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 NERCNERC - PUBLIC INSIGHT
RESEARCH

MARCH 2017

## METHODOLOGICAL OVERVIEW

In December 2016, ComRes was commissioned by Research Councils UK and the Natural Environmental Research Council to conduct a public insight project. ComRes partnered with Hopkins Van Mil: Creating Connections (HVM), public dialogue specialists, to deliver this project. This report focuses on the NERCspecific section and should not be taken as indicative of the findings as a whole.

ComRes' methodology consisted of three phases - the first was a short 'immersion’ period which consisted of seven in-depth interviews with Heads of Communications at the Research Councils, as well as a literature review, culminating in a short summary report informing the design of the next two phases.

The second phase (conducted between $20^{\text {th }}$ and 31 st January 2017 ) was a nationally representative quantitative survey of 3000 UK adults aged $16+$. Fieldwork was conducted online among 16-64 year olds. Due to lower internet penetration levels among adults aged $65+$, fieldwork was conducted by telephone among this audience. The survey consisted of 22 questions, inclusive of 6 questions that were specific to NERC. Using this data, a segmentation analysis was conducted, in which UK adults were clustered into groups based on shared characteristics, opinions and behaviours. The segmentation analysis will allow RCUK and NERC to better understand who 'the public' are, as well as what they think, making it easier to tailor communications effectively.

The final, qualitative, stage of the project consisted of five workshops in locations across the UK, with members of two different segments at each. The workshops (conducted between 21 st February and 1 st March 2017 ) lasted three hours each, and provided insights into the drivers of engagement with research, what would make people more engaged, and what drives people's opinions and beliefs about research. The workshops included provision of NERC-specific written, visual and audio-visual stimuli to provoke debate and discussion among the participants, as well as delving more deeply into specific areas of environmental research.

## OVERVIEW OF FINDINGS

## ENGAGEMENT AND INTEREST/

- Overall, a significant minority of UK adults report having seen, read or heard about research into the various aspects of environmental research, with engagement highest with climate change and television the most common source of information.
- There is generally demand for more information about most areas of environmental research, with approaching three quarters of the public saying they would be interested in hearing more information about endangered species (73\%), natural hazards (72\%), energy (71\%), climate change (71\%) and air/water quality (71\%).


## TRUST AND SOURCES OF INFORMATION

- Researchers are by and large trusted to provide accurate and believable information about most aspects of natural and environmental research, with the majority of UK adults saying they would trust at least a fair amount of what a researcher was saying if they were to see them on the television without knowing anything about them. Trust in researchers is, however, slightly more reserved when it comes to talking about fracking and shale gas, with lower levels of trust slightly more pronounced groups who tend to be less enthusiastic towards research generally (those who are older, less affluent, non-university educated).
- University researchers are the most trusted source to provide accurate information about controversial environmental research issues like fracking - with three quarters of the public trusting them ( $76 \%$ ).
- Around $60 \%$ trust the BBC , although next most trusted source of information on fracking is campaigning organisations such as Oxfam or 38 Degrees (54\%), suggesting there is some evidence for lobbying efforts to influence the debate. This is also supported by the proportion of people having engaged with environmental research because they saw someone campaigning about it being slightly higher for more controversial topics such as fracking (9\%) and the effect of pesticides on bees (8\%) than perhaps less topical issues other issues (e.g. natural hazards - 4\%). This suggests there may be a small section of the public which does have its views influenced by lobbying organisations, although academic scientists are by and large far more widely trusted.
- The trust placed in environmental researchers and their research can also be seen in attitudes towards climate change, with large majorities thinking that it is important to fund environmental research (70\%) and saying that they understand how changes to their own lifestyle can impact climate change (68\%). This suggests that the public both understand the research and place enough importance to it in order to apply it to their day-to-day lives.


## ATTITUDINAL SEGMENTATION

As well as breaking down people's engagement with research by their demographic characteristics, it is also possible to group people together based on their attitudes and behaviours. A segmentation was conducted using advanced statistical techniques based on the data gathered in the quantitative survey. Looking at their attitudes towards all types of research, there are five distinct groups across the public with contrasting views, but they can also be used to analyse and understand attitudes towards environmental and natural research in particular. The qualitative phase was designed to complement the quantitative findings providing further insight into engagement, interest and trust, as well as explaining the drivers of attitudes and behaviours.

| Segment | Establishment |
| :--- | :--- |
| Advocates | Establishment Advocates have high engagement and interest in environmental <br> research. What distinguishes this segment is that they support research for its <br> own sake, and are very supportive of public funding of research. They are <br> particularly likely to be broadsheet readers and have high levels of trust both <br> in research and researchers. They are particularly likely to be interested in <br> research into energy. |
| Idealistic Advocates | Idealistic Advocates also have high engagement and interest in environmental <br> research. This group are particularly idealistic when it comes to climate <br> change, and are the segment most likely to say that the Government should <br> continue to fund climate change research, and to say that they would like to <br> hear more about this topic. This group is slightly younger than average, more <br> likely to be university educated, and to have high Twitter usage. |
| Pragmatic Neutrals | Pragmatic Neutrals have lower engagement and interest in environmental <br> research than advocates. The topics that they have increased engagement with <br> centre around issues that are more likely to directly affect them such as |


|  | natural hazards. This group is more likely to be female than male, and more <br> likely than average to have young children. They are not very frequent <br> newspaper readers. |
| :--- | :--- |
| Traditionalist <br> Sceptics | Traditionalist Sceptics have lower engagement and interest in environmental <br> research, and are less trusting than other segments of academic researchers. <br> The research topics that they are interested in tend to focus on fracking / <br> shale gas. This group is slightly older than average, and less likely to be <br> university educated. Their most common form of news is the Daily Mail or the <br> Sun. |
| Disengaged and <br> Disinterested | This segment has the lowest level of engagement and interest in each of the <br> environmental research areas tested. When it comes to climate change, the <br> Disengaged and Disinterested segment are most likely to answer that they <br> don't know. This group is slightly younger than average and a large minority <br> do not read a newspaper regularly - they are the group most likely to be <br> Snapchat users, however, reflecting their younger profile. |

## DETAILED FINDINGS

## ENGAGEMENT WITH ENVIRONMENTAL RESEARCH TOPICS

UK adults are most likely to say that they have actively seen, read or heard about research on climate change (46\%) in the last month, with pesticides (19\%) being the option they are least likely to say they have engaged with, of the topics tested. Three in ten UK adults ( $30 \%$ ) say they have not actively seen, read or heard about any of the core environmental and natural research areas, highlighting that a significant portion of people report being completely disengaged from environmental research.

Engagement with different areas of environmental research

Q. Have you actively seen, read or heard about research into any of the following areas in the last month? By actively seeing, reading or hearing we mean reading an article or book, watching or listening to a TV or radio programme, or visiting a museum, gallery or conservation centre. Base: UK adults $(n=3,000)$.

UK adults who live in rural areas are more likely than those who live in urban areas to say that they have actively seen, read or heard about a majority of the areas tested, likely linked to the greater impact issues relating to the environment may have on their day-to-day lives. For example, $44 \%$ of those in rural areas have actively engaged with research into natural hazards in the past month, compared to a third (33\%) of those from urban areas. This is highlighted further by the fact that those from London are less likely to have seen, read or heard about this topic than those from all other parts of the UK ( $27 \%$ from London, $38 \%$ from the South, $34 \%$ from the Midlands, $35 \%$ from the North and $36 \%$ from devolved regions).

Generally, those from more affluent backgrounds are more likely to engage with environmental research, although the extent to which this is the case varies slightly by topic. For example, people from higher managerial $A B$ social grades are most likely to have engaged with climate change (54\%, vs 40\% of skilled manual workers from C2 social grade) and fracking ( $41 \%$ ), vs $34 \%$ of C2s and $29 \%$ of DEs). However, across topics with lower cut-through overall, much of this difference diminishes. For example, similar proportions of people from all social grades engage with research about pesticides and green spaces and wellbeing (see chart below).

Engagement with environmental research: by social grade

Q. Have you actively seen, read or heard about research into any of the following areas in the last month? By actively seeing, reading or hearing we mean reading an article or book, watching or listening to a TV or radio programme, or visiting a museum, gallery or conservation centre. Base: AB ( $n=923$ ); C1 ( $n=894$ ); C2 ( $n=574$ ); DE ( $n=540$ )

It emerged from the qualitative workshops that environmental research is one of the topics of research that people spontaneously bring up when they think about research, but it is less prominent in people's mind than medical research or 'lifestyle' research (e.g. into diet and wellbeing). Most people were broadly aware of research into climate change and global warming, but did not necessarily think about other areas of environmental research without being prompted.

Lifestyle also appears to have an impact on the topics that people engage with. Those with children under 18 are significantly less likely than those without children under 18 to say that they have actively seen, heard or read about research into each of the topics tested. Those who are actively involved in community organisations are also more likely than those who are not to say they have engaged with all research topics tested, in the last month. For example, more than half (55\%) of those who are actively involved in community organisations say they have engaged with research into climate change in the past month, compared to $41 \%$ of those who are not involved.

Interest in different areas of environmental research

Q. How interested, if at all, would you be in hearing more about research into each of the following areas? Base: UK adults ( $n=3,000$ ).

Despite less than half of the public saying they had seen or heard each of the research areas, a majority of UK adults say they would be interested in hearing more about each of them.

- Older UK adults are more likely than their younger counterparts to say that they would be interested in hearing more about a majority of the research areas tested. For example, four in five (80\%) adults aged $65+$ say they would be interested in hearing more about research into air / water quality, compared to two thirds (66\%) of 16-24 year olds.
- Those from social grades $A B$ and $C 1$ are more likely than those from C2 and DE to say they would be interested in hearing more about research into each of the listed research areas. For example, 63\% of UK adults from $A B$ and $55 \%$ of those from C1 say that they would be interested in hearing more about research into fracking / shale gas, compared to $49 \%$ of UK adults from C2 and $44 \%$ from DE. This correlates to current engagement levels with UK adults from $A B$ and $C 1$ being more likely than those from C2 and DE to say they have engaged with a majority of the research areas tested in the last month.
- As with engagement, lifestyle features also appear to affect interest in research areas. For all areas of research tested, those who are actively involved in community organisations are more likely than those who are not to say that they would be interested in hearing more about the research. For example, three in five (60\%) who are actively involved in community organisations say they would be interested in hearing more about fracking / shale gas, compared to around half (49\%) of those who are not actively involved in community organisations.

The qualitative workshops highlighted that broadly, people are interested in hearing more about environmental research, but for most this is not a spontaneous interest. While it scored highly in the quantitative findings on this metric ( $76 \%$ said that they would be interested in hearing more about environmental research, just one percentage point behind those who said the same of medical research), the qualitative workshops indicated that people are more likely to refer to research into medicine, health or wellbeing when asked, unprompted, what research they would like to hear about. However, reported interest in environmental research was higher than various other areas, including particle physics, engineering and arts and humanities, and when information and stimulus about environmental research were provided, interest was piqued. This indicates that there is enthusiasm and interest for environmental research, and that people would like to hear more about it. The common thread regarding interest in environmental research is that it increases when it is perceived to affect people's lives (or their families') directly, for example by impacting severely on the climate in the UK.
"The environment is probably more important for my children, because in the future it's not going to bother me at all, but it will bother them."

Establishment Advocate, Bristol
In terms of interest between the different areas, broadly speaking the public are most interested in the areas they are most likely to be already engaging with. This is shown by the fact that the same four topics (endangered species, natural hazards, energy and climate change) are in the top four for both interest and engagement among UK adults. However, this is not to say there is not demand for information about other areas of researchers. The gap between potential interest and existing engagement is smallest when it comes to fracking, which is largely driven by low overall interest (53\%) but relatively high levels of existing cut-through (34\%) - a difference between the two of 19 points.

## Engagement vs interest in environmental research topics

$\bullet \%$ Seen/heard about in past month $\quad$ \% Interested in hearing more about


Q: Have you actively seen, read or heard about research into any of the following areas in the last month? / How interested, if at all, would you be in hearing more about research into each of the following areas? Base: UK adults ( $n=3,000$ ).

The interest ' $g a p$ ' (the difference between potential interest and current engagement) is greatest when it comes to research about green spaces ( 44 points), antimicrobial resistance ( 42 points), air or water quality ( 42 points) and the effect of pesticides on bees ( 41 points). This may suggest it is these areas where there is greatest unmet demand for information - although it is worth bearing in mind all the research areas have considerably greater rates of potential interest than current engagement.

## CHANNELS OF ENGAGEMENT

By far the most common way that UK adults engage with environmental research is through television between half and three quarters of those who have seen, read or heard about each area of research did so via TV. Research into natural hazards (73\%), followed by endangered species (71\%), fracking (69\%) and climate change (67\%) are the areas of research that UK adults are most likely to have seen on TV. After seeing it on TV, reading about it in an article or book is the next most common way in which people engage with research - particularly about antimicrobial resistance (45\%).

Q. And where did you see, read or hear about each of the following? Base: all UK adults who have read, seen or heard about each of the research areas tested ( $n=585-1,388$ ).

- Between $14 \%$ and $20 \%$ of UK adults report having seen each area of environmental research on social media - no one topic particularly stands out as being prominent on social media. This trend is also similar for seeing someone campaigning about research - around $5 \%$ of UK adults say they have seen someone campaigning about each area of research. However, this proportion is slightly higher for fracking/shale gas (9\%), likely reflecting the controversy that surrounds it.
- For every type of research tested, UK adults aged 55-64 are the age group most likely to have read, seen or heard about it from TV, and this is particularly true for natural hazards (87\%) and fracking/shale gas (80\%). Younger UK adults (those aged 16-24) are also slightly more likely than their older counterparts to have come across environmental research as part of a museum or exhibit, although interestingly, they are not the age group most likely to have visited a museum in the past
year. This suggests that younger people may be more aware than older people that when they go to a museum, they are engaging with research.
- The youngest age group (16-24 year olds) are most likely to report having come across research by seeing someone who was campaigning about it. Around one in five 16-24 year olds report this regarding research into fracking or shale gas and pesticides ( $18 \%$ for both). Unsurprisingly, younger people are significantly more likely than older UK adults to have seen each research area on social media - particularly climate change and pesticides (both 36\%).

Q. And where did you see, read or hear about each of the following? Base: all university educated UK adults who have seen research into each of the areas tested on TV $(n=256-674)$, all non-university educated UK adults who have seen research into each of the areas tested on TV ( $n=279-627$ ).

There are clear differences between adults with different levels of education in terms of where they have come across environmental research - those who are not university educated are significantly more likely than those who have been to university to say that they saw research on TV, while the opposite is true for reading about research in an article or book. There are also a number of other demographic differences:

- Engagement with environmental research differs by newspaper readership - regular broadsheet readers are more likely than those who regularly read tabloids to have read about environmental research in an article or book, while those who do not read any newspaper regularly are particularly likely to have come across research by seeing it on TV.
- Socio-economic grade is also a delineator of behaviour: those in the $A B$ and $C 1$ grades are generally less likely than their C2 and DE counterparts to have engaged with environmental research by seeing it on TV - this is particularly the case for research into natural hazards (around four in five C2s and DEs report having seen this on TV, compared to three in five and seven in ten ABs and C1s).
- Idealistic Advocates and Establishment Advocates are much more likely than any other segment to report having come across research by reading about it in an article or book. Interestingly, while both Idealistic and Establishment Advocates are the most likely segments to report having visited a museum recently, they are no more likely to report having engaged with environmental research by seeing it in a museum or exhibit.
- The qualitative workshops highlighted differences by segment in terms of engagement with research through campaigning organisations and charities. Campaigning organisations (specifically change.org) were mentioned by some Idealistic and Establishment Advocates as being sources of where they had come across research, while other segments (notably the Pragmatic Neutrals and Traditionalist Sceptics) had not come across research in this way. Indeed, some expressed scepticism about their motives (for example Greenpeace), while others had a more positive view. Many Traditionalist Sceptics and Pragmatic Neutrals had not heard of either change.org or 38 Degrees. This indicates that campaigning organisations are influential for a small proportion of people (Idealistic and Establishment Advocates particularly) in terms of where they hear about environmental research, but it they are not a common source of information.

In order to understand how people react to and engage with different types of environmental research, the qualitative workshops tested various NERC-specific materials including tweets ${ }^{1}$, articles ${ }^{2}$ and a video ${ }^{3}$ with the participants. They were shown the video first, followed by the written materials, and asked in to discuss in small groups how effective they thought they were, as well as whether or not they found them interesting.

The tweets tended to divide opinion - those who used Twitter tended to be slightly more positive about them, while those who did not were fairly dismissive, citing the fact that they would be unlikely to ever come across this content. However, a number of people's interest was sparked by the picture in the tweet about climate change in the Arctic Ocean, and they liked the fact that Twitter is a good place to find short, 'bitesize' pieces of information about research, with the option to find out more if desired (for example by clicking on links provided in the tweets). The figure of $£ 10 \mathrm{~m}$ (from NERC's tweet about awarding funding to investigate the impact of climate change on the Arctic Ocean) was also cited by some as being eye-catching both negatively and positively - some felt this was too high and would be better spent on medical research, while others were happy with the fact that this important area of research was being funded.

[^0]"Twitter feeds don't tell you very much but they direct you in the right direction to find more information."

Traditionalist Sceptic, Glasgow

The newspaper article (from the Liverpool Echo), about a boat docked in Liverpool being mistaken for Boaty McBoatface, also divided opinion - while some were attracted by the headline as they had heard of Boaty McBoatface, others felt that the article did not provide enough information. Most also noted that the headline was very prominent and served to draw people in rather than being particularly relevant to the article's content. Neither Idealistic nor Establishment Advocates were particularly impressed by the article, with several perceiving it as patronising and not providing any useful information about research. However, those who did like the article (particularly Pragmatic Neutrals and Traditionalist Sceptics) liked it because it drew on something they had heard of before, meaning their interest was sparked. The Boaty McBoatface reference (and the fact the article was relatively short) did mean that people were more likely to read this in full than the other pieces of stimulus tested.
"I read it [the Boaty McBoatface article] because I'd heard about it, it'd been on the news"

# Disengaged and Disinterested, Glasgow 

"It [the Boaty McBoatface article] uses certain words to entice you in but the article is nothing to do with the headline"

Establishment Advocate, Sutton Coldfield

The video (a short ITV news clip about the effects of pesticides on bees) sparked a great deal of discussion. As it featured both a farmer whose livelihood was at stake, and a researcher talking about research he had conducted into these pesticides, much of the conversation focused around the idea of agendas - i.e. the motives the researcher and the farmer had for saying what they did. This links to a broader theme seen throughout this research - who funds a piece of research is crucial to how people view that piece of research. For example, while some people sympathised with the farmer as they felt he was simply trying to make a living and could not 'stand up' to expert researchers, others felt that the farmer had financial motivations so could not necessarily be trusted. This highlights the importance of being transparent about the funders of a piece of research when using it to engage the public.

The article 'Who's to blame for bad air?', published on NERC's website, was generally seen to be too long and full of confusing 'jargon' to hold much appeal. While its title was praised for being arresting and catching people's eye, most felt that it could not keep their attention due to its length and complex language. A minority (Establishment Advocates in particular) did feel it was interesting, and provided a lot of information if you were interested in the topic, but overall the sentiment was that it was simply too lengthy and complex for most people to understand easily.
"The bad air article - I might read that if I wanted to go to sleep. It's a load of reading, it doesn't really interest me."

Traditionalist Sceptic, Sutton Coldfield

Participants in the qualitative workshops were also asked to design a campaign to engage the public in a particular area of environmental research (they were free to choose the topic). In response to this, most people (across all segments) designed a campaign that would highlight the impact of the research area on ordinary people's day to day lives. For example, Pragmatic Neutrals in Belfast noted that it might be
interesting and useful to demonstrate how climate change is affecting people who live in Belfast and Northern Ireland, rather than the UK as a whole or even the world, which was seen as simply too large a concept for people to grasp. Connected to this, the use of 'shock' tactics was also thought of by several different segments as a way in which to demonstrate to the public how research affects their daily lives. One example of this was an idea of a campaign entitled 'A World Without Bees', in which images or videos could be shown to people to help them understand the importance of bees to the natural environment. Others noted that they would be put off by what they perceived as 'scaremongering', however, indicating that there is a fine line between highlighting risks and dangers and putting people off by being too negative.
"We would want them to understand what the loss of bees would mean, and its affects - some people might think that it's no different to ladybirds dying off."

Traditionalist Sceptic, Sutton Coldfield
"I'm thinking about Joe Public - what it means for Joe Public."

Establishment Advocate, Bristol

Many people said that their campaign would use television as the main channel as a way of drawing people's attention, noting that they themselves were most likely to notice something on the TV news or an advert than any other channel. Using social media (particularly Facebook) was also cited as a good way in which to engage young people. Other themes from this exercise included the use of striking visual materials (both pictures and videos) in order to draw people's attention, as well as providing short pieces of information to the public using bullet points, in as simple, short and engaging a format as possible. This view was particularly prevalent among Pragmatic Neutrals, who felt they were simply too busy to be able to read long articles about environmental research. Idealistic Advocates tended to think of a campaign heavily featuring social media and media outlets such as Buzzfeed.
"If you want to get a point across, it needs to be short and snappy."

Idealistic Advocate, Belfast

Overall, academic researchers were viewed as being the best people to deliver messages and talk about research, as they are seen to have expertise in their field, and crucially, are not viewed as having an 'agenda' for the results of their research. Similarly, well-known and respected figures such as David Attenborough or Brian Cox were given as examples of people who would be listened to and trusted when discussing research.
"We would have a good question at the beginning, and use information from a scientist, rather than the Government."

Pragmatic Neutral, Newport

Several people from across the different segments had the idea of providing a 'call to action', specifically regarding climate change, acknowledging that most people know climate change will have negative effects, but that they don't know very much about what they can practically do to make a difference.
"There needs to be a message that there's something individuals can do to make a change, if it's a small change and isn't going to cost or take up time."

Disengaged and Disinterested, Glasgow

## TRUST IN RESEARCHERS TO SPEAK ABOUT ENVIRONMENTAL RESEARCH

When researchers speak on television, around two thirds of the public will generally believe what they are saying, depending on the exact topic being discussed. They are most likely to be believed talking about endangered species and natural hazards, ( $69 \%$ for both) - although nearly as many people would believe an environmental researcher or scientist talking about air/water quality ( $67 \%$ ), renewable energy (66\%) and climate change (63\%) too.

Trust in researchers to speak about specific environmental research areas

Q. If you were to hear a researchers or scientist, who you did not know anything about, talking about each of the following issues on the news, to what extent, if at all, would you believe what they were saying? Base: UK adults ( $\mathrm{n}=3,000$ ).

Despite generally large numbers of people trusting researchers on most topics related to environmental science, the leve/ of trust is perhaps not unconditional. On the whole, around half of UK adults say they would believe "a fair amount" of what an environmental scientist was saying if they saw them on the television, compared to less than one in five who would believe a great deal (e.g. antimicrobial resistance: 18\%). This is broadly in line with attitudes towards researchers generally, with people being more likely to say they trust university academics and researchers to present accurate and truthful information "a fair amount" (48\%) rather than "a great deal" (32\%) - with the same trend also present for economists and scientists working for private companies ( $47 \%$ vs $23 \%$ ).

SCIENCE OF THE ENVIRONMENT

With this in mind, people are therefore likely to be open to what researchers have to say, but they may not necessarily believe everything a researcher says word-for-word. When speaking in the media, it may therefore be worth researchers explaining their evidence and its impact as much as possible, rather than just describing what their conclusions are. The qualitative findings also supported this conclusion when watching the ITV News clip about bees and pesticides, for example, people generally felt that the researcher was a trustworthy source of information as he was not perceived to have an ulterior motive for his findings, and was an expert in the subject.
"He knows what he is talking about and can back up what he is saying."

Idealistic Advocate, Sutton Coldfield

Generally, levels of trust in environmental researchers are relatively consistent across the population. For example, similar proportions of each different age group say they would trust a scientist speaking about climate change ( $57 \%-65 \%$ ), as is true between those who have and have not been to university themselves ( $67 \%$ vs $60 \%$ ). Broadsheet newspaper readers ( $72 \%$ ) and those who read web-based media, such as Buzzfeed and Huffington Post (72\%), are slightly more likely than those who read tabloid papers (62\%) to say they trust researchers on climate change. This suggests that media consumption may have some impact on attitudes towards researchers, although the effect of this would appear to be slight as twice as many tabloid readers say they would believe what a researcher says on climate change than would say they would not ( $62 \%$ vs $29 \%$ ).

## RELATIONSHIP BETWEEN TRUST AND ENGAGEMENT

As might be expected, people who support publicly funded research are more likely than those who oppose it to believe scientists talking about environmental research. For example, $67 \%$ of those who support public funding say they would believe a scientist talking about climate change, whereas opponents of public funding are split about whether they would believe them or not ( $48 \%$ vs $42 \%$ ) suggesting that negative opinions towards research generally are associated with lower levels of trust in the researchers themselves.

This also emerged in the segmentation analysis, with the segments more positive towards research generally expressing higher than average trust in environmental researchers ( $75 \%$ of Establishment Advocates and Idealistic Advocates trust them on climate change). Those who are less trusting towards environmental researchers on the other hand are split between those who express more hostile opinions towards research and those who simply do not engage with it: two in five Traditionalist Sceptics (39\%) say they would not believe a scientist talking about climate change - as do one in three (33\%) of those from the Disengaged and Disinterested segment.

## LOWER TRUST IN RESEARCHERS ON FRACKING

Across the population as a whole, the exception to the trend of generally high levels of trust in environmental researchers is in regards to fracking and shale gas. On this issue, the proportion of people who would believe a scientist talking about it drops from two thirds seen for other issues to just over half (56\%). Correspondingly, distrust increases slightly from 20-25\% to about three in ten (29\%).

These lower levels of trust are fairly consistent across the population. This can be seen if a group-bygroup comparison is made between:
a) levels of trust in researchers talking about fracking (which they are least trusted on); and
b) levels of trust in them talking about endangered species (which they are most trusted on).

As can be seen when visualised in the following graph, the decline for most demographic and attitudinal groups is broadly in line with the thirteen-point drop across the public as a whole. However, those groups which do have slightly sharper declines than the average are on the whole those who are slightly less enthusiastic about research anyway - those aged 65+, not university educated or from DE social grades. The comparatively small decline amongst the Disengaged and Disinterested group may also be due to a large proportion of this groups simply saying they "don't know" whether they trust researchers on either issue, which would suggest they are not an exception to this rule.

It suggests that when there is a controversial research topic, it is the older or more affluent members or the public, or in case of Pragmatic Neutrals, the less engaged, who are most likely to be hesitant to trust researchers.

Q. If you were to hear a researchers or scientist, who you did not know anything about, talking about each of the following issues on the news, to what extent, if at all, would you believe what they were saying? 'Endangered species';
'Fracking/shale gas'. Base: As labelled ( $\mathrm{n}=228-2,541$ ).
Additionally, despite being the most likely to engage in social activism and the most interested in climate change, Idealistic Advocates are also the least likely to distrust environmental researchers when it comes to fracking and shale gas. Just one in five (19\%) say they would not believe what a researcher was saying it about it, compared to $38 \%$ of Traditionalist Sceptics and $37 \%$ of Disengaged and

Disinteresteds, suggesting whatever opinions Idealistic Advocates may have of the issue of fracking itself, they are still the most likely to trust expert opinion on it (or at least say they would).

## TRUST IN SOURCES OF INFORMATION ABOUT FRACKING

The extent to which people believe researchers about environmental science also depends on who the researcher is and what they are seen to represent. When it comes to fracking and shale gas (which was used also as a proxy for other controversial issues in environmental research), scientists working in universities are overwhelmingly the most trusted source to provide accurate information, with three quarters of the public saying they trust them to do so (76\%). The BBC (60\%) is the next most trusted source of information - including for people who not read newspapers regularly, $55 \%$ of whom trust the organisation. This suggests this channel of communications may be an effective way of engaging those whose consumption of written media is lower.

Trust to provide accurate information on fracking / shale gas

Q. To what extent, if at all, would you say that you trust each of the following to provide accurate information about the issue of shale gas and 'fracking'? Base: UK adults ( $\mathrm{n}=3,000$ ).

There is some evidence to suggest that lobbying activity may be influencing some people's attitudes towards controversial research topics, with campaigning organisations most trusted after academic scientists and the BBC to provide accurate information about fracking (54\%). Campaigning organisations
are slightly more trusted by women (57\%) than men (50\%), but their potential influence appears particularly great for Idealistic Advocates, $71 \%$ of whom trust them on the issue and nearly one in five of them who trust them a great deal (18\%). On the opposite side, Idealistic Advocates are the least likely of any segment to trust businesses to provide accurate information (24\%), distinguishing them from Establishment Advocates (39\%) who, along with Traditionalist Sceptics (33\%), are most likely to trust them.

Q. To what extent, if at all, would you say that you trust each of the following to provide accurate information about the issue of shale gas and 'fracking'? Base: Establishment Advocates ( $n=758$ ), Idealistic Advocates ( $n=596$ ), Pragmatic Neutrals $(n=661)$, Traditionalist Sceptics $(n=513)$, Disengaged and Disinterested $(n=472)$.

In terms of engaging those less positive about research, generally sources of information trusted by the public as a whole are still most likely to resonate with them - scientists working in universities (53\%) and the BBC (43\%) being most trusted by those in the Disengaged and Disinterested segment. The same is true for Traditionalist Sceptics, although amongst this group there is a significant proportion of them who hold quite negative opinions about campaigning organisations - half (49\%) saying they would not trust them. This may also reflect the Traditionalist Sceptics older age profile, as older UK adults in particular are also negative towards campaigning organisations, with half of those aged $65+$ also saying they would not trust them (52\%).

Broadly, the qualitative findings demonstrated that people are most likely to trust sources of research that they do not perceive to have an 'agenda', whether financial or otherwise, which they felt might bias the results. While a minority will never trust research that is funded by a private company or someone they believe to have an agenda, for most it would be beneficial to be transparent about who is funding a piece of research when discussing the findings, as this is likely to increase the public's trust in it.
"Everybody's got an agenda...it's whoever benefits from it [the research]. These experts, everybody's got a hidden agenda. Who makes money?"

Disengaged and Disinterested, Glasgow
"I'm aware sometimes research will be funded by a group that is interested in the outcome. As long as it is declared that is okay"

Establishment Advocate, Sutton Coldfield

The qualitative workshops also illustrated that academic researchers enjoy a high level of trust among the general population, especially when compared to private companies and politicians. The latter two groups were perceived to have an agenda which meant that, if they were the source of research funding into a particular area, the findings were perceived as being less likely to be trusted. Academic researchers were also perceived as having expertise in their subjects due to their dedication and time spent researching.

The BBC was also seen to be a reputable and trusted source of information about research, although a minority did not trust it (this was particularly prevalent in Glasgow where it was perceived to have provided biased information about the Scottish independence referendum). Broadcast and radio news were perceived to be more trustworthy than newspapers (particularly tabloids, which were dismissed as 'scaremongering' by some).
"They [academic researchers] are studying the facts, they're not picking it up from someone else, they're actually doing the research"

Traditionalist Sceptic, Glasgow

## TRUSTING RESEARCHERS IN PRACTICE

Opinions towards environmental researchers and research are generally positive. This is perhaps best evidenced by the vote of confidence the public give to the public funding of research. Seven in ten (70\%) say that is very important the UK Government continues to fund natural and environmental research, compared to just $17 \%$ who say that it is not very important to do so as there are bigger problems to address.

There are few demographic differences between UK adults on this metric. Where slightly differing levels of enthusiasm do occur, such as between adults who have and have not attended university, large majorities are still in favour on public funding (e.g. the $66 \%$ of those who are not university educated, vs $77 \%$ of those who are. High levels of support for taxpayers' money being spent on spent on environmental research is further evidence of the trust the public have in researchers.

## Attitudes towards climate change



Q: For the following pairs of statements, which would you say that you agree with most? Base: UK adults ( $\mathrm{n}=3,000$ ).

Another demonstration of trust the public have in researchers is seen in the cut-through climate change has had with the public and the influence it has on their attitudes. As noted previously, research relating to climate change is one of the topics that UK adults are most likely to have engaged with in the last month and are interested in hearing more about. Building on this, two thirds of UK adults say that they understand how changes they make to their lifestyle could limit the impact climate change has on future generations ( $68 \%$ say they understand vs. $20 \%$ who say they do not understand), suggesting that people feel they have been provided with the right information by researchers. People also appear to understand the importance of taking positive actions to address climate change; nearly two thirds of the public (64\%) say that we should seek to predict and prevent potential future environmental issues rather than dealing with issues once they affect us (25\%). This suggests that the public not only broadly know about climate change but also understand how it relates to them and their lives.

## PUBLIC INFLUENCE ON SCIENCE AND RESEARCH

Away from climate change in particular, UK adults are divided on whether the public should be involved in decision making around science (42\%), or whether experts should be trusted to make decisions (42\%). For respondents to decide on which side they fall of this issue, it requires them to make a trade-off between two positive sentiments about research: firstly, how much they have trust in researchers, and secondly how much enthusiasm they have to be involved themselves. Attitudes are therefore evenly split across both different demographic groups and the attitudinal segments. The only major difference relates to social media usage, with non-users slightly leaning towards trusting experts to make

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decisions (49\% vs 39\%) whereas regular users are more divided (39\%, vs $43 \%$ saying the public should be involved in decisions), possibly reflecting greater familiarity with technological mechanisms for influencing public decision making.

## CONCLUSIONS AND IMPLICATIONS

1. Overall, UK adults express interest in environmental research and are willing to hear more about it, particularly about climate change, endangered species and natural hazards, and the impact those things may have on their lives.

While interest in environmental research is relatively high, the qualitative findings highlighted that it is not always a spontaneous interest in the same way as medical, health or wellbeing research. However, this is not to say that there is not appetite to hear more about it, or that people do not find it interesting. Similarly, when compared with other areas of research, UK adults are more interested to find out more about environmental research than, for example, research into particle physics or arts and humanities. When the UK public are interested in environmental research generally, the interest is strongest when they can see how it might affect their own lives (for example the impact of bees dying on crops, or climate change on UK weather).

## Implications:

- Identify the research areas that are likely to have the biggest impact on people's day to day lives and communicate these to the public, including local and practical examples where possible.
- Provide simple and striking messages about environmental research, including visual materials where possible, to catch people's eye and provoke interest.

2. Scientists working in universities are the group most trusted by UK adults to provide accurate information on controversial environmental issues, followed by the BBC.

A clear majority of UK adults (76\%) trust scientists working in universities to provide accurate information about controversial environmental issues, as they are viewed as impartial and free from financial motivation. Similarly, the BBC is the media channel most trusted to provide information about environmental issues, due to its perceived impartiality and lack of bias. On the other hand, the Government, politicians and businesses are least trusted to do this, due to the perception that they often have an agenda that could bias their research findings and how they present them. When it comes to specific environmental issues, researchers are most likely to be trusted talking about endangered species, while they are least trusted on the topic of fracking/shale gas.

## Implications:

- Give academic researchers opportunities and platforms to discuss their research findings, focusing particularly on how they reached their conclusions and the evidence for them.
- Emphasise who has funded a piece of environmental research when trying to engage the public, making sure to be as transparent as possible. This is particularly true for more controversial topics such as fracking.

3. Accessing information about environmental research and engaging with it is mainly done through TV, although other channels and methods do vary by segment.

The majority of UK adults who engage with environmental research topics do this by watching TV, and this is consistent across segments. Members of the less engaged segments (Pragmatic Neutrals and Traditionalist Sceptics) are particularly likely to come across research in this way, while Idealistic and Establishment Advocates are slightly more likely to come across research by reading an article or book. Younger people are particularly likely to have seen research on social media, although the majority still come across it on TV. A small proportion of UK adults (particularly Idealistic Advocates) come across environmental research through campaigning organisations, although this is not widespread across the public. Preferred outcomes of research also differ across segments - Pragmatic Neutrals, for example, are particularly interested in research that is likely to have a positive practical outcome, while Establishment Advocates tend to value research as a good thing in itself.

## Implications:

- Tailor communications and channels to match the interests and priorities of the different segments (for example using social media and online news for younger people).
- Emphasise different research outcomes depending on the segment people fall into - for example social outcomes for Idealistic Advocates, or economic outcomes for Traditionalist Sceptics.


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[^0]:    ${ }^{1}$ https://twitter.com/NERCscience/status/824183053153091585 and https://twitter.com/NERCscience/status/823537654520250372
    2 http://www.nerc.ac.uk/planetearth/stories/1840/ and http://www.liverpoolecho.co.uk/news/liverpool-news/boaty-mcboatface-research-vessel-currently-11975681
    ${ }^{3}$ http://www.itv.com/news/2016-08-16/decline-of-wild-bee-populations-in-england-linked-to-controversialpesticides/

