%). By NS-SEC, among those who had ever worked, those in managerial, administrative and professional occupations were more likely to agree with this statement (80%) than those in all other socio-economic categories (between 65% and 73%).

Agreement that renewable energy should directly benefit communities where they are located was lower among those aged 16 to 24 (74%) compared with those aged 35 and over (81% of 35 to 44 year olds, 82% of 45 to 54 year olds, 83% of 55 to 64 year olds and of those aged 65 and over). People with a degree were also more likely to agree with this latter statement (85%, compared with 81% of those with other qualifications and 73% of people with no qualifications).

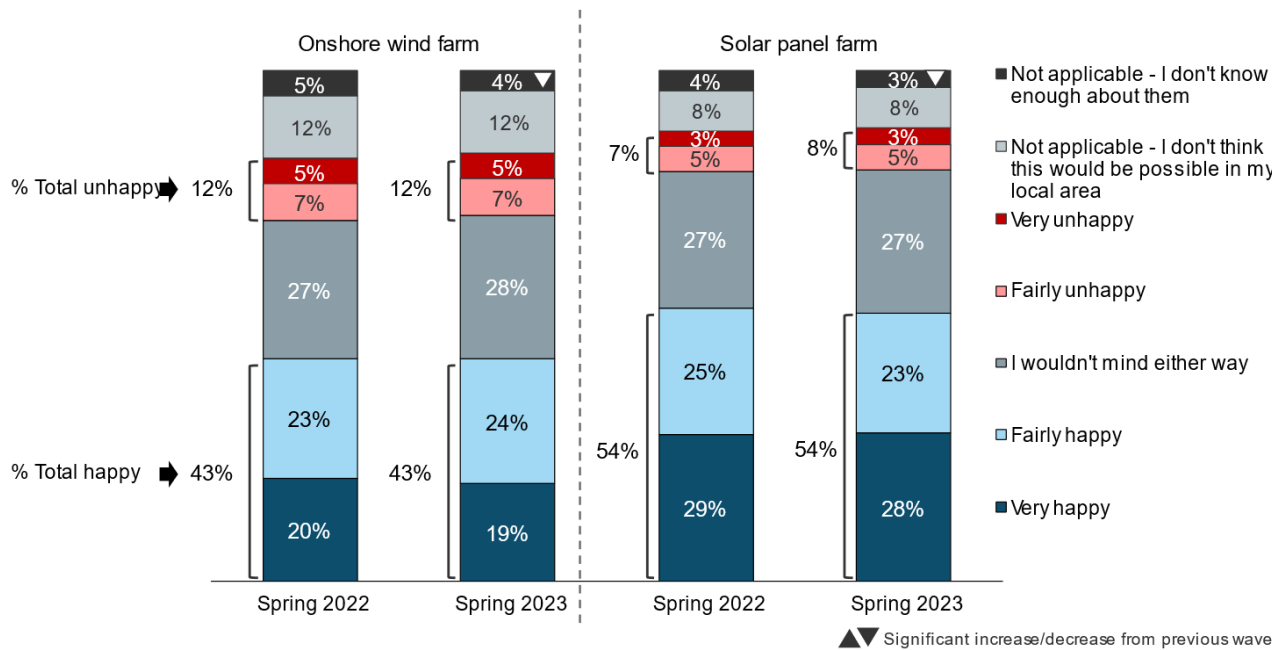
## Attitudes towards renewable energy infrastructure in the local area

In Spring 2023, people were asked how happy they would feel about renewable energy infrastructures being constructed in their local area; separate questions are asked about the construction of an onshore wind farm and a solar panel farm.

In Spring 2023, people were happier for a solar panel farm than an onshore wind farm to be built in their local area. Overall, 54% said that they would be happy about a solar panel farm being built in their local area, while 43% would be happy for an onshore wind farm to be built in their local area (Figure 4.2). Just over a quarter said they did not mind either way about each of these (28% for both wind farms and solar panel farms). No changes in either of these measures have been observed since Spring 2022.

Relatively small proportions actively opposed either of these types of development: 12% said they would be unhappy about the local construction of an onshore wind farm and 8% said they would be unhappy about the local construction of a solar panel farm. A further minority felt that such developments would not be possible in their local area (12% for wind farms, 8% for solar panel farms).

**Figure 4.2: Whether would be happy for an onshore wind farm and solar panel farm to be constructed in their local area (based on all people), Spring 2022 and Spring 2023**



**WINDFARM.** Now imagine that there are plans for an onshore wind farm to be constructed in your local area. How happy or unhappy would you be about this? If you already have this in your local area, answer on the basis of how you feel about this now?  
**SOLARFARM.** Now imagine that there are plans for a solar panel farm to be constructed in your local area. How happy or unhappy would you be about this? If you already have this in your local area, answer on the basis of how you feel about this now?

Base: All wave respondents – Spring 2022 / Spring 2023: Wind farm (4361/4398), Solar farm (4369/4396)

Men were more accepting than women of both types of renewable infrastructure, being more likely to be happy about a local onshore wind farm (47%, compared with 40% of women) and a local solar panel farm (56%, compared with 52%).

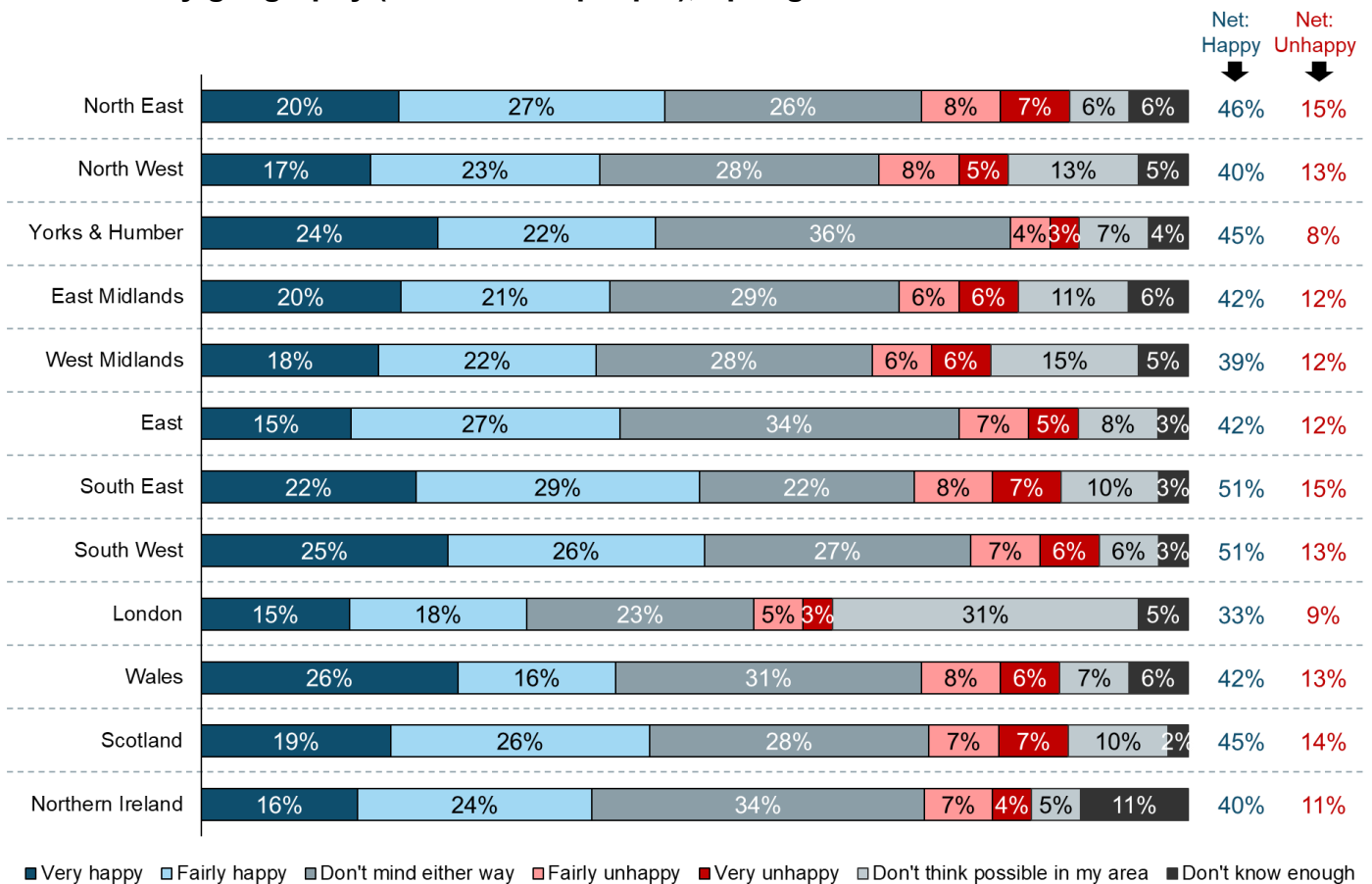
People educated to degree level were also more likely to be happy about a local onshore wind farm (50%, compared with 41% of those with another qualification and 38% of those with no qualification) and about a local solar panel farm (63%, compared with 52% of those with another qualification and 42% of people with no qualifications).

People who were concerned about climate change were considerably more likely to be happy about local constructions of both a solar panel farm and an onshore wind farm. Overall, 69% of people who were very concerned about climate change said they would be happy about a local solar panel farm being built in their local area compared with 49% who were fairly concerned and 31% who were not very or not all concerned about climate change. A similar pattern was observed for local onshore wind farms with 57%, 39% and 24% of these groups respectively saying they would be happy about this.

## DESNZ Public Attitudes Tracker (Winter 2023, UK)

Levels of approval for a local onshore wind farm varied by geography (Figure 4.3). People were more likely to say they would be 'very happy' to have a local onshore wind farm in Wales (26%), the South West (25%), Yorkshire and the Humber (24%) and the South East (22%), compared with those in the East of England (15%) and London (15%). The lower level of happiness for an onshore wind farm in London was not due to a higher level of opposition, but instead because a larger percentage of people thought it would not be possible to build a wind farm in their locality: 31% of Londoners felt that a wind farm would not be a viable option, considerably higher than in every other geography in the UK.

**Figure 4.3: Whether would be happy for an onshore wind farm to be constructed in their local area by geography (based on all people), Spring 2023**



WINDFARM. Now imagine that there are plans for an onshore wind farm to be constructed in your local area. How happy or unhappy would you be about this? If you already have this in your local area, answer on the basis of how you feel about this now.

Base: All wave respondents – Spring 2023: North East (262), North West (440), Yorkshire & Humber (310), East Midlands (344), West Midlands (343), East of England (366), South East (601), South West (443), London (534), Wales (247), Scotland (364), Northern Ireland (144)

## DESNZ Public Attitudes Tracker (Winter 2023, UK)

In Spring 2023, people were most likely to say they would be 'very happy' about the construction of a local solar panel farm in the South East (33%), Yorkshire and the Humber (32%), South West (31%), and London (30%), while those in the East of England (19%) were considerably less likely to be 'very happy' about this. As was the case for onshore wind farms, those in London were much more likely to say that they did not think a solar panel farm would be possible in their area (20%), compared with those in all other localities in the UK (2% to 11%).

## Reasons for being happy about energy infrastructure in local area

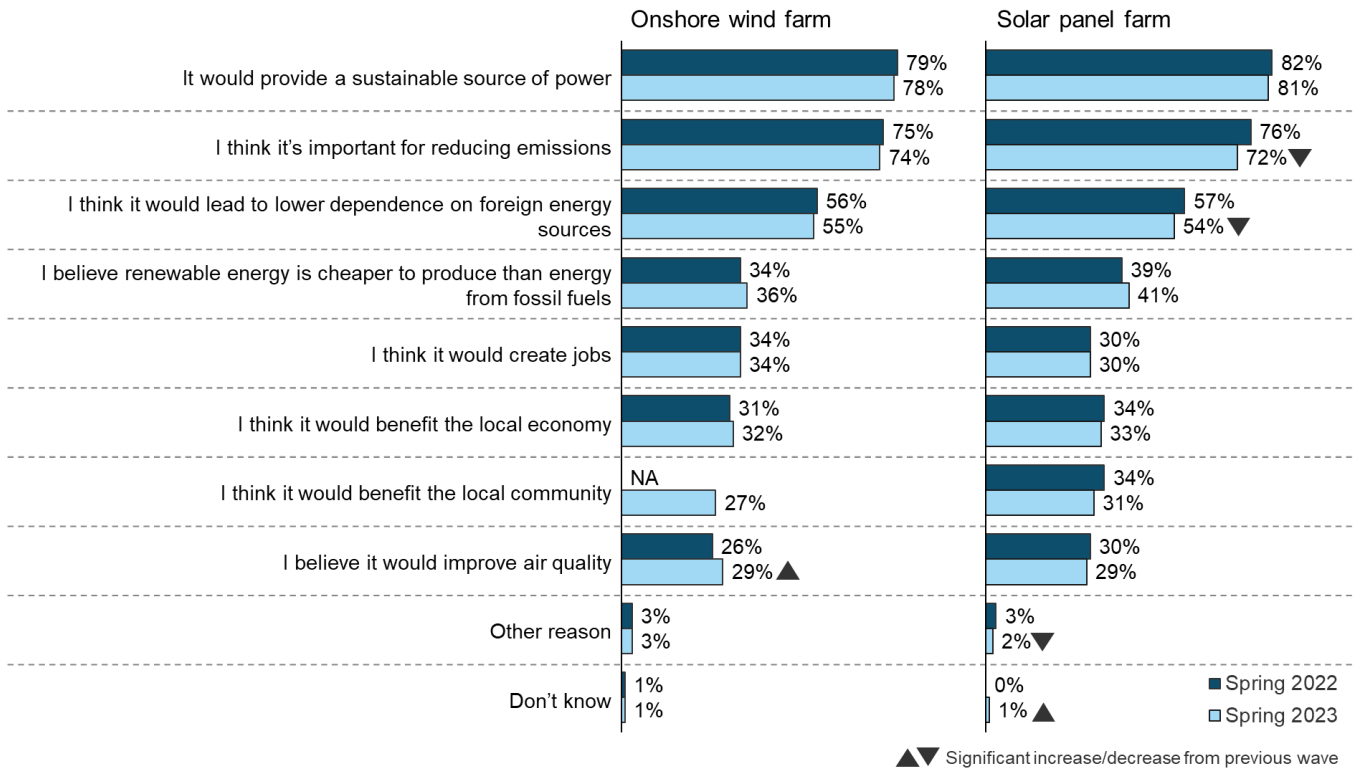
Overall in Spring 2023, 43% of people would be happy to have an onshore wind farm, and 54% would be happy to have a solar panel farm, constructed in their local area. People who said they would be happy about each of these were asked why this was the case. People were prompted to choose from a list of possible reasons, or they could choose an 'other' reason. (Figure 4.4)

The main reasons for being happy about such constructions in their local area were similar for both types of renewable energy infrastructure and remained in line with the reasons given in Spring 2022. Among those who said they would be happy about each of these, a large majority said that it was because they would provide a sustainable source of power (78% for wind, 81% for solar), while around three quarters said it was because they think it's important for reducing emissions (74% for wind, 72% for solar – down from 76% in Spring 2022). National energy security was also an important reason for supporting these developments, with over half of this subgroup thinking that local construction would lower dependence on foreign energy sources (55% for wind, 54% for solar – down from 57% in Spring 2022). The ongoing war in Ukraine and the impact on foreign imports of energy, and on energy prices, is likely to explain the continued prominence of this reason, compared with some other items in the list.

Other reasons for being happy to have wind or solar energy infrastructures in their local area focussed on economic factors such as cheaper energy production (36% and 41% for wind and solar respectively), creation of jobs (34% and 30%), benefitting the local economy (32% and 33%) and benefitting the local community (27% and 31%). There was a small rise in the proportion of people feeling that onshore wind farms would improve air quality (29% in Spring 2023, up from 26% in Spring 2022).



**Figure 4.4: Reasons for being happy to have an on-shore wind farm or solar panel farm constructed in their local area (based on all who would be happy), Spring 2022 and Spring 2023**



WINDWHYHAPP. You said you would be very or fairly happy for an on-shore wind farm to be built in your local area. Why is this? Please select all that apply<sup>2</sup>

SOLWHYHAPP. You said you would be very or fairly happy for a solar panel farm to be built in your local area. Why is this? Please select all that apply.

Base: All wave respondents who would be happy – Spring 2022 / Spring 2023: Wind farm (1,935/1,993), Solar farm (2,363/2,445)

<sup>2</sup> Additional code of 'I think it would benefit the local community' added to WINDWHYHAPP in Spring 2023

## Reasons for being unhappy about energy infrastructure in local area

Overall, in Spring 2023, 12% of people would be unhappy to have an onshore wind farm, and 8% would be unhappy to have a solar panel farm, constructed in their local area. People who said they would be unhappy about each of these were asked why this was the case. People were prompted to choose from a list of possible reasons, or they could choose an 'other' reason (Figure 4.5).

As in Spring 2022, the reasons provided in Spring 2023 for why people would object to these constructions were largely similar for both onshore wind farms and solar panel farms. Among those who said they would be unhappy about each of these, the main reasons were concerns about it being unattractive or impacting the view (62% for wind – down from 68% in Spring 2022, 55% for solar), and impact on local plant and animal life (52% for wind, 59% for solar). Concerns about impact on house prices remained (36% for wind, 24% for solar) although concerns have fallen since Spring 2022 when these figures were 44% and 35% respectively.

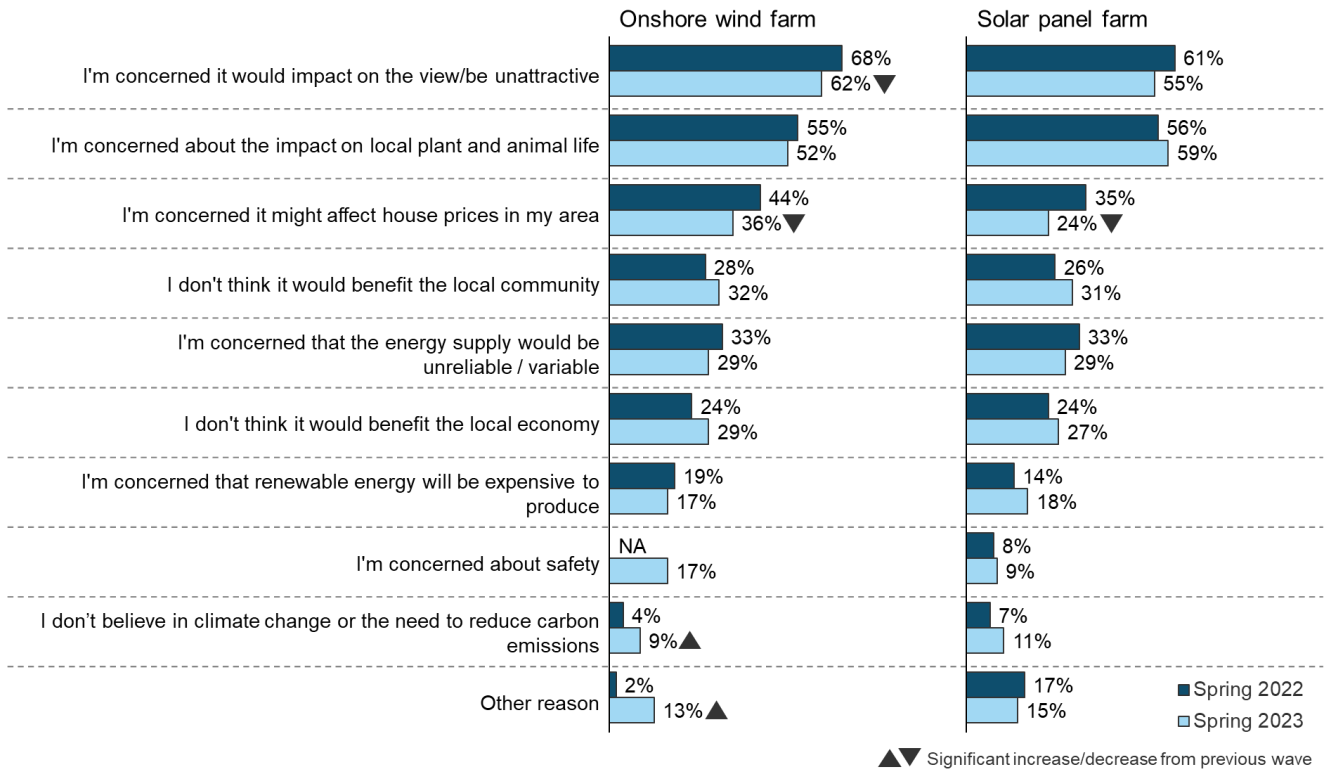
Between a quarter and third of each of these subgroups cited concerns about reliability of energy supply (29% for both), and lack of benefit for the local community (32% and 31% for wind and solar respectively) or local economy (29% and 27%). Smaller proportions were concerned about the cost of production (17% for wind, 18% for solar). There were more safety concerns among those unhappy about wind farms (17%) than those unhappy about solar farms (9%).

A relatively high proportion gave an 'other' response as a reason for not wanting an onshore wind farm (13%) or a solar panel farm (15%) in the locality<sup>3</sup>.

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<sup>3</sup> For WINDWHYNO, the majority of concerns were about the noise generated by the wind farms followed by sustainability concerns regarding the infrastructure (parts ending up in landfills). For SOLWHYNO, concerns were centred on the loss or waste of land particularly agricultural land that is used for farming and food production and thus, affecting food security.

**Figure 4.5: Reasons for being unhappy to have an onshore wind farm or solar panel farm constructed in their local area (based on all who would be unhappy), Spring 2022 and Spring 2023<sup>4</sup>**



WINDWHYNO. You said you would be very or fairly unhappy for an onshore wind farm to be built in your local area. Why is this? Please select all that apply.  
 SOLWHYNO. You said you would be very or fairly unhappy for a solar panel farm to be built in your local area. Why is this? Please select all that apply.  
 Base: All wave respondents who would not be happy – Spring 2022 / Spring 2023: Wind farm (573/555), Solar farm (361/358)

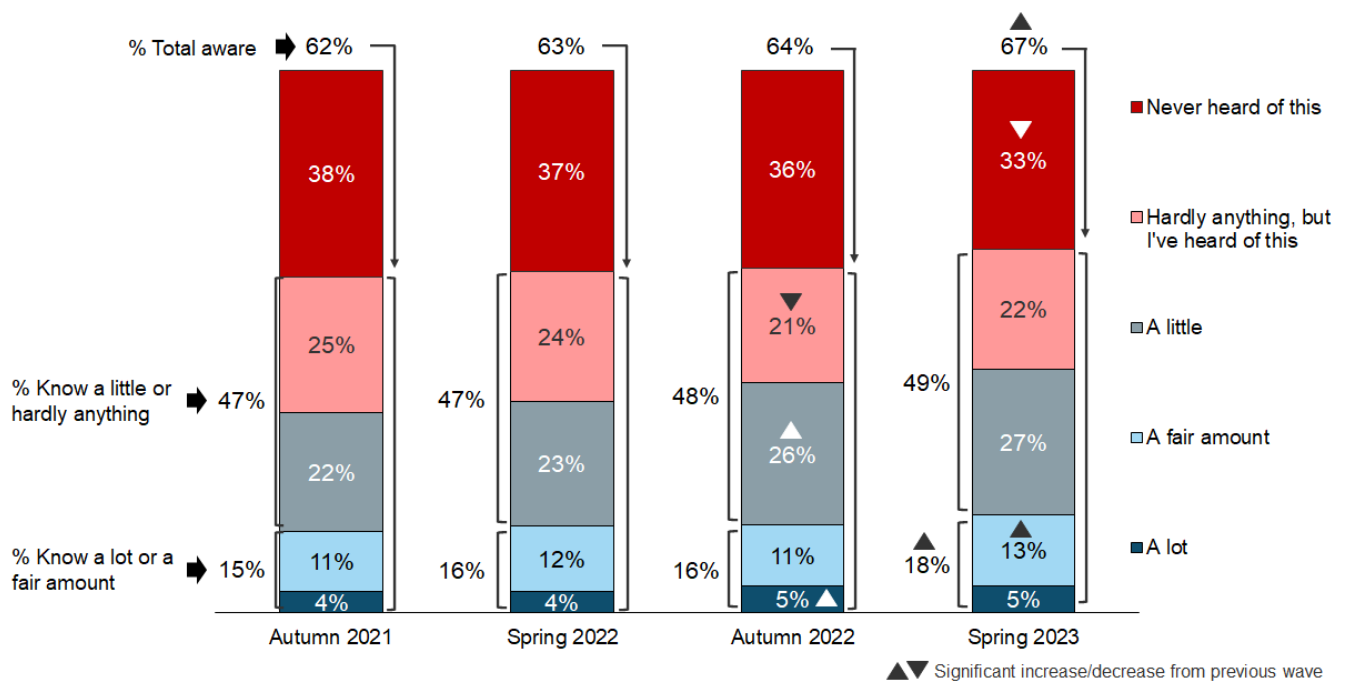
<sup>4</sup> Additional code of 'I'm concerned about safety' added to WINDWHYNO in Spring 2023

# Fusion energy

Respondents were provided with the following explanation before being presented with some questions on this topic *'Fusion energy is an experimental technology that works by fusing together atoms in order to release energy. The UK is exploring whether this technology could be used to generate zero carbon electricity'*. Questions on fusion energy are asked biannually (Autumn and Spring).

In Spring 2023, 67% of people said they were aware of fusion energy (Figure 5.1), higher than in Autumn 2022 (64%) and the highest level recorded to date. There was also an increase in the proportion saying they knew a lot or a fair amount about fusion energy, from 16% in Autumn 2022 to 18% in Spring 2023. Underlying this change, was an increase in the proportion who said they knew a fair amount about fusion energy (13%, compared with 11% in Autumn 2022).

**Figure 5.1: Awareness of fusion energy (based on all people), Autumn 2021, Spring and Autumn 2022, Spring 2023**



FUSIONKNOW. Fusion energy is an experimental technology that works by fusing together atoms in order to release energy. The UK is exploring whether this technology could be used to generate zero carbon electricity. Before today, how much, if anything, did you know about fusion energy?  
 Base: All wave respondents – Autumn 2021 (5,558), Spring 2022 (4,378), Autumn 2022 (4,158), Spring 2023 (4,406)

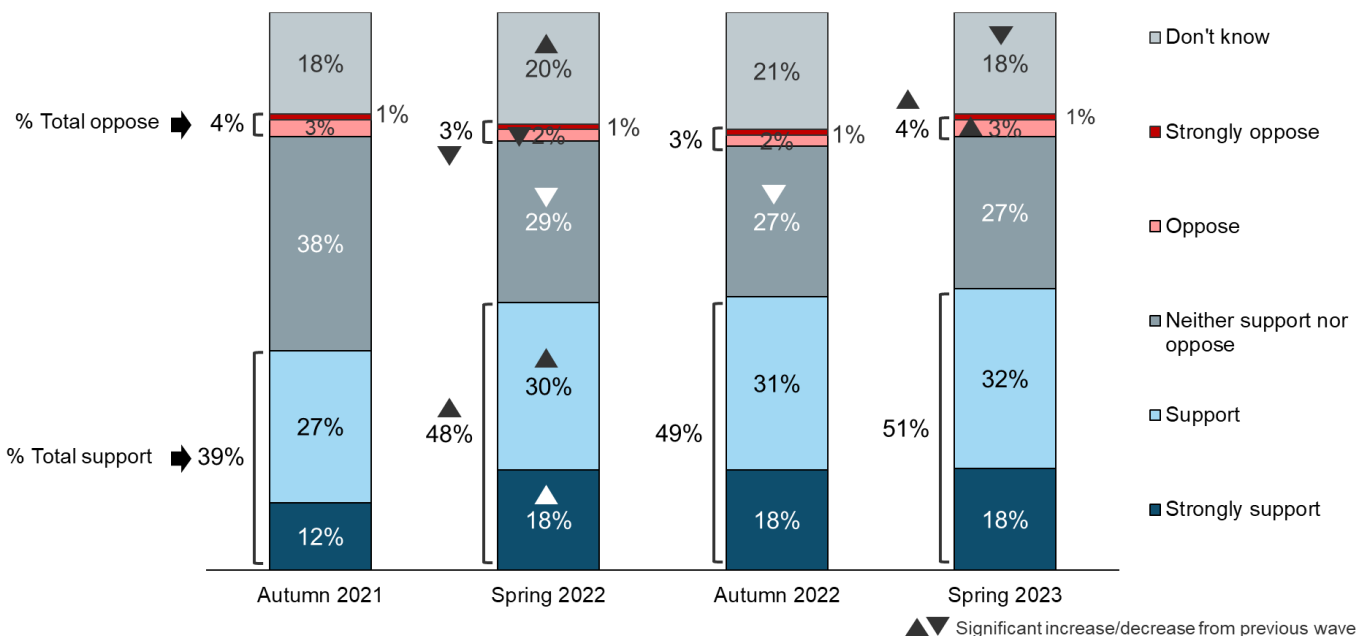
Men were much more likely than women to say they were aware of fusion energy (78%, compared with 56%) and to say they knew at least a fair amount about it (27%, compared with 10%).

As was the case for other energy technologies, overall awareness of fusion energy was higher for those educated to degree level (79%, compared with 64% of those with other qualifications and 53% of people with no qualifications). There was a similar pattern in reported levels of knowledge; 28% of those with degree level qualifications said they knew a lot or a fair amount, compared with 15% of those with other qualifications and 8% of those with no qualifications.

By geography, the proportion who said they knew at least a fair amount was highest in London (25%), the South West (24%), the South East (21%) and lowest in the North East (14%), the North West (14%), the West Midlands (13%) and Northern Ireland (12%).

There was little change in levels of support for fusion energy between Spring 2023 and Autumn 2022 (Figure 5.2). However, overall support for fusion energy (51%) remained above the level seen in Autumn 2021 (39%)<sup>5</sup>, as did strong support (18%, compared with 12% in Autumn 2021). Opposition to fusion energy remained very low in Spring 2023 (4%), albeit higher than the 3% recorded in Autumn 2022. Reflecting the low overall levels of awareness and knowledge seen in Figure 5.1, a large proportion said that they neither supported nor opposed fusion energy (27%). The proportion who said they didn't know (18%) was down from Autumn 2022 (21%), reflecting increased awareness as seen in Figure 5.1).

**Figure 5.2: Whether support fusion energy (based on all people), Autumn 2021, Spring and Autumn 2022, Spring 2023**



FUSIONSUPPORT. From what you know, or have heard about fusion energy, do you support or oppose the UK developing this technology?

Base: All wave respondents – Autumn 2021 (5,555), Spring 2022 (4,368), Autumn 2022 (4,157), Spring 2023 (4,408)

Overall support for fusion energy was higher for men (62%, compared with 40% of women) and degree educated people (59%, compared with 49% of those with another qualification and 40% of those with no qualifications). By geography overall support was higher in the South West (57%) and South East (56%) than in the North West (47%), the West Midlands (47%), Wales (47%) and Northern Ireland (43%). Support was also higher for those very concerned about climate change (58%) compared with those saying they were fairly concerned (47%) or not very or at all concerned about climate change (44%).

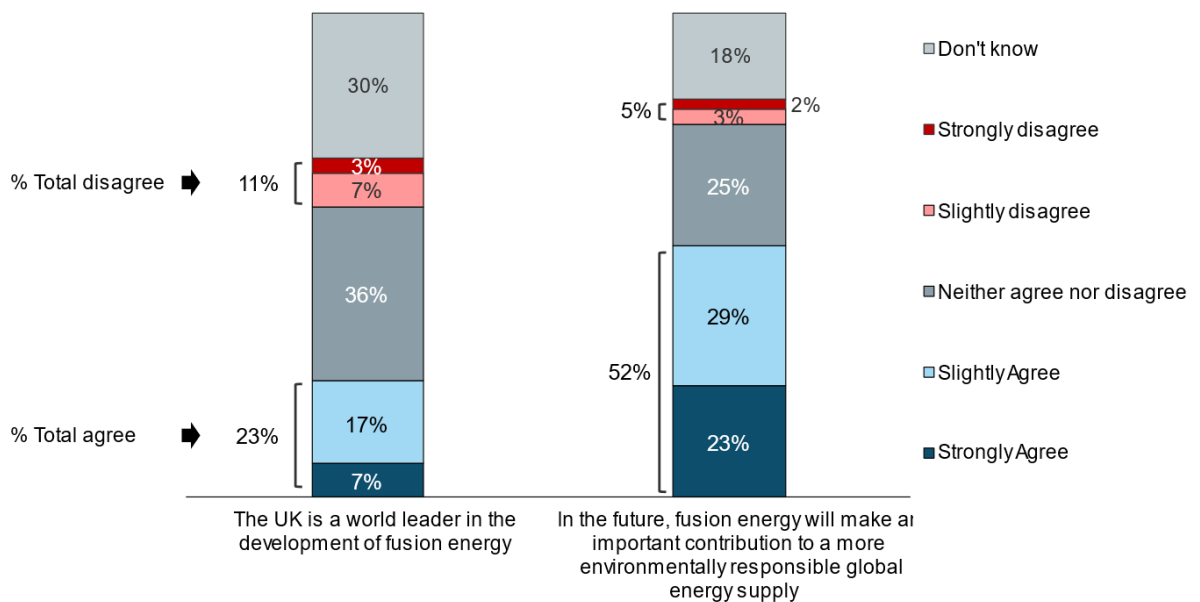
<sup>5</sup> The large increase in support between Autumn 2021 and Spring 2022 is surprising given that there was not an associated increase in awareness of fusion energy. One possible cause of this change is that the fusion questions were asked in a different context in Autumn 2021 compared with later waves. In later waves, the questions immediately followed the quarterly and biannual questions on general environmental topics such as net zero, climate change and renewables, whereas in Spring 2022 there was a section on Artificial Intelligence (AI) between these two sections. It is possible therefore that this change is partly explained by question order effects.

## Attitudes towards fusion energy

Two new questions were added in Autumn 2022 to explore further attitudes towards fusion energy among those who had heard of it (Figure 5.3). Of those aware of fusion energy, over half (52%) agreed that ‘in the future, fusion energy will make an important contribution to a more environmentally responsible global energy supply’, including 23% who agreed strongly. Only 5% disagreed with this statement.

Only about a quarter (23%) agreed that ‘the UK is a world leader in the development of fusion energy’. However, disagreement was also low at 11%, with the majority of people who had heard of fusion energy unable to give an opinion either way (36% neither agreed nor disagreed, and 30% said they didn’t know) (Figure 5.3).

**Figure 5.3: Attitudes towards fusion energy (based on those aware of fusion energy), Autumn 2022**



FUSIONATT1-2. From what you know, or have heard about fusion energy, how much do you agree or disagree with the following statements?

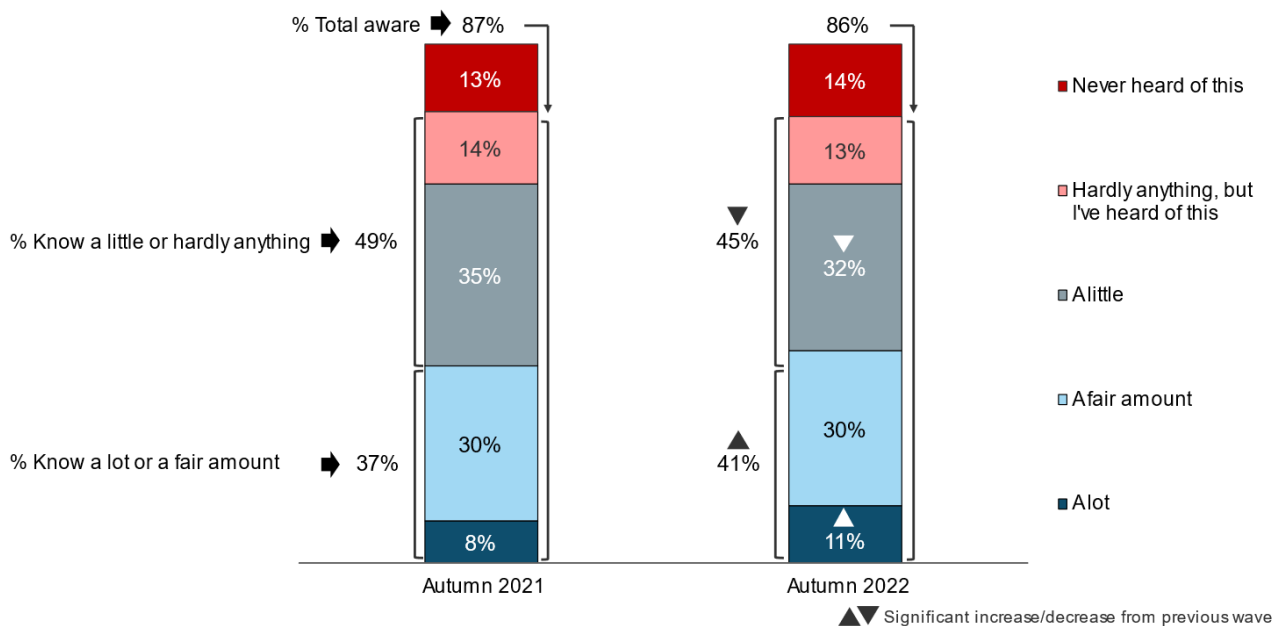
Base: All wave respondents who had heard of fusion energy – Autumn 2022: World leader (2,697), Future contribution (2,686)

# Shale gas

Questions on awareness and support for shale gas have been asked on an annual basis. Respondents were provided with the following explanation before being presented with some questions on this topic ‘*Shale gas is natural gas found in shale, a type of rock which does not allow the gas to escape. Hydraulic fracturing or ‘fracking’ is a process of pumping water at high pressure into shale to create narrow fractures which allow the gas to be released and captured. The gas can then be used for electricity and heating.*

In Autumn 2022, 86% of people said they had at least some previous knowledge of hydraulic fracturing for shale gas otherwise known as 'fracking', similar to Autumn 2021 (Figure 6.1). However, although awareness remained stable, within this there has been a shift towards greater knowledge about fracking. People were more likely than in Autumn 2021 to say they knew a lot or a fair amount (41%, compared with 37%) and there was an associated decline in the proportion saying they knew a little (32%, compared with 35%).

**Figure 6.1: Awareness of fracking (based on all people), Autumn 2021 and Autumn 2022**



FRACKKNOW. Shale gas is natural gas found in shale, a type of rock which does not allow the gas to escape. Hydraulic fracturing or ‘fracking’ is a process of pumping water at high pressure into shale to create narrow fractures which allow the gas to be released and captured. The gas can then be used for electricity and heating. Before today, how much, if anything, did you know about hydraulic fracturing for shale gas, otherwise known as ‘fracking’?

Base: All wave respondents – Autumn 2021 (5,559), Autumn 2022 (4,157)

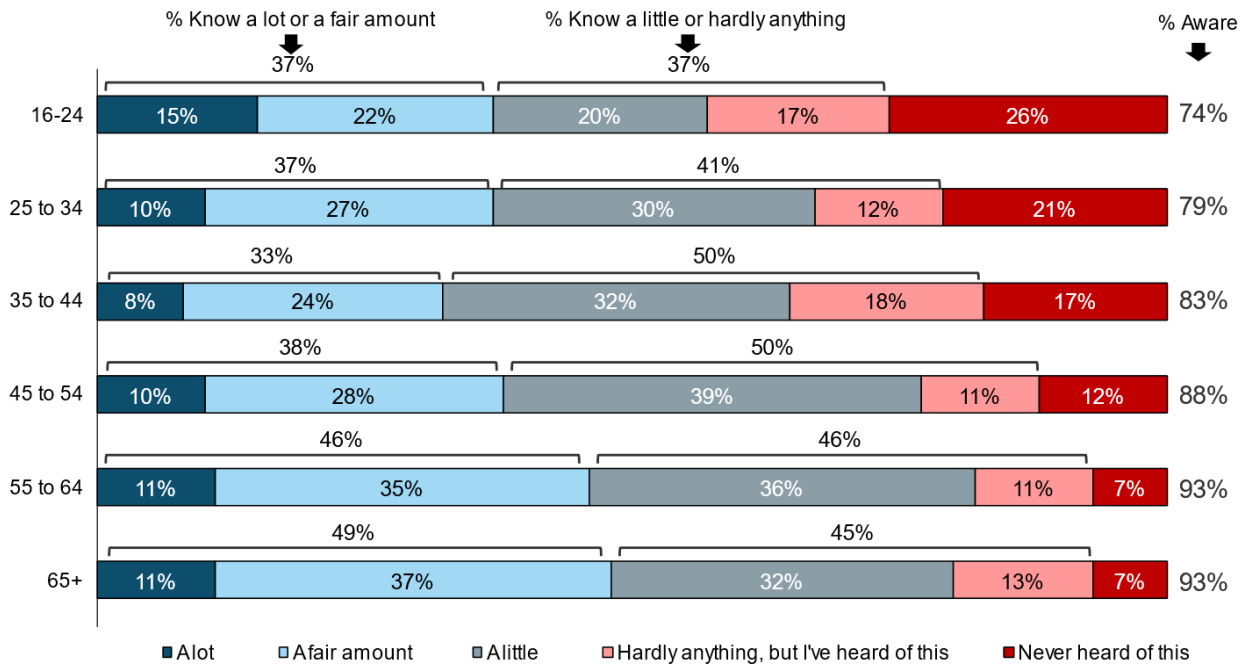
In Autumn 2022, men were more likely to say they were aware of fracking (91%, compared with 81% of women) with a more marked difference in the proportion of men saying they knew at least a fair amount (51%, compared with 31% of women).

People educated to degree level were more likely to be aware of fracking (91%, compared with 86% of those with other qualifications and 80% of people with no qualifications), and to know at least a fair amount about it (53%, compared with 37% and 30%).

Awareness of fracking was higher among older people (Figure 6.2): falling from 93% of those aged 55 or over to 74% of those aged 16 to 24.

Differences by age, gender and education were very similar to those seen in Autumn 2021.

**Figure 6.2: Awareness of fracking (based on all people), by age, Autumn 2022**



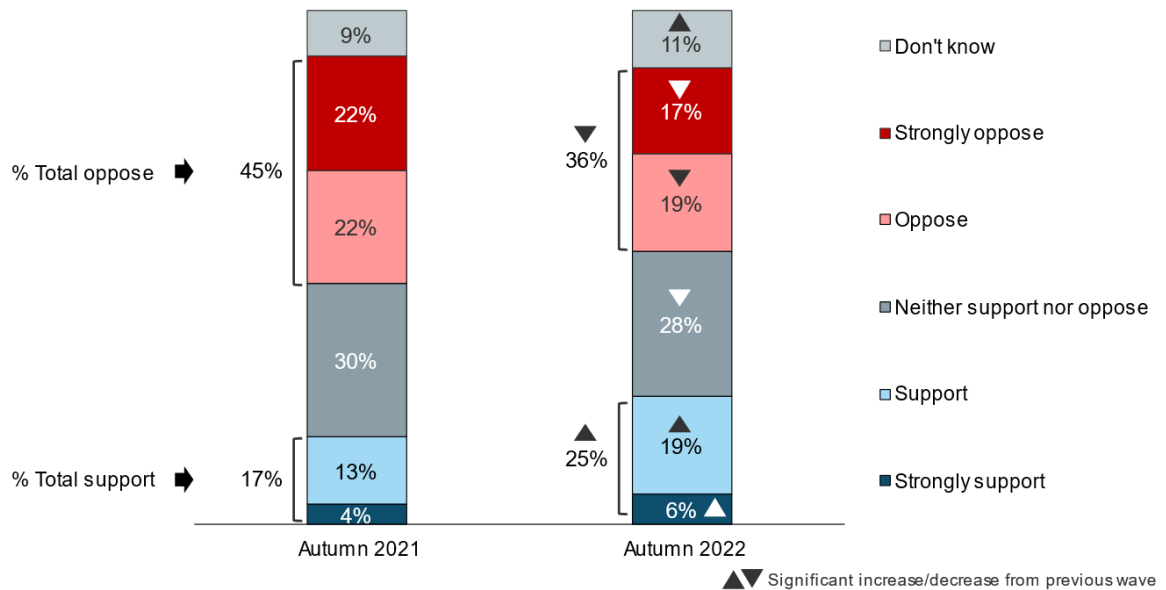
FRACKNOW. Shale gas is natural gas found in shale, a type of rock which does not allow the gas to escape. Hydraulic fracturing or 'fracking' is a process of pumping water at high pressure into shale to create narrow fractures which allow the gas to be released and captured. The gas can then be used for electricity and heating. Before today, how much, if anything, did you know about hydraulic fracturing for shale gas, otherwise known as 'fracking'?

Base: All wave respondents – Autumn 2022: 16 to 24 (267), 25 to 34 (542), 35 to 44 (608), 45 to 54 (670), 55 to 64 (761), 65 or over (1,252)



In Autumn 2022, opposition to fracking (36%) continued to outweigh support (25%) but support has increased since Autumn 2021 (17%) (Figure 6.3). Conversely, people were less likely to oppose fracking in Autumn 2022 (36%, compared with 45% in Autumn 2021). However, levels of indecision remained high, with four in ten people (39%) saying they neither supported nor opposed fracking (28%) or didn't know (11%).

**Figure 6.3: Whether support fracking (based on all people), Autumn 2021 and Autumn 2022**



FRACKSUPPORT. From what you know, or have heard, about extracting shale gas to generate the UK's heat and electricity, do you support or oppose its use?  
 Base: All wave respondents – Autumn 2021 (5,556), Autumn 2022 (4,156)

In Autumn 2022, men were both more likely to support fracking than women (30%, compared with 21%) and were more likely to oppose it than women (38%, compared with 34%). Women were more likely to give a neutral 'neither support nor oppose' response or a 'don't know' response than men (46%, compared to 32% of men).

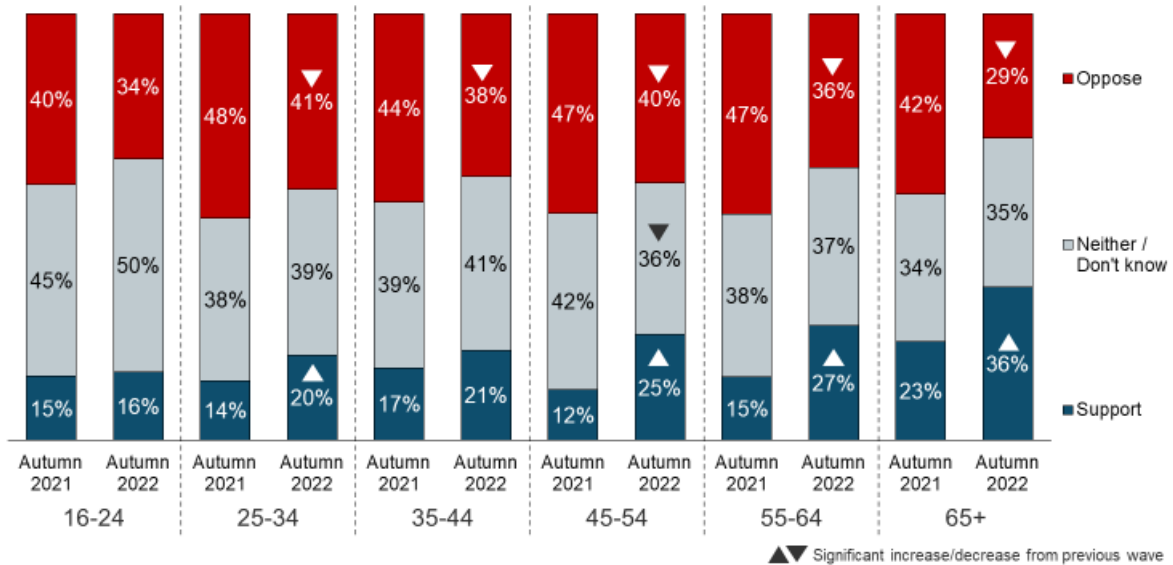
People educated to degree level were considerably more likely to oppose fracking (50%) compared to those with other qualifications (32%) and to those with no qualifications (22%).

People who were very concerned about climate change were both more likely to oppose fracking (51%, compared to 19% of those who were not concerned), and less likely to support fracking than those who were not concerned (19%, compared to 38%).

There was also a clear age gradient in support for fracking, with support increasing from 16% among people aged 16 to 24 to 36% of those aged 65 or over.

An analysis by age suggests that the overall increase in support for fracking since Autumn 2021 was mainly driven by older people aged 45 or over (Figure 6.4). Between Autumn 2021 and Autumn 2022 support increased from 12% to 25% among people aged 45 to 54, from 15% to 27% among people aged 55 to 64, and from 23% to 36% among people aged 65 and over. Among other age groups, levels of support remained more steady although there was also a small increase in support among those aged 25 to 34 (from 14% to 20%).

**Figure 6.4: Whether support fracking by age (based on all people), Autumn 2021 and Autumn 2022**



FRACKSUPPORT. From what you know, or have heard, about extracting shale gas to generate the UK's heat and electricity, do you support or oppose its use?

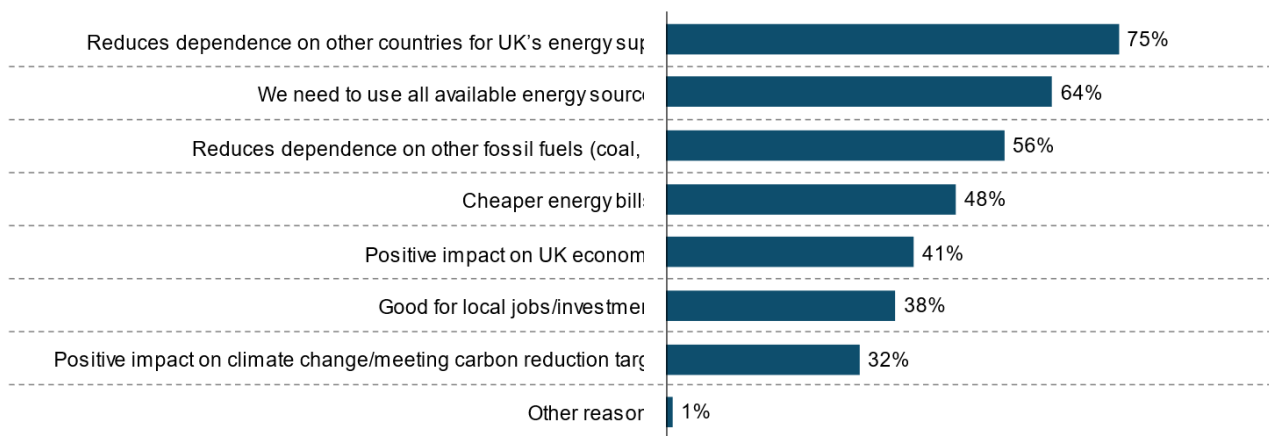
Base: All wave respondents – Autumn 2021/Autumn 2022 16 to 24 (332/267), 25 to 34 (686/543), 35 to 44 (654/608), 45 to 54 (774/671), 55 to 64 (905/762), 65 or over (2,168/1,248)

## Reasons for supporting or opposing shale gas

In Autumn 2022, people were asked their reasons for either supporting or opposing fracking, based on a list of possible reasons (Figure 6.5). Among those who said they supported fracking, the main reasons were to reduce dependence on other countries for the UK's energy supply (75%) and needing to use all available sources of energy (64%). These responses might reflect the prevailing context of the war in Ukraine with the potential impact of this on energy prices and energy security being widely covered in the media during fieldwork.

Further reasons for supporting fracking included reduced dependence on other fossil fuels (56%), cheaper energy bills (48%), positive impact on the UK economy (41%) and being good for local jobs/investment (38%).

**Figure 6.5: Why support fracking (based on those who support it), Autumn 2022**

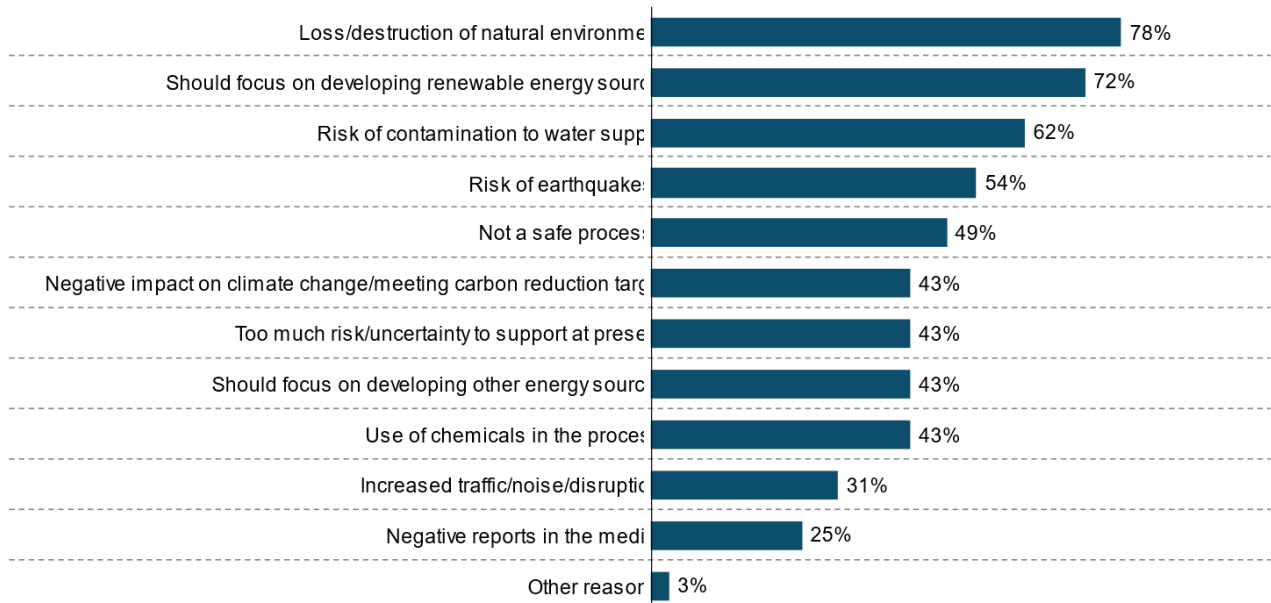


WHYSUPPFRACT. You said that you support hydraulic fracturing for shale gas, otherwise known as fracking. Why is this?

Base: All wave respondents who support fracking – Autumn 2022 (1,103)

Among those who opposed fracking, the most common reasons cited for this were concerns about loss/destruction of the natural environment (78%) and a belief that we should focus on developing renewable energy sources (72%) (Figure 6.6). These reasons were followed by safety concerns, including risk of contamination to the water supply (62%), risk of earthquakes (54%), and other general concerns about the safety of the process (49%).

**Figure 6.6: Why oppose fracking (based on those who oppose it) Autumn 2022**



WHYOPPFRACT. You said that you oppose hydraulic fracturing for shale gas, otherwise known as fracking. Why is this?

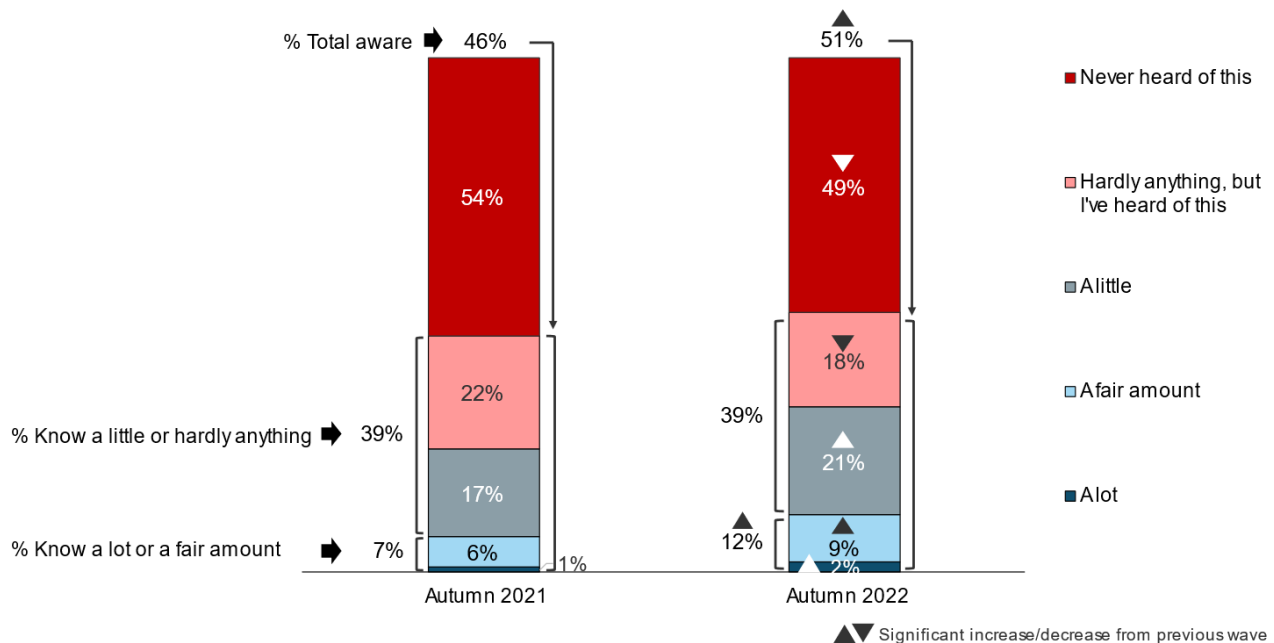
Base: All wave respondents who oppose fracking – Autumn 2022 (1,570)

# Small modular reactors

A question on awareness of small modular reactors is asked annually. Respondents were provided with the following explanation before being presented with some questions on this topic: *‘These are new types of nuclear reactors, similar to existing nuclear power stations, but on a smaller scale. They can be used for electricity generation, to provide industry with heat and power, or to provide energy to UK communities not connected to the national gas grid’.*

In Autumn 2022, 51% of people said they had heard of small modular reactors, up from Autumn 2021 (46%) (Figure 7.1). This overall increase in awareness was led by increased proportions who said they knew a lot or a fair amount about small modular reactors (11%, up from 7%) and a little (20%, up from 17%). There was a decline in the proportion who said they knew hardly anything (19%, down from 22%).

**Figure 7.1: Awareness of small modular reactors (based on all people), Autumn 2021 and Autumn 2022**



SMRKNOW. The next question is about Small Modular Reactors. These are new types of nuclear reactors, similar to existing nuclear power stations, but on a smaller scale. They can be used for electricity generation, to provide industry with heat and power, or to provide energy to UK communities not connected to the national gas grid. Before today, how much, if anything, did you know about Small Modular Reactors?  
 Base: All wave respondents – Autumn 2021 (5,548), Autumn 2022 (4,158)

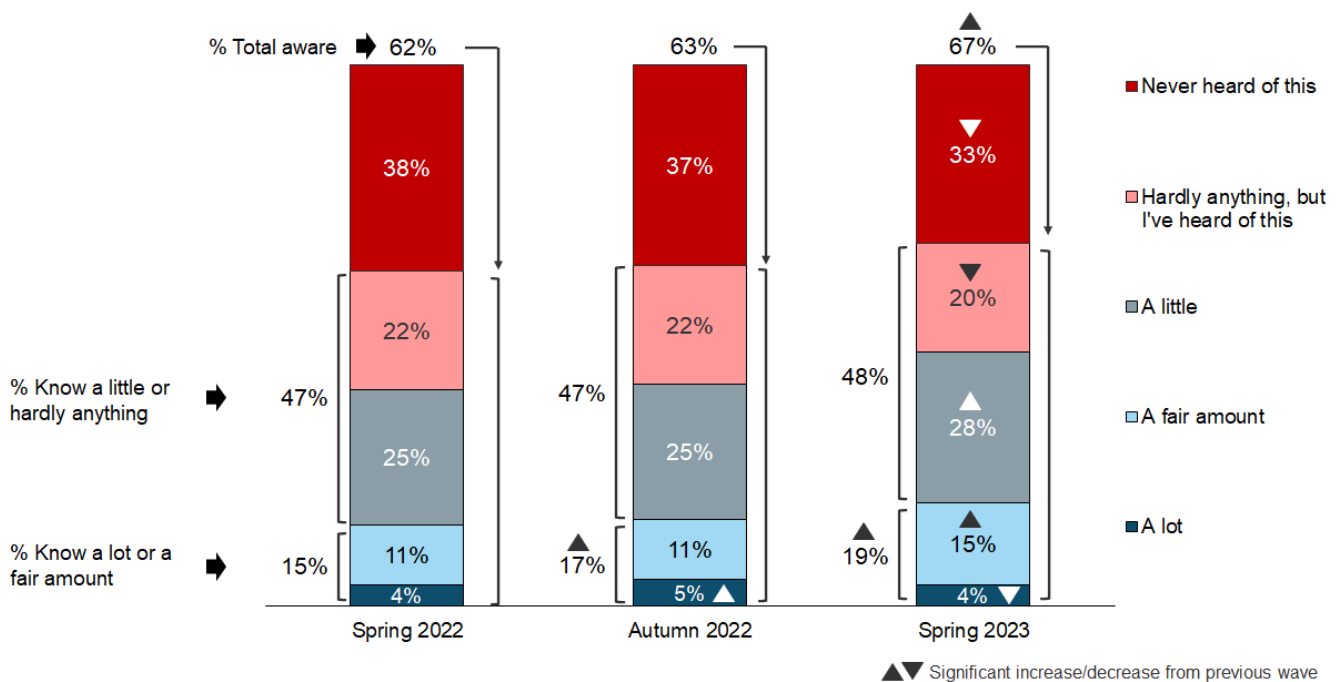
In Autumn 2022, men were considerably more likely to say they were aware of small modular reactors than women (62%, compared with 39%). Awareness was also higher for those educated to degree level (60%, compared with 48% of those with other qualifications and 37% of people with no qualifications). In those who said they knew a lot or a fair amount, there were similar patterns of difference by gender and education.

# Carbon capture and storage

Respondents were provided with the following explanation before being presented with some questions on this topic: *'Carbon capture and storage is a technology that stops greenhouse gases entering the atmosphere. It typically involves capturing carbon dioxide (CO2) emissions from power stations or industrial facilities where emissions are high. The CO2 is then piped to offshore underground storage sites, where it can be safely and permanently stored.'* Questions about carbon capture and storage are asked biannually in Spring and Autumn.

In Spring 2023, 67% of the public said they were aware of carbon capture and storage (Figure 8.1), higher than in Autumn 2022 (63%). There was also an increase in reported levels of knowledge, with 19% saying they knew a lot or a fair amount, compared with 17% in Autumn 2022 and 15% in Spring 2022. This increase was driven by more people saying they knew a fair amount (15%, up from 11% in Spring and Autumn 2022). There was a similar increase in the proportion saying they knew a little (28%, up from 25% in Spring and Autumn 2022), though the proportion saying they knew a lot was relatively low, at 4%.

**Figure 8.1: Awareness of carbon capture and storage (based on all people), Spring and Autumn 2022, Spring 2023**



CCSKNOW. Carbon capture and storage is a technology that stops greenhouse gases entering the atmosphere. It typically involves capturing carbon dioxide (CO2) emissions from power stations or industrial facilities where emissions are high. The CO2 is then piped to offshore underground storage sites, where it can be safely and permanently stored. Before today, how much, if anything, did you know about carbon capture and storage?  
 Base: All wave respondents – Spring 2022 (4,375), Autumn 2022 (4,155), Spring 2023 (4,406)

In Spring 2023, men were much more likely to be aware of carbon capture and storage (76%, compared with 58% of women) and to say they knew at least a fair amount about it (26%, compared with 11% of women). Overall awareness of carbon capture and storage was higher among people aged 16 to 24 (73%) and those aged 55 and over (71% of those aged 55 to 64, 72% of those aged 65 and over) compared with those aged 25 to 54 (61% of those aged 25 to 34, 58% of those aged 35 to 44 and 65% of those aged 45 to 54).

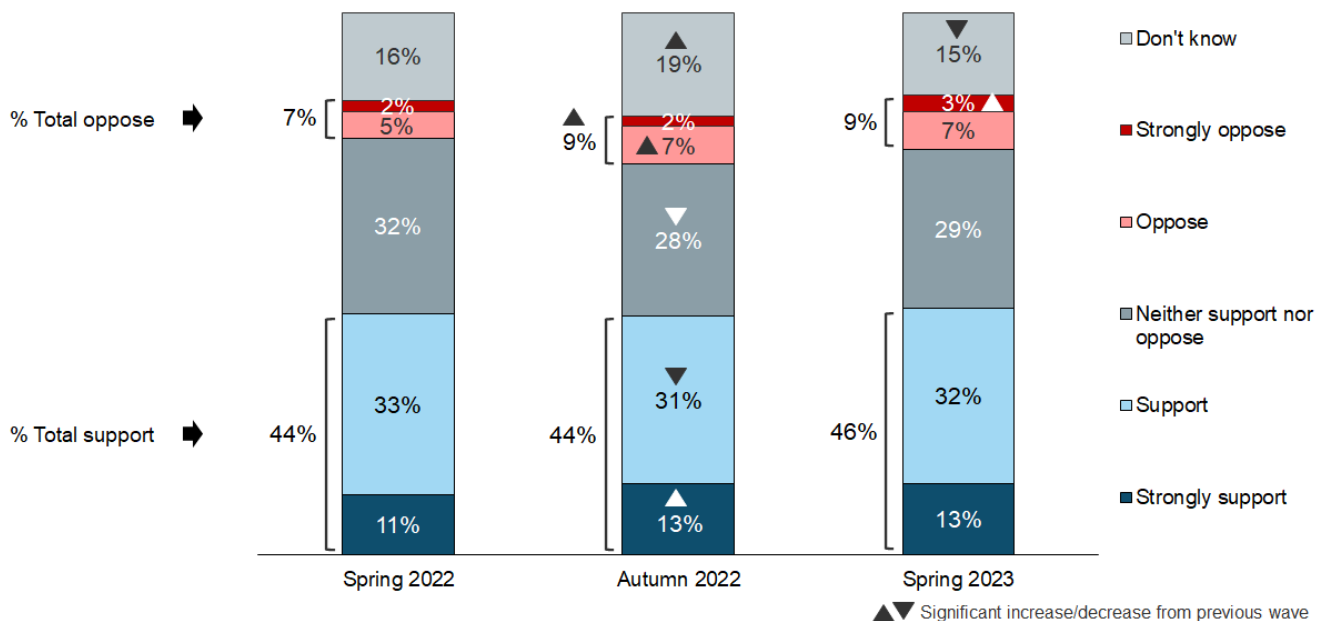
As was the case for most energy technologies, awareness of carbon capture was higher among those educated to degree level (75%, compared with 65% of those with other qualifications and 56% of people with no qualifications), with a similar pattern of difference in the proportions knowing at least a fair amount.

By geography there were no differences in overall awareness of carbon capture and storage, but people living in Scotland were more likely to say they knew a lot or a fair amount about it (27%) than those in all other localities.

In Spring 2023, a large proportion of people could not give an opinion on whether they supported or opposed carbon capture, with 29% saying they neither supported or opposed the technology and 15% stating that they didn't know whether they supported or opposed it (Figure 8.2). This reflects the relatively low level of awareness and understanding of this technology shown in Figure 8.1, but the decrease since Autumn 2022 in the proportion who said they didn't know (15%, down from 19%), reflects increased awareness seen since then.

Where people did give an opinion, they remained much more likely to support (46%) than oppose the technology (9%), although there was a small increase in strong opposition (3%, compared with 2% in Autumn 2022).

**Figure 8.2: Whether support or oppose carbon capture and storage (based on all people), Spring and Autumn 2022, Spring 2023**



CCSSUPPORT. From what you know, or have heard about it, do you support or oppose the use of carbon capture and storage to reduce greenhouse gas emissions?

Base: All wave respondents – Spring 2022 (4,366), Autumn 2022 (4,145), Spring 2023 (4,397)

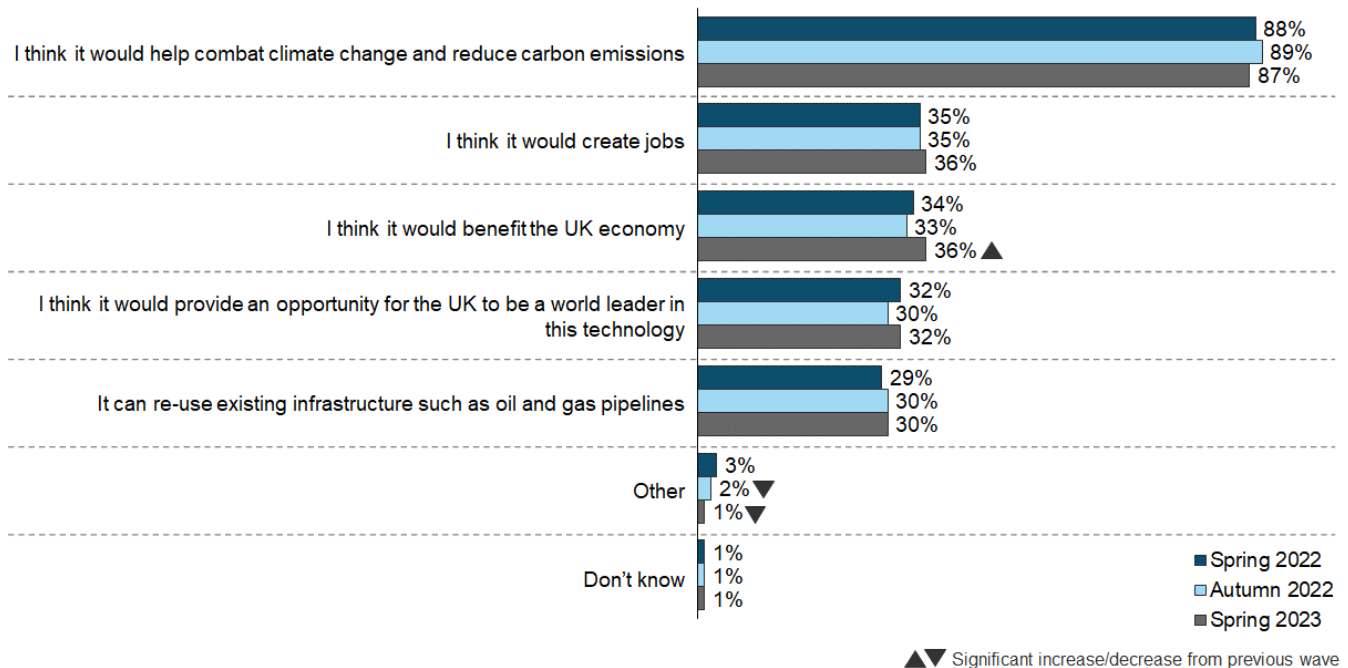
In Spring 2023, overall support for carbon capture was higher among men (51%, compared with 42% of women) and degree educated people (52%, compared with 44% of those with another qualification and 40% of those with no qualifications). Support was higher among those living in Scotland (52%) and London (50%) compared with those in the West Midlands (42%), Wales (41%) and East Midlands (39%). Support was considerably higher among those who were very concerned (56%) or fairly concerned (44%) about climate change than among those who were not very or not all concerned about it (31%).

## Reasons for supporting or opposing carbon capture and storage

As shown in Figure 8.2, 46% of people supported the use of carbon capture and storage, and 9% opposed it in Spring 2023. People were asked to select their reasons for support or opposition from a list of suggested possible reasons.

The reasons given by those who supported carbon capture were similar to those seen in Spring and Autumn 2022 (Figure 8.3). In Spring 2023, the principal reason for supporting the use of carbon capture and storage was, once again, to help combat climate change and reduce carbon emissions (87%). Further reasons, each cited by around one in three supporters of carbon capture and storage, included job creation (36%), benefit to the UK economy (36%, up from 33% in Autumn 2022), it being an opportunity for the UK to be a world leader in this technology (32%), and the ability to re-use existing infrastructure (30%).

**Figure 8.3: Reasons for supporting the use of carbon capture and storage (based on those who support this), Spring and Autumn 2022, Spring 2023**



WHYSUPPCCS. You said that you support the use of carbon capture and storage in the UK. Why is this?

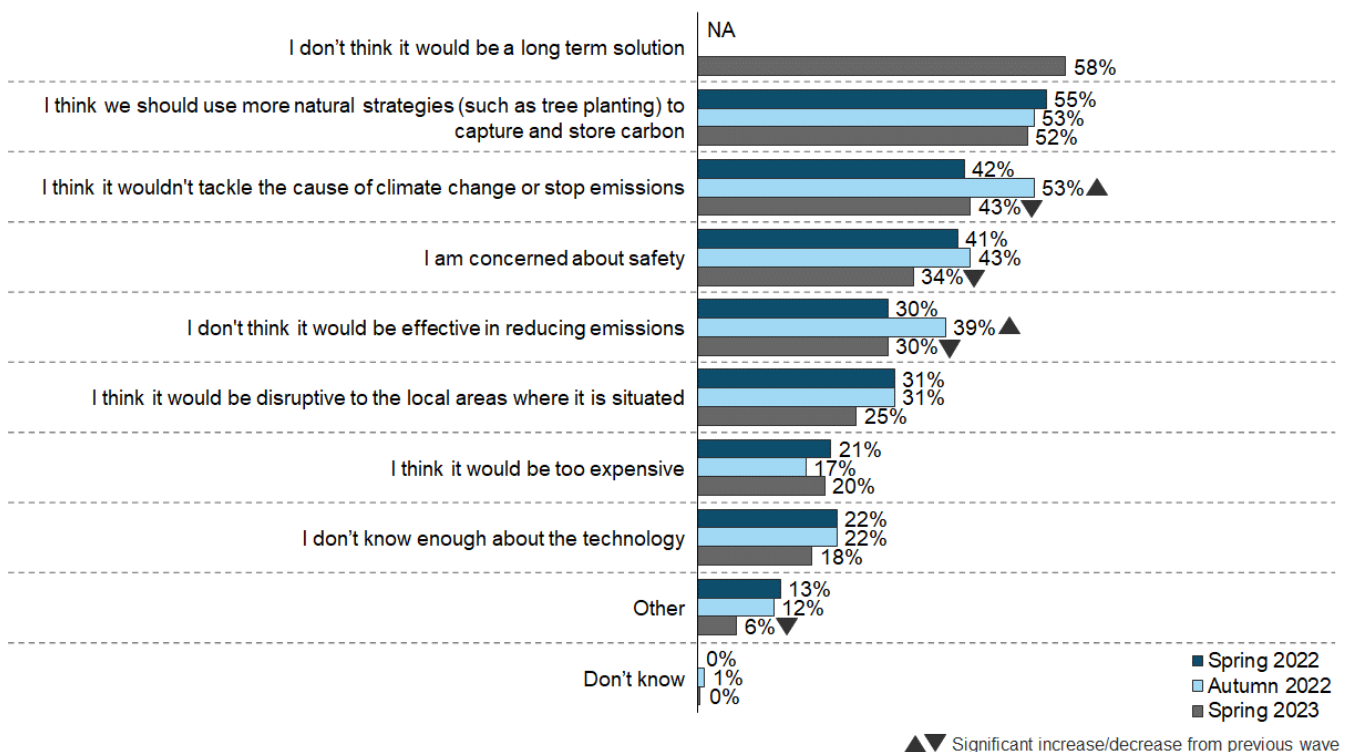
Base: All wave respondents who support carbon capture & storage – Spring 2022 (1,992), Autumn 2022 (1,859), Spring 2023 (2,094)



In Spring 2023, among the 9% who opposed carbon capture and storage, the top reason was that this would not be a long-term solution (58%). This response option was added to the survey in Spring 2023 in response to previous results (Figure 8.4). This was followed by a preference for more natural strategies such as tree planting (52%).

Compared with Autumn 2022, in Spring 2023 smaller proportions who opposed carbon capture and storage selected each of the next three reasons: a feeling that it would not tackle the cause of climate change or stop emissions (43%, down from 53%), concerns about safety (34%, down from 43%), and a belief that it would be ineffective in cutting emissions (30%, down from 39%). These changes largely reverse increases seen between Spring 2022 and Autumn 2022; the addition of the new code ('I don't think it would be a long-term solution') in Spring 2023 may have displaced these reasons for opposition.

**Figure 8.4: Reasons for opposing the use of carbon capture and storage (based on those who oppose this), Spring and Autumn 2022, Spring 2023**



WHYOPPCCS. You said that you oppose the use of carbon capture and storage in the UK. Why is this?<sup>6</sup>  
 Base: All wave respondents who oppose carbon capture & storage – Spring 2022 (357), Autumn 2022 (379), Spring 2023 (405)

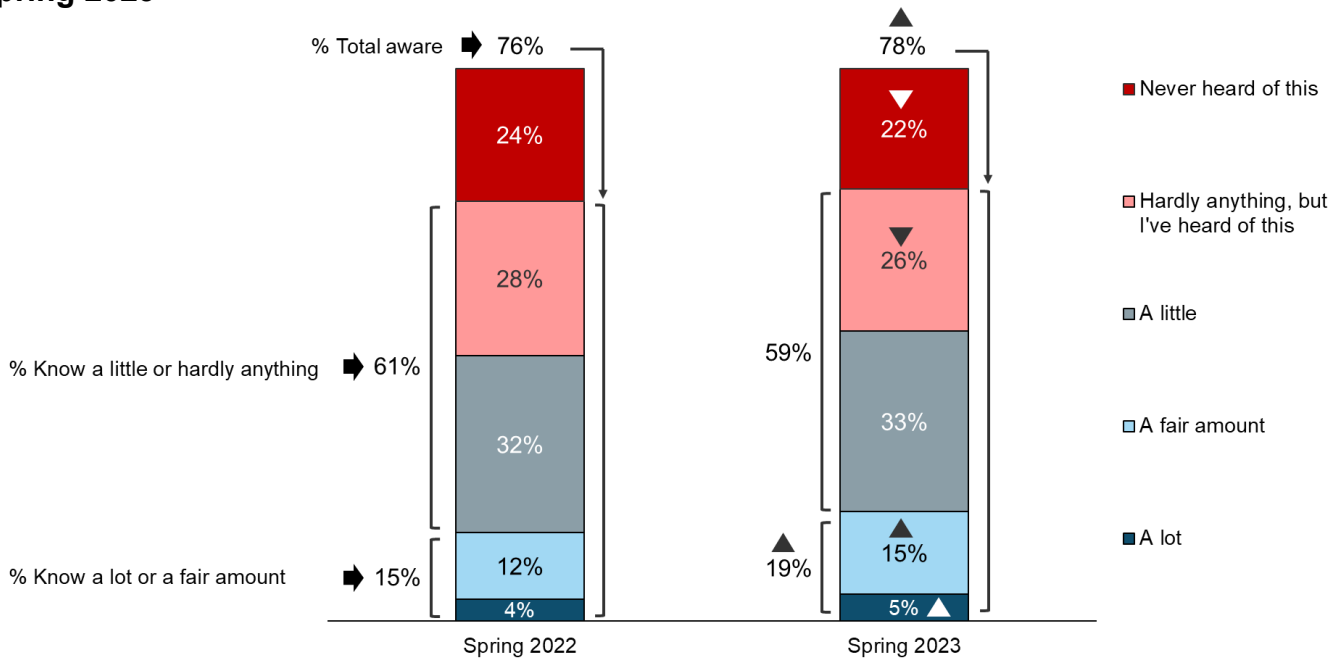
<sup>6</sup> New code of 'I don't think it would be a long-term solution' added in Spring 2023

# Hydrogen as fuel

People were introduced to the concept of hydrogen as a fuel by being provided with the following definition: ‘*And now a question about hydrogen, which is used as a fuel in some industrial processes. Hydrogen is not naturally available. This means it needs to be produced from other sources to be used as a fuel. When produced in an environmentally friendly way, hydrogen can help reduce the carbon emissions in industries, power generation, lorries and shipping.*’. Questions on hydrogen are included annually in Spring.

Overall awareness of the use of hydrogen as fuel rose slightly to 78% in Spring 2023 from 76% in Spring 2022 (Figure 9.1). As was the case for other technologies, the level of perceived knowledge remained fairly low. Nevertheless, there was an increase in the proportion of people saying they knew a lot or a fair amount, from 15% in Spring 2022 to 19% in Spring 2023. Around six in ten (59%) said they knew a little or hardly anything about the use of hydrogen as a fuel.

**Figure 9.1: Awareness of hydrogen used as fuel (based on all people), Spring 2022 and Spring 2023**



HYDKNOW. And now a question about hydrogen, which is used as a fuel in some industrial processes. Hydrogen is not naturally available. This means it needs to be produced from other sources to be used as a fuel. When produced in an environmentally friendly way, hydrogen can help reduce the carbon emissions in industries, power generation, lorries and shipping. Before today, how much would you say you knew about hydrogen already being used as a fuel in some industrial processes in the UK?

Base: All wave respondents – Spring 2022 (4,372), Spring 2023 (4,400)

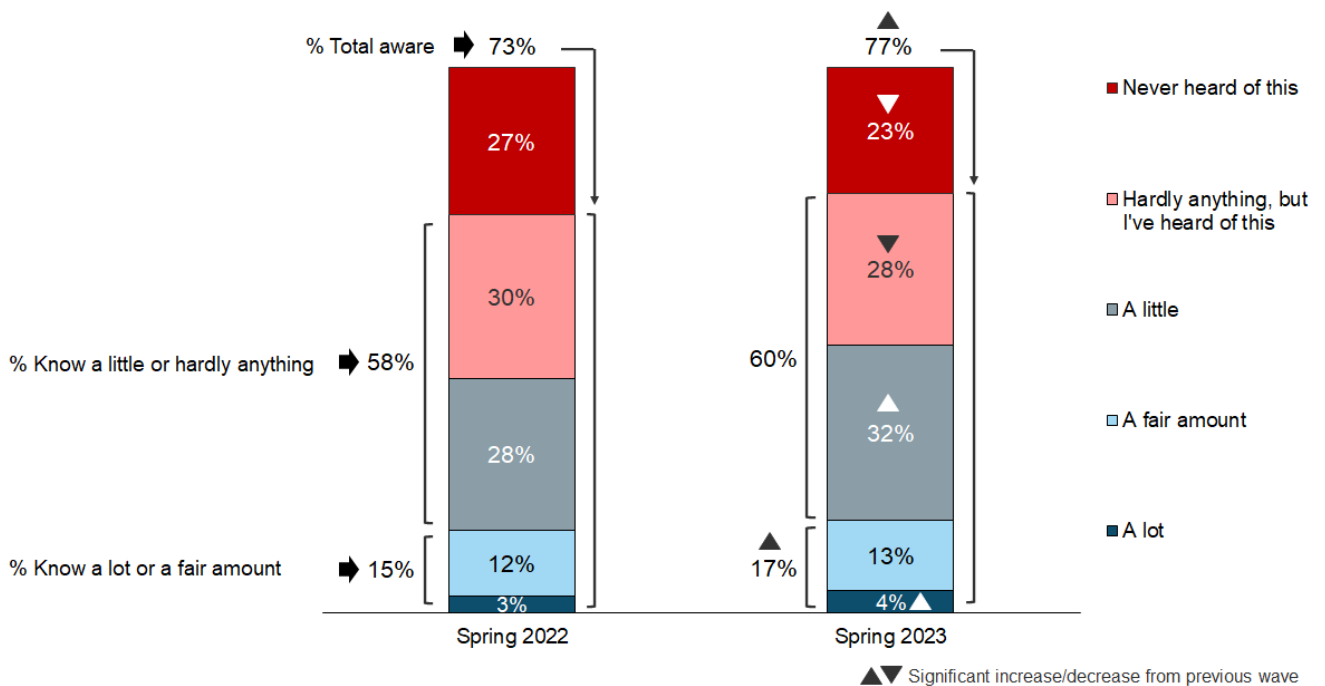
In common with awareness and knowledge of other energy sources, men were much more likely to be aware of hydrogen as a fuel (88%, compared with 68% of women) and to say they knew at least a fair amount about it (29%, compared with 9% of women).

Awareness of hydrogen as a fuel was also higher for those educated to degree level (85%, compared with 77% of those with other qualifications and 67% of people with no qualifications) and there was a similar pattern in reported levels of knowledge (25% of degree-educated people said they knew at least a fair amount, compared with 18% of those with other qualifications and 9% of people with no qualifications).

By geography, awareness was higher in the South West (83%), East of England (82%) and the South East (81%) compared with the North West (74%), East Midlands (74%), Yorkshire and the Humber (73%) and Wales (72%).

In Spring 2023, awareness and knowledge about the potential future uses of hydrogen to reduce emissions in some industries had also increased (Figure 9.2). Almost three in four had heard of this (77%, up from 73% in Spring 2022) and 17% said they knew a lot or a fair amount about it, up from 15%. There was also an increase in the proportion saying they knew a little (32%, up from 28%), indicating a general shift towards greater levels of knowledge, as well as awareness.

**Figure 9.2: Awareness of potential future uses of hydrogen (based on all people), Spring 2022 and Spring 2023**



HYDREDKNOW. Before today, how much would you say you knew about the potential future uses of hydrogen to reduce emissions in some industries?

Base: All wave respondents – Spring 2022 (4,372), Spring 2023 (4,402)

Patterns of difference in awareness of the potential uses of hydrogen to reduce emissions in some industries by gender, education and geography were similar to those observed for more general awareness of hydrogen as a fuel.

# Concerns about energy security

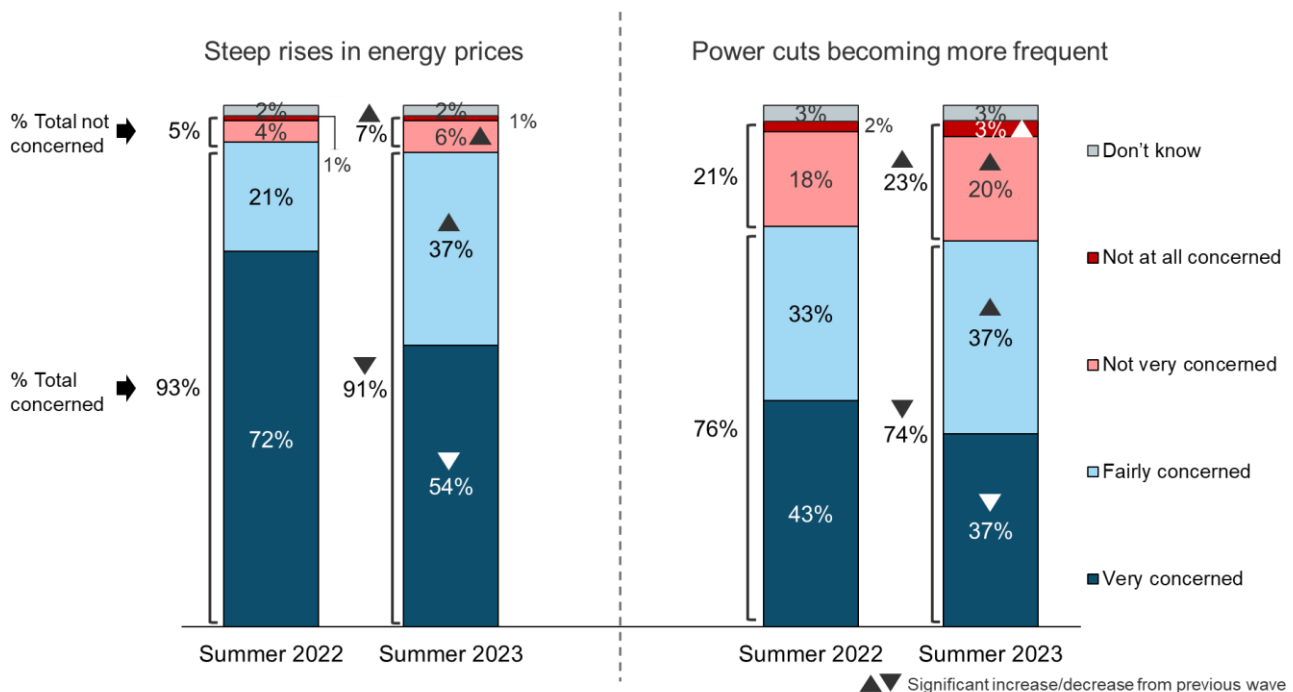
Annually, in summer, people are asked about the extent to which they are concerned about the potential impact of the following issues relating to energy security in the next 10-20 years:

- Steep rises in energy prices in the future
- Power cuts becoming more frequent in the future

It is worth noting that these questions were first asked in Summer 2022 in the context of significant media focus on this issue, given the impact of the war in Ukraine on foreign imports of energy, and the widely anticipated (at the time) further increase of the energy price cap and associated increases in energy prices. In Summer 2023 the price cap review was being conducted on a more frequent (quarterly) basis and decreases in the cap were expected to reduce household bills for most people from July 2023. In addition, from July 2023 the prepayment meter premium was scrapped.

In Summer 2023, while almost all people remained at least fairly concerned about steep rises in energy prices in the future (91%), substantially fewer reported feeling very concerned (54%) than in Summer 2022 (72%) (Figure 10.1). Overall concern about more frequent power cuts also remained high at 74%, but a slightly smaller proportion said they felt very concerned (37%) than in Summer 2022 (43%). Very few (1 to 3%) said they were not at all concerned about each of these issues in Summer 2023.

**Figure 10.1: Concern about energy security in future (based on all people), Summer 2022 and Summer 2023**



ENSECCONCERN1-2. Now some questions about how concerned you are about various things happening in the future. By 'the future' we mean the next 10-20 years. So, how concerned, if at all, are you about...

Base: All wave respondents – Summer 2022/Summer 2023: Steep rises (4,487/3,997), Power cuts (4,462/3,983)

Overall concern about steep rises in energy prices was high across all subgroups, although women were more likely than men to say they were very concerned (58% of women, compared with 50% of men). Women were also more likely than men to express strong concern about future power cuts (41%, compared with 34%).

## DESNZ Public Attitudes Tracker (Winter 2023, UK)

By age group, people aged 16 to 24 (46%) and those aged 65 and over (47%) were less likely to be very concerned about steep rises in energy prices compared with those aged 25 to 64 (56% to 60% across the age groups). Lower levels of concern among younger people, in Summer 2023 as in Summer 2022, are likely to be related to a reduced likelihood among this age group to pay their own energy bills.

In terms of concern about future power cuts, those aged 55 and over were most likely to be at least fairly concerned (79% of those aged 55 to 64 and 81% of those aged 65 and over), particularly compared with those aged under 35 (68% of those aged 16 to 24 and 25 to 34).

Those paying for their energy using a prepayment meter were more likely to be very concerned about steep increases in price (63%) compared with those paying by direct debit or standing order (53%) and those paying on receipt of bills (52%). Renters were also more likely to be very concerned about price rises (64%) compared with owner-occupiers (51%). By geography, those living in Scotland were more likely to be very concerned about steep price rises (61%) compared with those in London (48%) and Northern Ireland (48%).

All people interviewed each summer are further asked about their level of concern with the following issues relating to energy security and supply in the next 10 to 20 years:

- UK supplies of fossil fuels (such as coal, oil or gas) not being sufficient to meet the UK's demand for them.
- The UK not investing quickly enough in alternative sources of energy.
- The UK not developing technology to get the most out of its existing sources of fossil fuels.
- The UK being too dependent on energy from other countries.

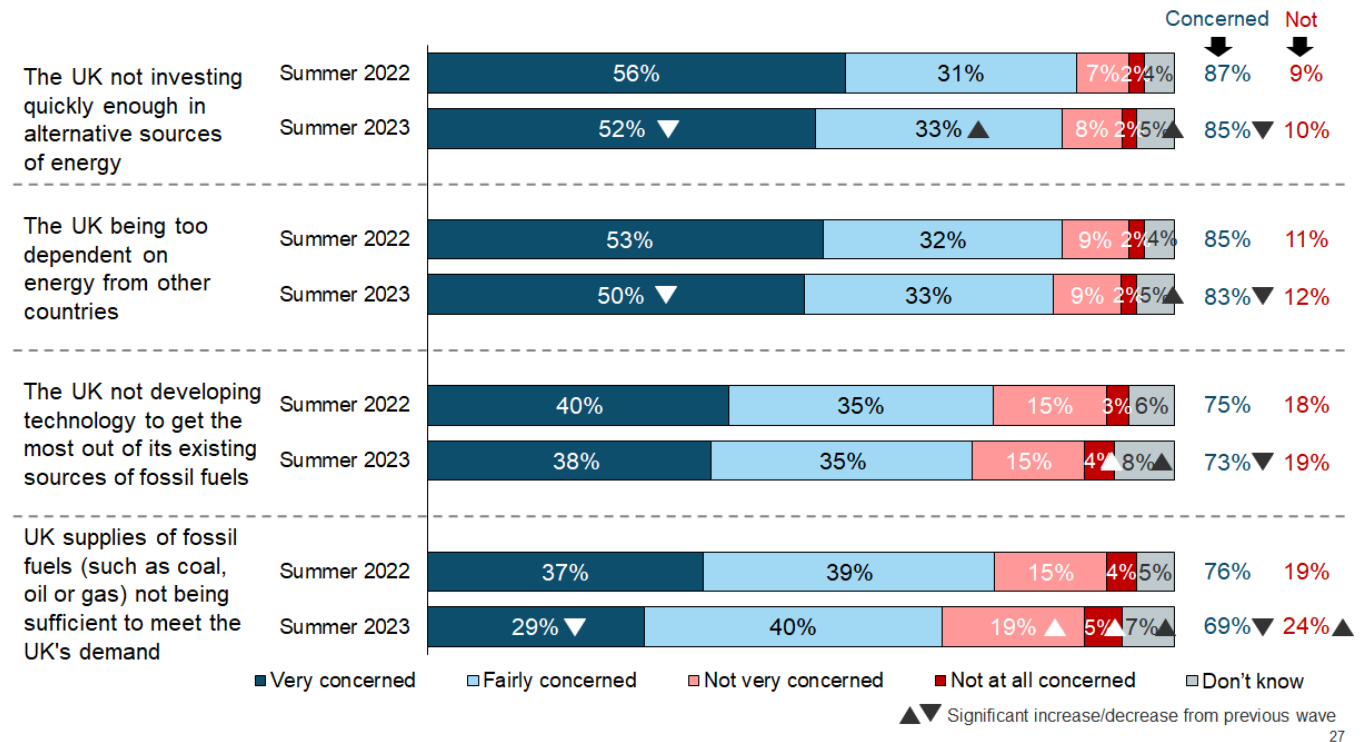
As noted above, these questions should be considered in the context of considerable media focus on this issue during fieldwork when they were first asked in Summer 2022, and a change in circumstances by Summer 2023. In this context, it is unsurprising that attitudes have become slightly more positive compared with Summer 2022.

In Summer 2023, a large majority remained concerned that the UK is not investing quickly enough in alternative energy sources (85%) and that the UK is too dependent on energy from other countries (83%) with around half very concerned with each (52% and 50% respectively) (Figure 10.2). The proportion who were very concerned about each had declined slightly since Summer 2022 (from 56% and 53% respectively).

Three in four were concerned that the UK is not developing technology to get the most out of existing sources of fossil fuel (73%) although this was down slightly from 75% in Summer 2022, with 38% very concerned. Concern that UK supplies of fossil fuels will not be sufficient to meet demand in the future had declined since Summer 2022 (69%, compared with 76%), driven by a decrease in the proportion who were very concerned (29%, down from 37%).

Only a very small minority (between 2% and 5%) said they were not at all concerned about these four energy security issues.

**Figure 10.2: Concern about energy supply in future (based on all people), Summer 2022 and Summer 2023**



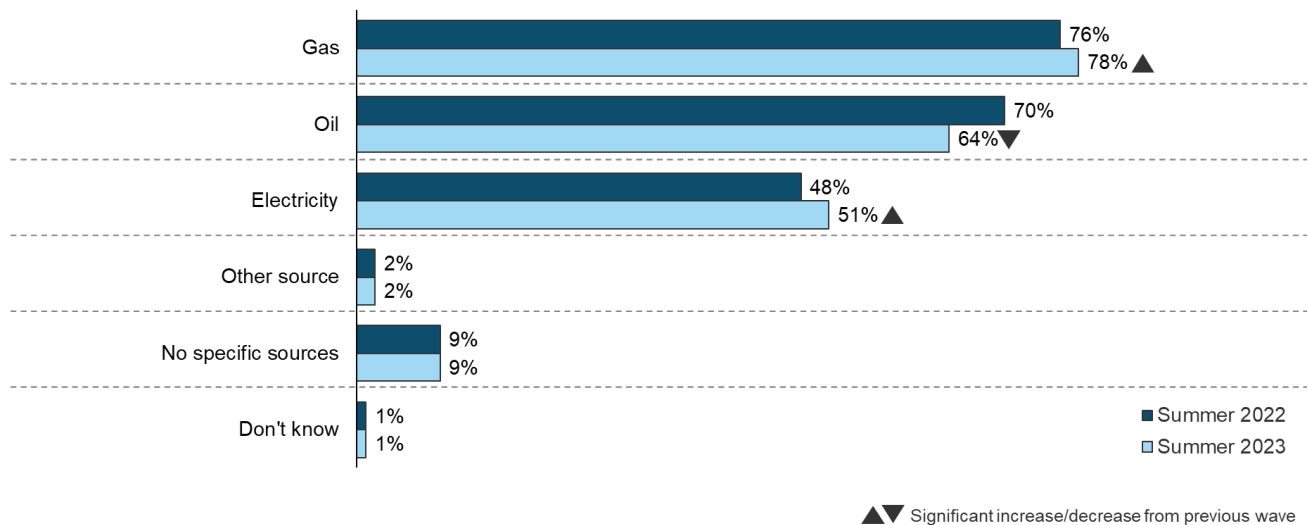
ENSECCONCERN3-6. And still thinking about the next 10-20 years, how concerned, if at all, are you about...  
 Base: All wave respondents – Summer 2022/Summer 2023: Not investing (4,472/3,988), Too dependent (4,479/3,992), Not developing technology (4,463/3,983), Supplies not being sufficient (4,469/3,986)

Levels of concern about energy supply varied by age, with older people generally being more concerned. For example, those aged 65 and over were more likely than all other age groups, but particularly than those aged 16 to 24 to be at least fairly concerned that UK supplies of fossil fuels will not be sufficient (76%, compared with 63% of those aged 16 to 24), and that the UK is not developing technology to get the most of its existing fossil fuels (82%, compared with 65% of those aged 16 to 24). Those aged 16 to 24 were also less likely to be concerned overall about the UK not investing quickly enough in alternative sources of energy (73%) compared with those in all other age groups (ranging from 84% to 88%).

Women were more likely to be very concerned that UK supplies of fossil fuels are not sufficient to meet demand (32%, compared with 26% of men) and more concerned overall that the UK is not developing technology to get the most out of existing fossil fuel sources (77%, compared with 69% of men).

Those who were very or fairly concerned about the UK becoming too dependent on energy from other countries were asked to identify the specific sources of energy that they were thinking of here (Figure 10.3). In Summer 2023, among those concerned about over-dependence of foreign energy supplies, people were most likely to be thinking about gas (78%, up from 76% in Summer 2022) and around half were thinking about electricity (51%, up from 48%). Conversely there was a slight fall in the proportion mentioning oil as a key focus in Summer 2023 (64%, down from 68%), although oil remains the second most selected source.

**Figure 10.3: Sources of energy causing concern about UK becoming too dependent on energy from other countries (based on those who are concerned about energy dependency), Summer 2022 and Summer 2023**



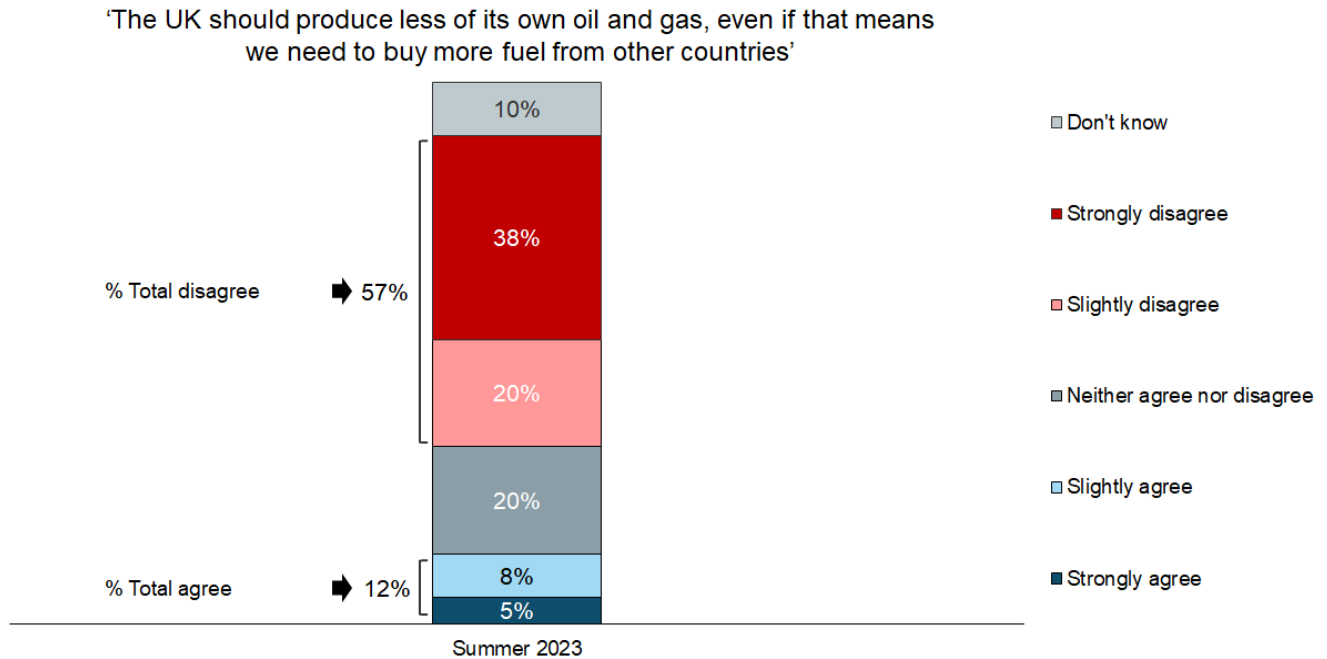
ENSECSOURCE. You said that you are very or fairly concerned about the UK being too dependent on energy from other countries. When you gave this answer, were you thinking about specific energy types?

Base: All wave respondents who are concerned about energy dependency – Summer 2022 (3,897), Summer 2023 (3,452)

People living in Northern Ireland were more likely to have been thinking about oil (80%) compared with those in all other geographies; this proportion was lowest in the North East (55%). Those in Northern Ireland were less likely to be thinking about gas (70%) than those in other geographies.

A new question was included in Summer 2023 to assess support for reducing domestic production of oil and gas. In Summer 2023 12% agreed that ‘the UK should produce less of its own oil and gas even if that means we need to buy more fuel from other countries’, including just 5% who agreed strongly with this. Far more people (57%) disagreed to some extent with this statement, including 38% who disagreed strongly (Figure 10.4).

**Figure 10.4: Extent to which agree that the UK should produce less of its own oil and gas even if that means buying more fuel from other countries (based on all people), Summer 2023**



ENSECOWN. How much do you agree or disagree with the following statement?  
 Base: All wave respondents – Summer 2023: (3,986)

Men were more likely to strongly disagree that the UK should produce less of its own oil and gas even if that means buying more fuel from other countries (43%, compared with 33% of women), as were those aged 55 and over (51% of those aged 55 to 64 and 53% of those aged 65 and over). Disagreement with this statement decreased through the age bands, falling to 15% among those aged 16 to 24.

People living in rural areas were more likely to strongly disagree (46%) compared with those in urban areas (36%). This is reflected in much lower levels of strong disagreement in London (30%), compared with those in the East of England (45%), Wales (43%), Northern Ireland (42%), the East Midlands (41%), West Midlands (41%), and Scotland (40%).

Those concerned about the UK being too dependent on energy from other countries were far more likely to disagree overall (64%, compared with 32% of those who were not concerned about the UK's foreign energy dependency). Those who were very concerned about climate change were more likely to agree that the UK should produce less of its own oil and gas even if that means buying more fuel from other countries (17%) compared with those who were fairly concerned (11%) or not concerned (7%) but this is still a fairly small minority.



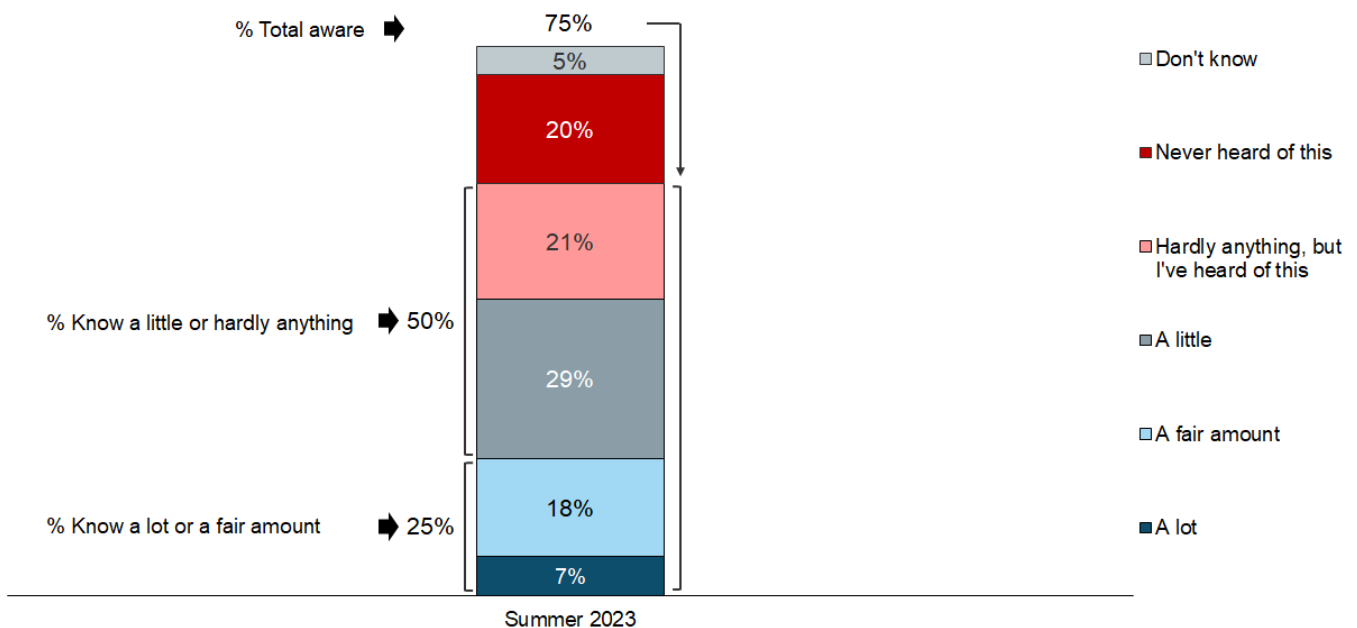
# New electricity network infrastructure

A set of new questions was included in Summer 2023 on new electricity network infrastructure. Prior to asking the questions, the topic was introduced as follows: *‘As the UK increases the amount of electricity generated from low carbon and renewable sources, more electricity network infrastructure will be required to transfer electricity from where it is generated to where it is needed. This will include pylons, overhead power lines, and substations. Substations are sites which connect the main network to the distribution networks that supply homes and businesses. This includes sites that connect the offshore electricity transmission network onshore.’*

These have been included to provide further context to the findings and were not asked in the Winter 2023 wave.

In Summer 2023, 75% of people said they were aware of the need to build more electricity infrastructure, but levels of knowledge were relatively low: while 25% said they knew a lot (7%) or a fair amount (18%) about this, 50% said they knew at most a little (Figure 11.1).

**Figure 11.1: Awareness of the need to build more electricity network infrastructure (based on all people), Summer 2023**



INFRAKNOW. Before today how much, if anything, did you know about the need to build more electricity network infrastructure as part of the UK's transition to low carbon and renewable energy?  
 Base: All wave respondents – Summer 2023: (4,000)

Men were much more likely to say they were aware of this need (81%, compared with 68% of women). People aged 55 and over were also more likely to say they were aware (79% of those aged 55 to 64 and 81% of those aged 65 and over), with awareness declining through the age bands to 67% of those aged 16 to 24. Those living in rural areas were also more likely to be aware (81%, compared with 73% of those in urban areas). There were similar differences in claimed levels of knowledge for gender, age and rurality (with those groups with higher levels of awareness also having higher levels of claimed knowledge).

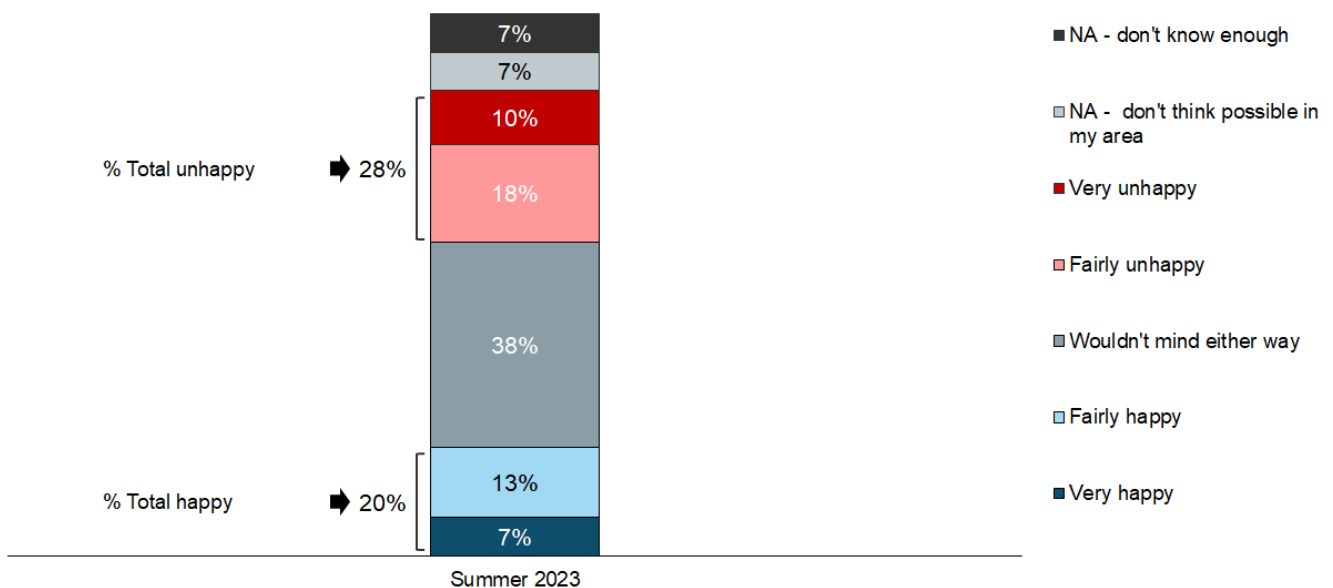
Those who were very concerned about climate change were more likely to say they were aware of the need for more infrastructure (80%) than those who were not concerned (69%) but they were no more likely to say they knew at least a fair amount about this need.

Those who said they knew at least a fair amount about Net Zero were also much more likely to be aware of the need for new electricity network infrastructure (88%, compared with 69% of those who know at most a little, and 38% of those who were not aware of Net Zero), with this difference also reflected in levels of knowledge.

The following introduction was provided as context to a second new question on attitudes towards new electricity infrastructure being built locally: *‘Now imagine that there are plans for new electricity network infrastructure to be constructed in your local area. This could include building a substation and large visible steel pylons supporting overhead power lines’*.

In Summer 2023, 28% of people said they would be unhappy to have new electricity network infrastructure built in their local area, including 10% who would be very unhappy (Figure 11.2). While only 20% said they would be very or fairly happy, the largest proportion (38%) said they would not mind either way.

**Figure 11.2: How happy would be to have new electricity network infrastructure built in the local area (based on all people), Summer 2023**



INFRAHAPP. How happy or unhappy would you be about this? If you already have this in your local area, answer on the basis of how you feel about this now.

Base: All wave respondents – Summer 2023: (3,987)

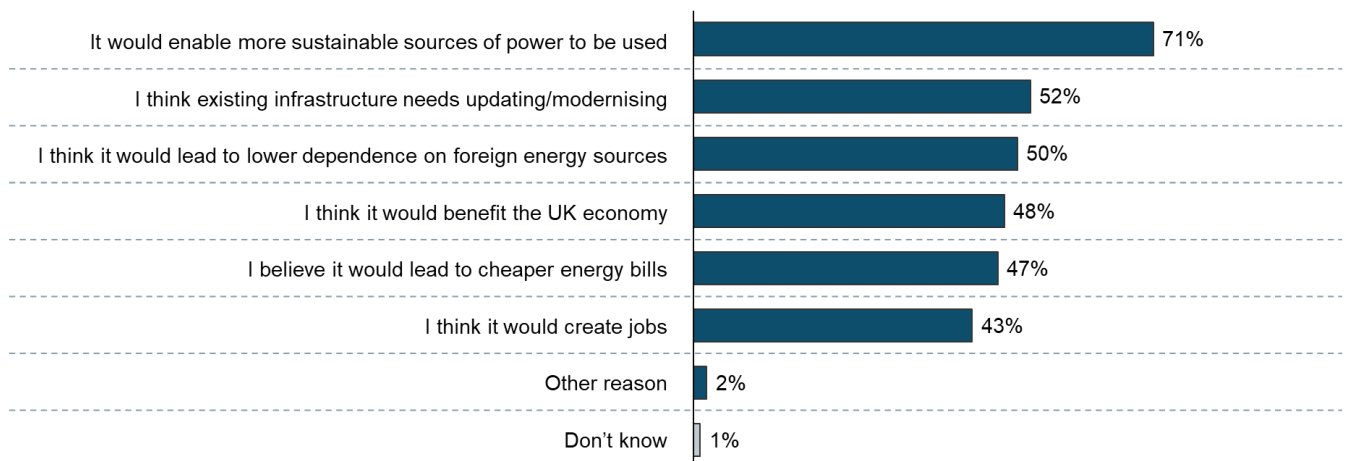
Women were more likely to say they would be unhappy to see new infrastructure built in their area (30%, compared with 25% of men) as were those aged 55 and over (36% of those aged 55 to 64 and 34% of those aged 65 and over), with levels of unhappiness declining through the age bands to 14% of those aged 16 to 24.

Among those who had ever worked, the proportion of those saying they would be unhappy was higher for people in managerial, administrative and professional occupations (31%), intermediate occupations (31%) and for small employers and own account workers (33%) compared with those in lower supervisory and technical occupations (22%) and semi-routine and routine occupations (21%) (NS-SEC).

Those living in rural areas were more likely to say they would be unhappy (37%, compared with 25% in urban areas). By geography, the proportion of those saying they would be unhappy was highest in Northern Ireland (36%), the South East (32%), West Midlands (32%) and the East of England (32%) and lowest in the North East (23%), East Midlands (23%) and London (21%).

Those who said they would be happy to see more electricity network infrastructure built locally were asked to select their reasons from a list (Figure 11.3). In Summer 2023 the top reason chosen was that it would enable more sustainable sources of power to be used (71%). Around half selected each of the following: a need to modernise existing infrastructure (52%), reducing dependence on foreign energy sources (50%), benefiting the UK economy (48%) and leading to cheaper energy bills (47%).

**Figure 11.3: Reasons would be happy to see more electricity network infrastructure built locally (based on those who would be happy with this), Summer 2023**



INFRAWHYHAPP. You said you would be very or fairly happy for electricity network infrastructure to be built in your local area. Why is this?

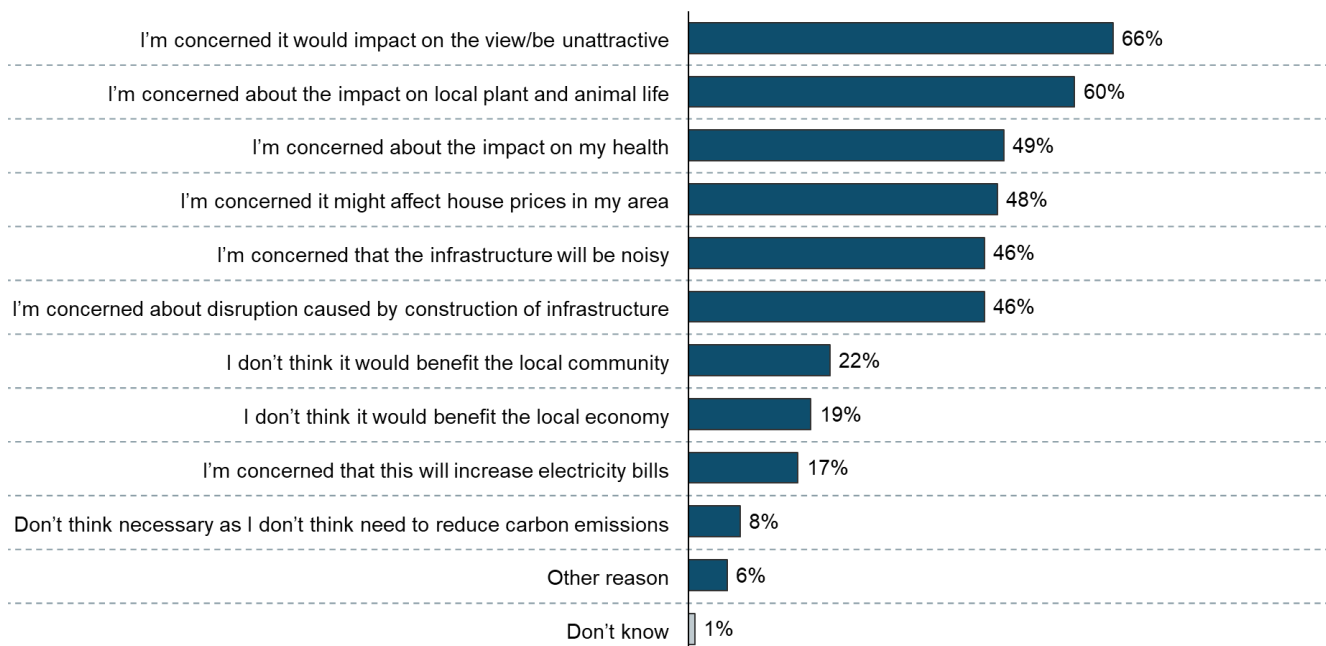
Base: All wave respondents who would be happy with this – Summer 2023: (767)

While the relatively small number of people answering this question limits the scope for further analysis, men who would be happy with new local infrastructure were more likely to think that the existing infrastructure needed updating (57%, compared with 47% among women), as were those living in rural areas (63%, compared with 50% in urban areas).

Among people who said they would be happy with new infrastructure in their area, those who were very concerned about climate change were more likely to say this was because it would enable more sustainable sources of power to be used (84%, compared with 64% of those fairly concerned and 39% of those not concerned).

Those who said they would be unhappy to see more electricity network infrastructure built locally were also asked to select their reasons from a list (Figure 11.4). In Summer 2023 the top reason was concern about its attractiveness and impact on the view (66%), followed by concern about the impact on local plant and animal life (60%). Around half had concerns about the impact on their health (49%), the effect on house prices (48%), the noise of the infrastructure (46%) and disruption caused by its construction (46%). Just 8% said they would be unhappy as they did not believe there was a need to reduce carbon emissions.

**Figure 11.4: Reasons would not be happy to see more electricity network infrastructure built locally (based on those who would not be happy with this), Summer 2023**



INFRAWHYNO. You said you would be very or fairly unhappy for electricity transmission network infrastructure to be built in your local area. Why is this?

Base: All wave respondents who would be unhappy with this – Summer 2023: (1,118)

Among those who said they would be unhappy, women were more likely to select concerns about the impact on local plant and animal life (66%, compared with 54% of men), and about noise (54%, compared with 37% of men) while men were more concerned about its attractiveness and impact on the view (71%, compared with 63% of women).

Concerns about attractiveness were also more prevalent among those educated to degree level (75%, compared with 60% of those with another qualification and 58% of those with no qualifications) and among owner-occupiers (69%, compared with 56% of renters). Owner-occupiers were also more likely to be concerned that it might affect house prices (53%, compared with 29% of renters).

Those living in rural areas were more likely to feel it would not benefit the local community (27%, compared with 20% in urban areas). Those in urban areas were more concerned about noise (49%, compared with 38% in rural areas) and the impact on their health (52%, compared with 41% in rural areas).

Those not concerned about climate change were more likely to be concerned about increases to bills (31%, compared with 13% of those very concerned), a lack of benefit to the local economy (30%, compared with 16% of those very concerned) and a lack of benefit to the local community (29%, compared with 18% of those very concerned).



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