



Is the UK getting innovation right?

A survey of perceptions of the impact of innovation and technology

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Britainthinks
— Insight & Strategy —

Authors

Nesta

This research was commissioned and managed by the Nesta project team led by **Jen Rae**, with invaluable expertise from **Madeleine Gabriel**, **Ksenia Zheltoukhova**, **Kathy Peach**, **Laurie Smith** and **Harry Farmer**. The research report and additional summary was edited by **Alex Porter**, with thanks to Nesta's communications team for their ideas and input in the editing process.

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BritainThinks

The research was undertaken by **Viki Cooke**, **Holly Wicks**, **Max Templer**, **Rowan Douglas** and **Chantal Aberdeen**.

BritainThinks is a leading independent insight and strategy consultancy. For more information: britainthinks.com

About Nesta

Nesta is an innovation foundation. For us, innovation means turning bold ideas into reality and changing lives for the better.

We use our expertise, skills and funding in areas where there are big challenges facing society.

Nesta is based in the UK and supported by a financial endowment. We work with partners around the globe to bring bold ideas to life to change the world for good.

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1 Introduction

How should we define innovation?

"New, unique, not been done before."

"Bring about change in a good way."

"New, exciting and original."

Britain is entering a new decade with an appetite for change. Having granted a Government the first significant majority in a decade, the public would be justified in expecting it to deliver promises made during an electoral campaign that followed years of political gridlock in a Parliament preoccupied with the Brexit question.

With a sense that the General Election has settled the question of the UK's future in the EU, public attention is likely to turn to the domestic issues neglected over the past four years. People expect action on widening inequality and struggling public services, as well as a global climate crisis. And, as this new study shows, the public sees innovation as a vital tool in tackling major challenges facing the UK – both economic and social.

We set out to better understand public perceptions of innovation for this study, and found people preoccupied with an uncertain future. Surveyed in Autumn 2019, two thirds of respondents found no agreement around a long-term vision for the UK following two years of preparations for a new future outside the EU. From everyday anxieties like personal finance and health to the existential threats facing the country and the world, people are worried about what lies ahead.

The public is keen for leaders to plan for a future in which these problems are approached in new and innovative ways, with 58 per cent saying it is the role of government to use innovation to plan for the future.

We also found that people want innovation to be a force for social change as well as economic growth. Findings suggested that:

- They want innovation to be used to tackle inequality – but don't see it having that effect at present.
- A majority (55 per cent) are prepared to limit certain types of innovation where it is likely to lead to inequality or disadvantage certain groups, and suggested implementing safeguards to protect the most vulnerable against unintended consequences.
- People are keen to see innovation benefit the whole country, and are willing to make some trade-offs to see this happen. For example, if there is a trade-off between reach and impact, 81 per cent of people would rather see innovation that has a smaller impact on a greater number of people over that which has a deeper impact on fewer people.
- People believe government investment should focus on helping all parts of the UK become more prosperous, with 67 per cent willing to see some areas grow more slowly than they otherwise would as a result.
- They also believe we should be investing in innovation that has a positive social impact, even if it doesn't necessarily contribute to economic growth too. Top priorities included making the UK's population healthier, improving the UK economy, and making the UK safer.
- People want to see innovation used to address the causes of climate change, with samples from Scotland and Wales citing this as the most important innovation priority.

But, while people are keen for change, they currently don't feel empowered to shape the future: a majority (62 per cent) feel they have little to no opportunity to influence the long-term future of the country. A majority also believes it is those on higher incomes who have the chance to shape, and benefit from, innovation, and most think decision-making power over innovation is too concentrated in Westminster.

Opinions are split over whether to defer to experts where they diverge from public feeling, especially among lower earners. Therefore it will be critical for social cohesion to rebuild trust in expert opinions (including politicians) among the public, as well as ensuring participatory methods are used to make people feel their voices are being heard.

To ensure the public's expectations are met, we urge the Government to rethink its innovation agenda for the new decade to:

- Direct research and development funding to tackle the challenges that really matter to people, like climate change, inequality and poor health.
- Increase the impact of innovation at a local level by devolving more of the UK's research and development budget to cities and regions, spreading the benefits of innovation across the UK.
- Become more transparent about how public money is spent on innovation and how these decisions are made, to justify to the public how innovation policy is improving people's lives.
- Involve the public in meaningful conversations about the future and the role of innovation by making greater use of new 'participatory futures' methods.

2 Background and methodology

This report represents the culmination of three months of public opinion research to understand attitudes to innovation. Whilst there is an existing body of evidence around public attitudes to science and technology, this research sought to build on this knowledge to understand:

- Public attitudes to innovation in 2019.
- Public priorities for innovation, and the purpose innovation should have.
- Perceptions of the winners and losers of innovation-led growth.
- Perceptions of the risks and trade-offs for innovation.
- Attitudes towards public agency to shape the direction of innovation.

In September 2019, Nesta commissioned BritainThinks to conduct a multi-phased project. An outline of the methodology is below.

'Innovation hub' deliberative workshop	Cognitive testing	Online survey	'Innovation hub' deliberative workshop
One day-long 'innovation hub' deliberative workshop, held in Liverpool on Wednesday 9 October 2019	Four cognitive testing interviews with the public to test their understanding and comprehension of a survey prior to its launch	An online survey distributed among a nationally representative sample of 3,838 UK adults aged 18+, between 1–7 November 2019. Data was weighted by age, gender, region and socio-economic grade to be representative of all UK adults	One day-long 'innovation hub' deliberative workshop, held in St Albans on Thursday 28 November 2019

3 Context

The public perceives a wide range of challenges facing society, spanning personal, local, national and global spheres.

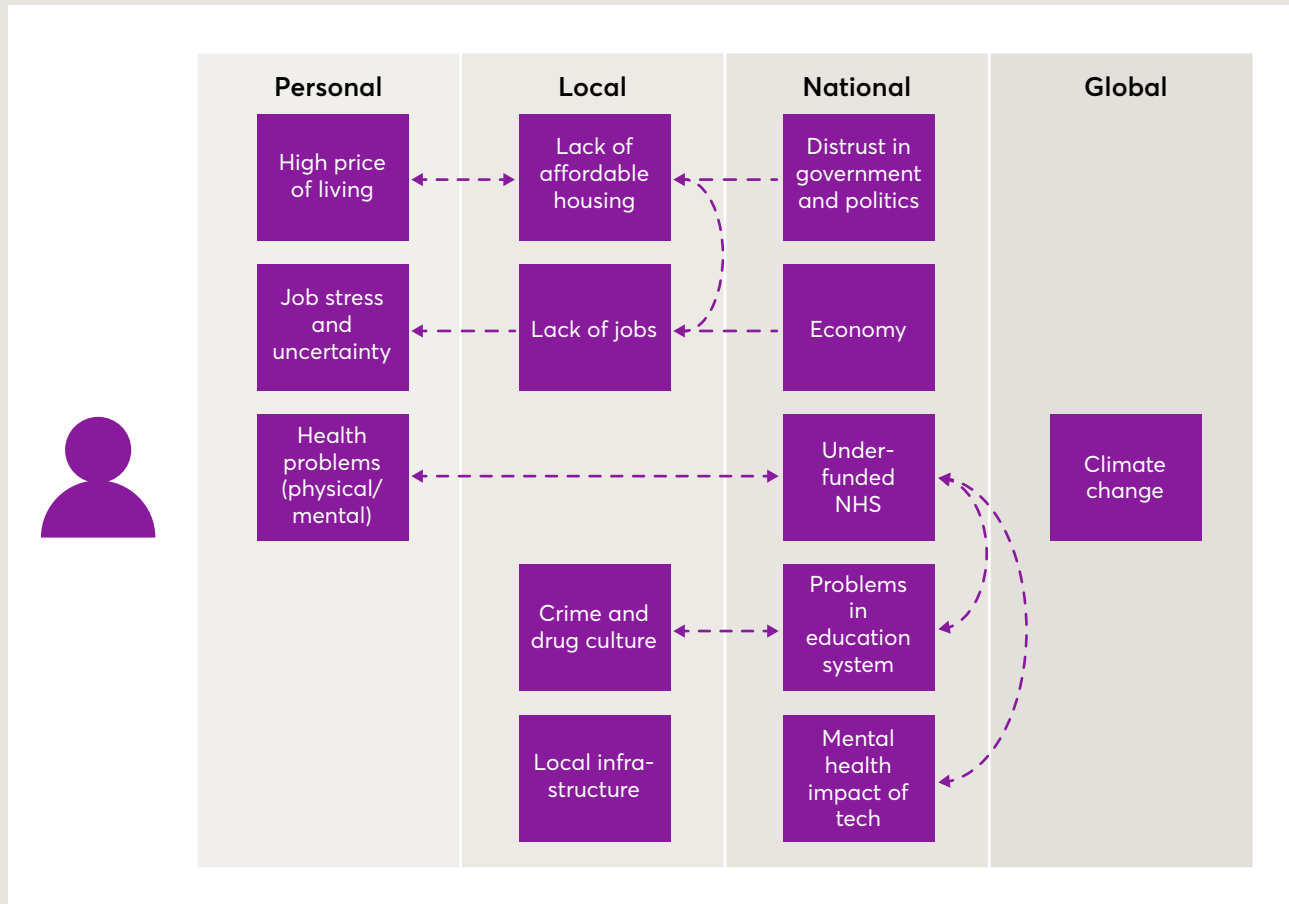
The lens through which the public views these challenges is inherently personal: whilst they feel strongly about local, national and global issues, personal challenges tend to be front of mind.

"I'm pretty worried about my job, the stuff I do at work is quite stressful. What to get everyone for Christmas... Just stuff I think about, just silly stuff. What to do the next day."

Workshop participant, St Albans

- **On a personal level**, the most common concerns are job stresses, money and the cost of living and health problems. As well as having concerns about these challenges affecting their own lives, the public worry about how these challenges impact upon their loved ones.
- **On a local level**, concerns include a lack of affordable housing in the area, lack of local infrastructure, building on green spaces, insufficient school places, gangs, drug culture and crime. In the context of our wider research, we know that local areas play an important role in people's lives, and the challenges that people mention on a local level also often drive pessimism towards their local areas.
- **On a national level**, there are significant concerns about the economy, the education system, the state of politics, increasing prominence of mental health issues, as well as a significant distrust in government.
 - Trust in government was particularly low in our Liverpool workshop, where some participants felt that the government had 'caused' all of the challenges facing society.
- **And on a global level**, climate change and the environment is seen to be a real challenge facing societies across the world.

However, these challenges do not exist in isolation



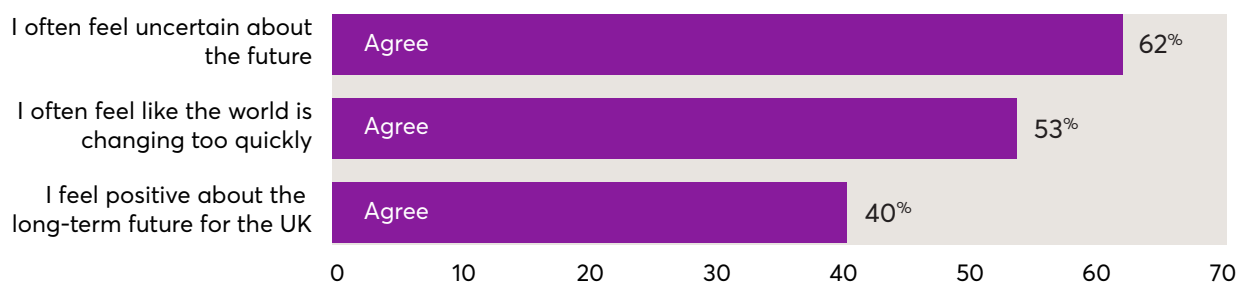
A number of these challenges are seen to be interlinked, with some suggesting clear lines of cause and effect between national problems and more tangible local and personal issues. These include:

- **Underfunding of the NHS** contributing to poor physical and mental health in the local community.
- **The rise of social media** use contributing to mental health problems.
- **An 'ineffective' education system** contributing to the prevalence of gang violence and drug use amongst young people.
- **Degrees that do not lead to jobs** contributing to increased unemployment, coupled with student debt.

"I think education is a problem because while I was doing GCSEs and A-Levels there were a number of girls who had to drop out because of mental health."

Against this backdrop, the public are uncertain about the future...

Showing all those who disagree with the following statements



Q2. To what extent do you agree or disagree with the following statements? Base: all respondents (n=3,838).

A majority of the public (62 per cent) report feeling uncertain about the future, and half (53 per cent) say that they often feel the world is changing too quickly.

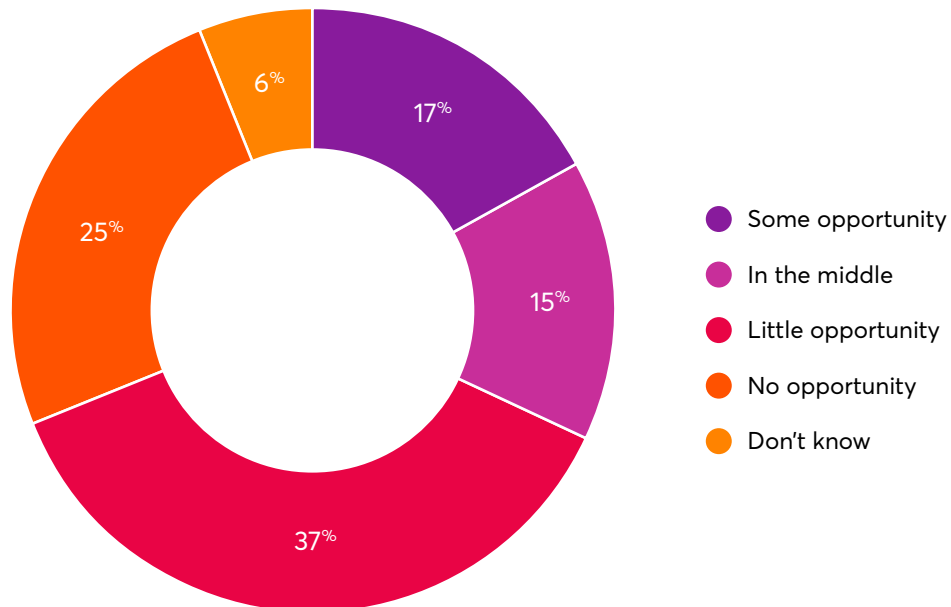
- Uncertainty is particularly high among young people: two thirds (69 per cent) of 18–24 year olds say they don't know what the future will bring.

The public is divided in its feelings about the country's future, with two fifths (40 per cent) agreeing with the statement that they 'feel positive about the long-term future for the UK', and a third (36 per cent) disagreeing.

- Two thirds (66 per cent) also report feeling that there is little to no agreement in the UK around a long-term vision for the country.

... And they feel disempowered to shape the long-term vision for the country.

Level of perceived opportunity to shape the long-term vision for the country

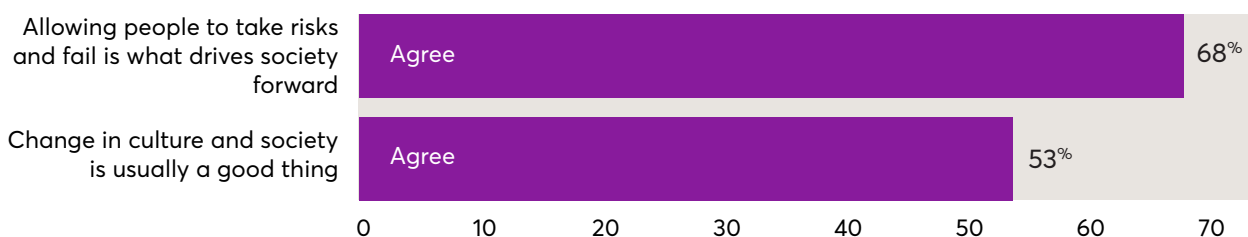


Q17. Overall, how much of an opportunity do you feel you have to shape the long-term vision for the country? On a scale of 1–7, with 7 being a great deal of opportunity and 1 being no opportunity. [No opportunity: 1, little opportunity: 2–3, in the middle: 4, some opportunity: 5–7] Base: all respondents (n=3,838).

A clear majority of the public say they do not feel empowered to have an impact here, with six in ten (62 per cent) feeling they have little to no opportunity to shape a long-term vision for the country, and a quarter (25 per cent) saying they have no opportunity at all.

However, in the context of personal and societal challenges, set against a backdrop of uncertainty about the future, the public are eager for change.

Showing all those who disagree with the following statements



Q2. To what extent do you agree or disagree with the following statements? Base: all respondents (n=3,838).

Support for an environment in which innovation can occur is high: two thirds (68 per cent) believe that allowing people to take risks and fail is what drives society forward, and just over half (53 per cent) believe that change in culture and society is usually a good thing.

- Younger people are particularly likely to believe this, with two thirds (67 per cent) of 18–24 year olds agreeing with this statement.

In the context of the challenges society faces, the public acknowledge that change is required.

“A lot of people don’t want to change, change is scary. But you have to convince them change is for the better.”

Workshop participant, St Albans

The public in Scotland and Wales are even more negative around the country’s future than the UK sample as a whole	But those in Scotland are most likely to be open to change
72 per cent of those in Scotland and 70 per cent of those in Wales say there is ‘little to no’ agreement around a long-term vision for the country, compared to 66 per cent overall	61 per cent of the Scottish public believe that change in culture and society is usually a good thing, compared to 53 per cent in Wales and 53 per cent in the UK overall.

4 Understanding and awareness of innovation

The term 'innovation' resonates; it is seen as the realisation of new ideas, offering solutions to unacknowledged problems.

When asked to define 'innovation', the majority of the public (70 per cent) link innovation to being about something 'new', whether a new product or service or a new way of doing things. Most definitions centre around new ideas and developments, as well as a sense of creativity, tackling challenges, and 'thinking outside the box'.

"Innovation is that 'lightbulb' moment."

Workshop participant, St Albans

Often, innovations are seen to be new ideas or developments that meet a previously unmet need.

"Elon Musk, Jeff Bezos – I think of them... they've created things that we didn't know we needed. Like with Uber, no one was saying "oh, it's so annoying that we need to call a taxi."

(Workshop participant, Liverpool)

Some definitions given by participants included:

"Brings about change in a good way."

"New, unique, not been done before."

"New, exciting and original."

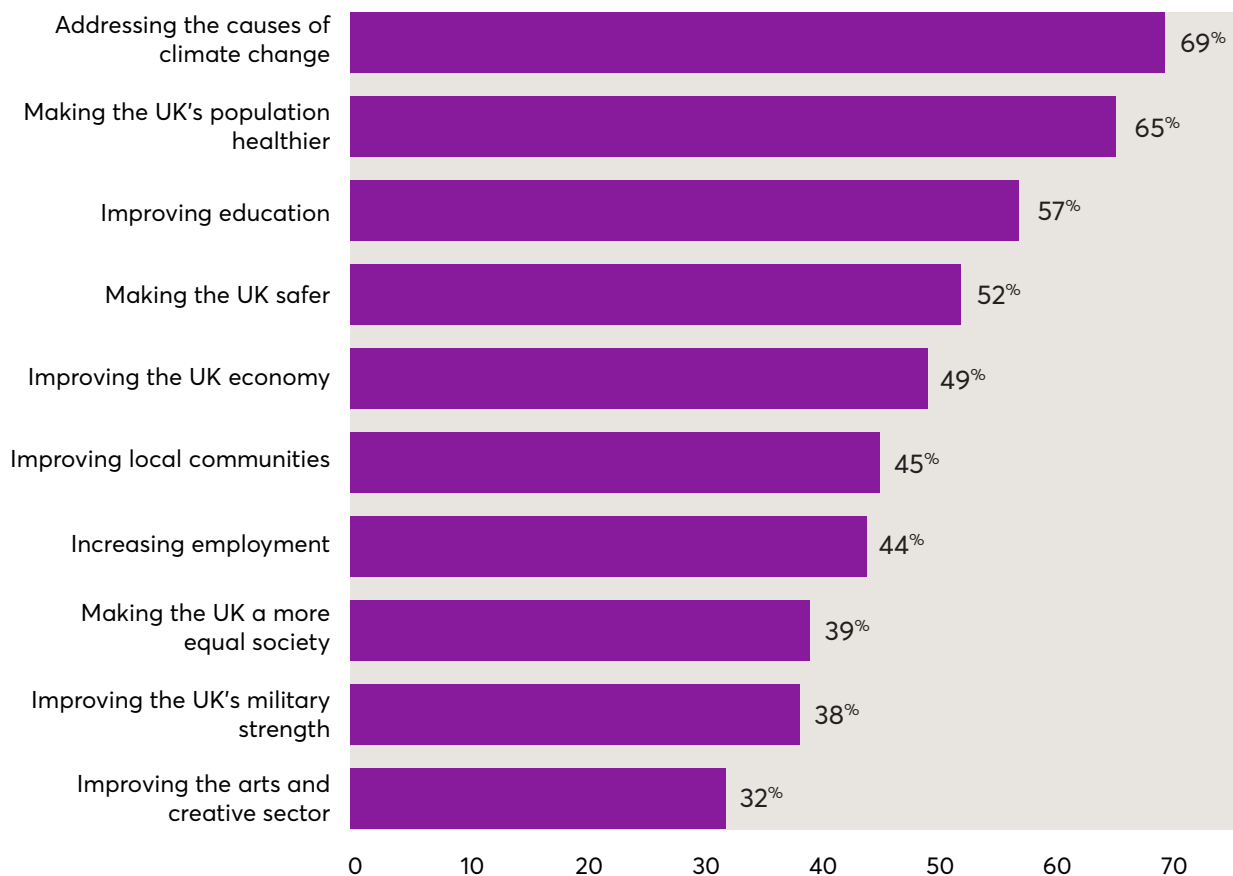
"Working actively towards creating new pathways, systems and approaches for solving a present problem".

Survey respondents

Reported awareness of innovation is high...

People say they have heard about innovation in a number of key areas, in particular climate change, health and education.

Percentage who have heard about innovation in each of the following areas



Q4. How much innovation, if any, have you seen or heard about in each of the following areas? [Have heard about = have heard of a lot + have heard of a little]. Base: all respondents (n=3,838).

The public feel that innovations are happening on a systemic level, but are often gradual (rather than an instant change). As such, they assume these are happening, but lack details about specific innovations in these areas.

Examples given included the development of technology, the rise of social media, and research into new medical treatments. Individual innovations in these areas are more likely to fly under the radar, as they feel like part of a seamless programme of progress, posing little to no inconvenience to the public in most cases.

"I think in this day and age, with the amount of technology and stuff... if you'd said 25 years ago you could carry a phone around in your pocket [it would have been unimaginable]."

Workshop participant, St Albans

"Now, if someone says they've got cancer, it's not the end...the HIV and AIDs thing as well – people are living 30 years with it!"

Workshop participant, Liverpool

There is more awareness in Wales of a number of areas of innovation when compared to the overall UK samples	Awareness of innovation in Scotland is similar to the UK sample overall, with a few areas in which it is greater
These are: • Making the UK's population healthier (70 per cent) • Improving education (62 per cent) • Making the UK safer (56 per cent) • Making the UK a more equal society (43 per cent)	These are: • Improving education (61 per cent) • Improving local communities (50 per cent) • Improving the arts and creative sector (37 per cent)
There are no areas in which those in Wales are less aware of innovation than the UK sample overall.	Again, there are no areas in which awareness in Scotland is lower than that of the UK as a whole.

However, specific innovations the public have noticed tend to have inconvenienced them in some way – even if they also have positive outcomes.

Many of the front of mind examples of innovations in everyday life were environmental. These included:

- The plastic bag charge.
- The eradication of plastic straws.
- Low-carbon emission zones.
- The introduction of bags-for-life/reusable shopping bags.
- The popularisation of renewable energy sources.

The public were quick to recall these examples for a number of reasons. Climate action has had significant media cut-through, and is an area in which much of the public truly supports the work being done. The plastic bag charge and the eradication of plastic straws were particularly memorable, representing direct policy interventions in which one way of working was replaced wholesale by another. This had direct and tangible personal impacts upon the public (and often impacts which are seen to be inconvenient).

Participants mentioned other, similarly impactful policy interventions, including the sugar tax, the smoking ban, and restrictions on the size of cigarette and tobacco packs.

"There's lots of things going on, people making plastics from mushrooms or seaweed... I watched a video recently of a girl who'd made it from fish scales. She's figured how to make a plastic that's bio-degradable and can't be eaten by other things."

Workshop participant, St Albans

These examples reinforce the idea that innovation is positive and necessary – but isn't always hitting the mark.

For most of the examples mentioned, innovations were judged positively even when they had some small personal detriment (e.g. having to pay for a carrier bag or having to use a cardboard straw).

This positivity is reflected in definitions of innovation given by participants: making people's lives better and easier. However, some innovations fall short, and government is often perceived to be to blame. In some instances, good ideas are seen to be under-invested in, causing them to lack impact on the ground. This is particularly frustrating when these innovations are seen to solve important societal challenges (e.g. poor mental health).

"The government have started 'Every Mind Matters' this week... it basically just gives you online forms to work through. I think that's quite weak actually, surely a support group would be better... Or here's an app for your phone... it feels like lip service."

Workshop participant, Liverpool

Others feel frustrated when government innovation contradicts government cuts, meaning innovation contributes to the biggest challenges facing society rather than solving them. One example was the contradiction between the sugar tax's benefits for physical health, and cuts to free swimming contributing to the perceived growth of gangs, youth violence and poor mental health.

"They brought the sugar tax out, and then stopped the children going swimming for free and that [used to keep] the kids off the streets."

Workshop participant, Liverpool

Despite this, there is significant appetite for innovation to tackle the challenges society faces.

Innovation is seen to be an important part of societal growth and development, and one that should be a priority for the UK so it is not left behind.

"I feel like anything can be achieved, nothing's out of your reach."

Workshop participant, Liverpool

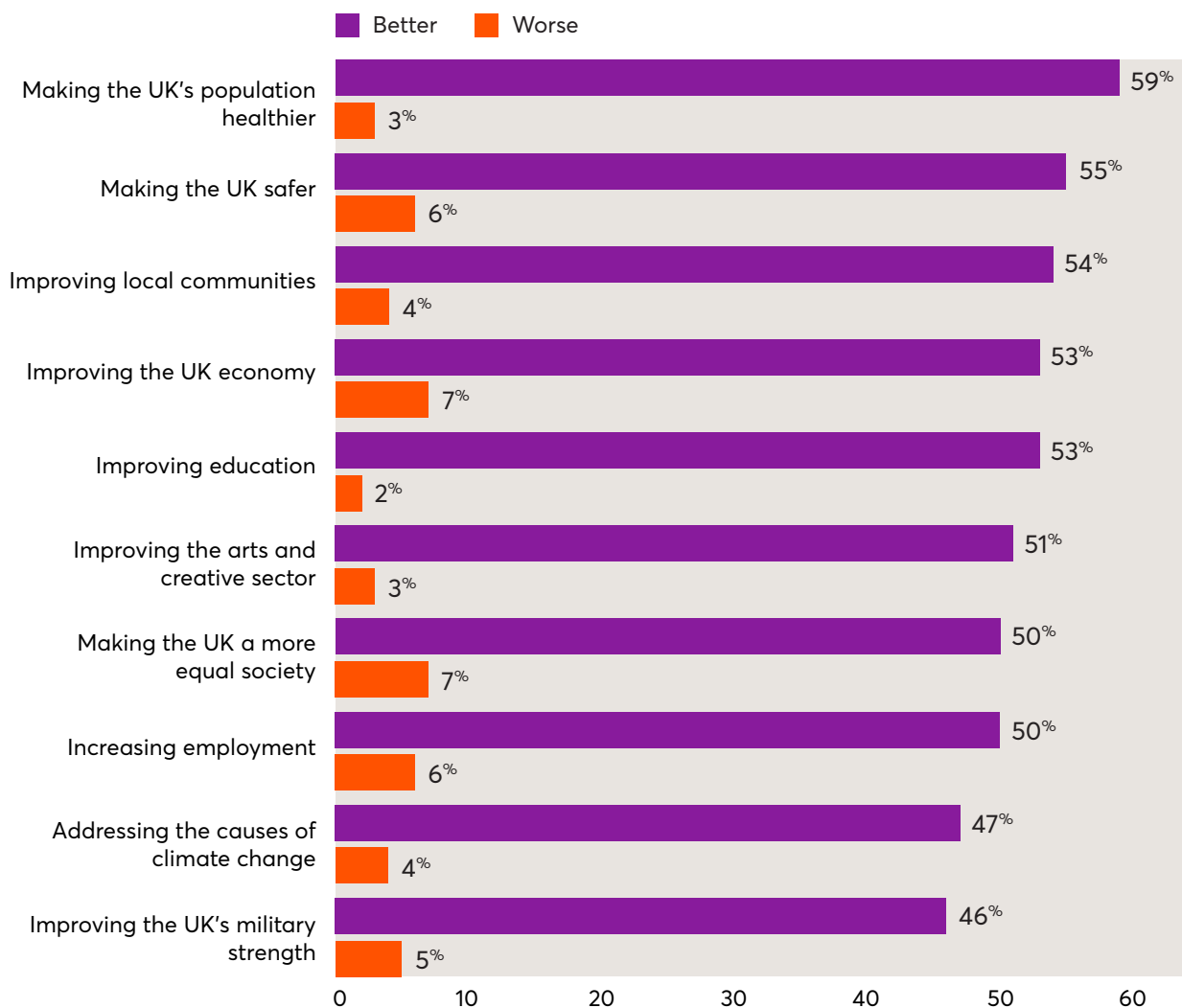
"Innovation is about ideas that make life easier, more enjoyable, and more convenient. Without it we'd be stagnant."

Workshop participant, Liverpool

5 Impacts of innovation

Across the board, the public feel that innovation has made their lives better, rather than worse.

Percentage indicating whether innovation in each area has made their lives better or worse

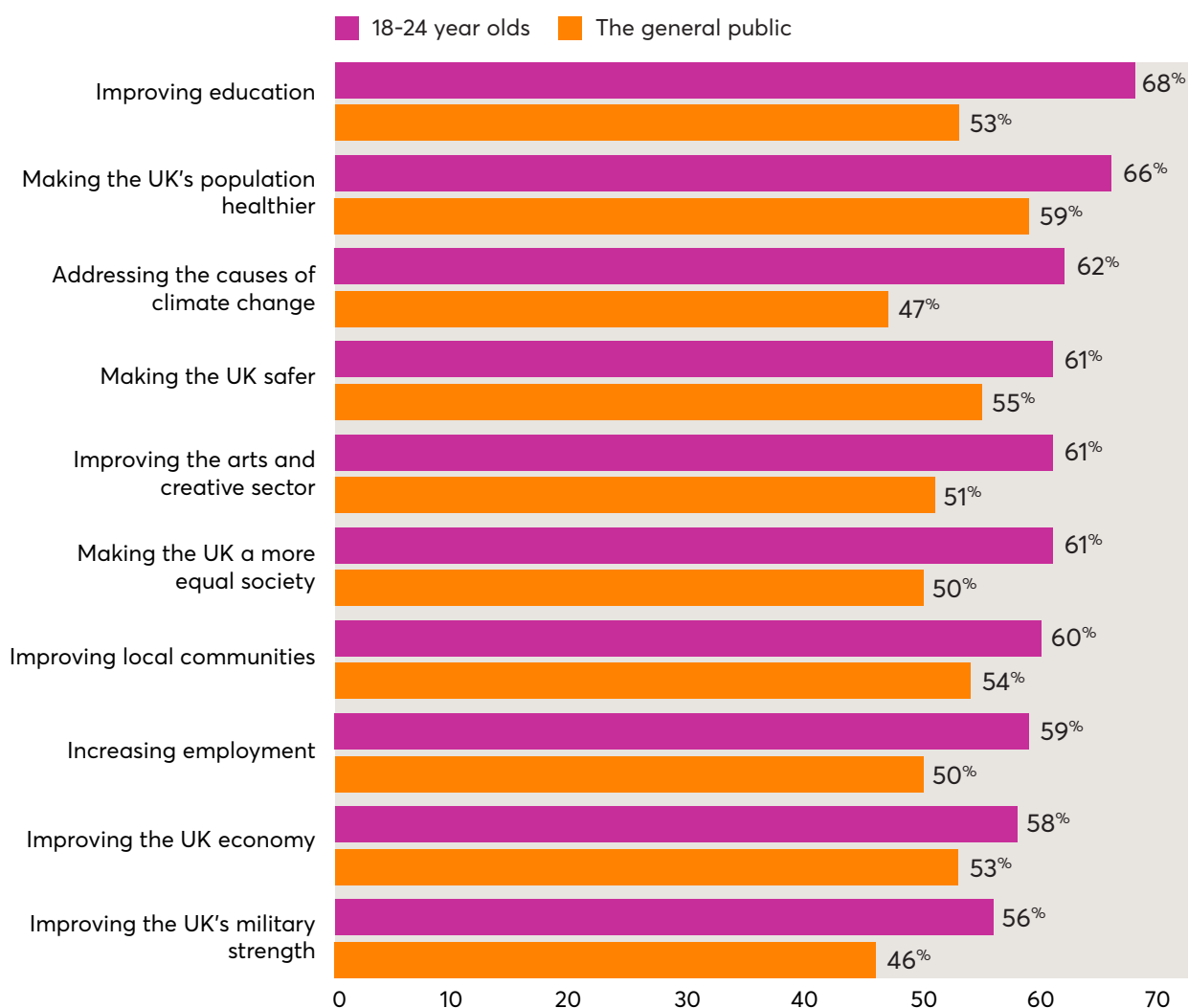


Q5. To what extent, if at all, has innovation in each of these areas made your life better, or worse? [Total better/worse = much better/worse + a bit better/worse]. Base: all those who have heard of innovation in each area (n=1,510 (making the UK a more equal society), 1,892 (improving the UK economy), 2,557 (making the UK's population healthier), 2,026 (making the UK safer), 1,790 (improving local communities), 2,700 (addressing the causes of climate change), 1,714 (increasing employment), 1,416 (improving the UK's military strength), 1,267 (improving the arts and creative sector), 2,240 (improving education)).

Reputationally, innovation is starting from a positive standpoint. Despite often having limited spontaneous examples of innovation in many of these areas, the public assume that it contributes positively to people's lives.

This is particularly true of young people, who are more likely than UK adults overall to say that every area of innovation has made their lives better.

Percentage of 18–24 year olds and the general public indicating whether innovation in each area has made their lives better



Q5. To what extent, if at all, has innovation in each of these areas made your life better, or worse? [Total better/worse = much better/worse + a bit better/worse]. Base: all 18–24 year olds who have heard of innovation in each area (n=237 (making the UK a more equal society), 241 (improving the UK economy), 286 (making the UK's population healthier), 264 (making the UK safer), 245 (improving local communities), 312 (addressing the causes of climate change), 228 (increasing employment), 167 (improving the UK's military strength), 180 (improving the arts and creative sector), 286 (improving education)).

Fewer people in Scotland and Wales have felt the positive impact of some areas of innovation compared to the UK as a whole

For Scotland, these are:

- Improving the UK economy (49 per cent).
- Making the UK a more equal society (46 per cent).
- Increasing employment (42 per cent).
- Improving the UK's military strength (42 per cent).

In Wales, these are:

- Improving the UK economy (49 per cent).
- Increasing employment (44 per cent).

While attitudes towards innovation are largely positive, there are certain areas in which the pace of change is perceived to be a risk – in particular, that of technological innovation.

Our 24/7 online culture raises concerns among the public about the impact of the internet and social media on society – in particular on children. Those surveyed felt that access to computers and the internet has led to people becoming less sociable, less comfortable engaging in face-to-face interactions, and more self-absorbed.

"My niece tries to swipe the TV. I'm really strict with my son on screen time. But I've noticed sometimes his mood can change."

Workshop participant, St Albans

The generational divide with technology is also seen to be a key risk: whilst older generations may struggle to keep up with the pace of change, popularity of social media among young people is considered to be a driver of poor mental health.

- This is seen to be a result of both the pressures of maintaining an internet presence, and specific dangers like cyberbullying and grooming. There is a sense that, while mental health issues did exist before the development of social media, these conditions are now much more prevalent amongst young people than ever.

"Technologies nowadays, it's been made to be so easy to use that a child can use it, so at the same time a parent has to try to keep up with it."

Workshop participant, St Albans

"I don't think [social media] is controlled enough... it's sick, I would be careful if I had a kid, I'm not letting them on social media until they're 16."

Workshop participant, St Albans

The public acknowledges that this risk is an unintended consequence of innovation, and that creators did not set out to contribute to challenges facing society. Whilst their intention was positive (to keep people connected), it has had both a positive and a detrimental impact on society as a whole – people suggest that it is now so embedded in society that safeguards must be fitted retrospectively.

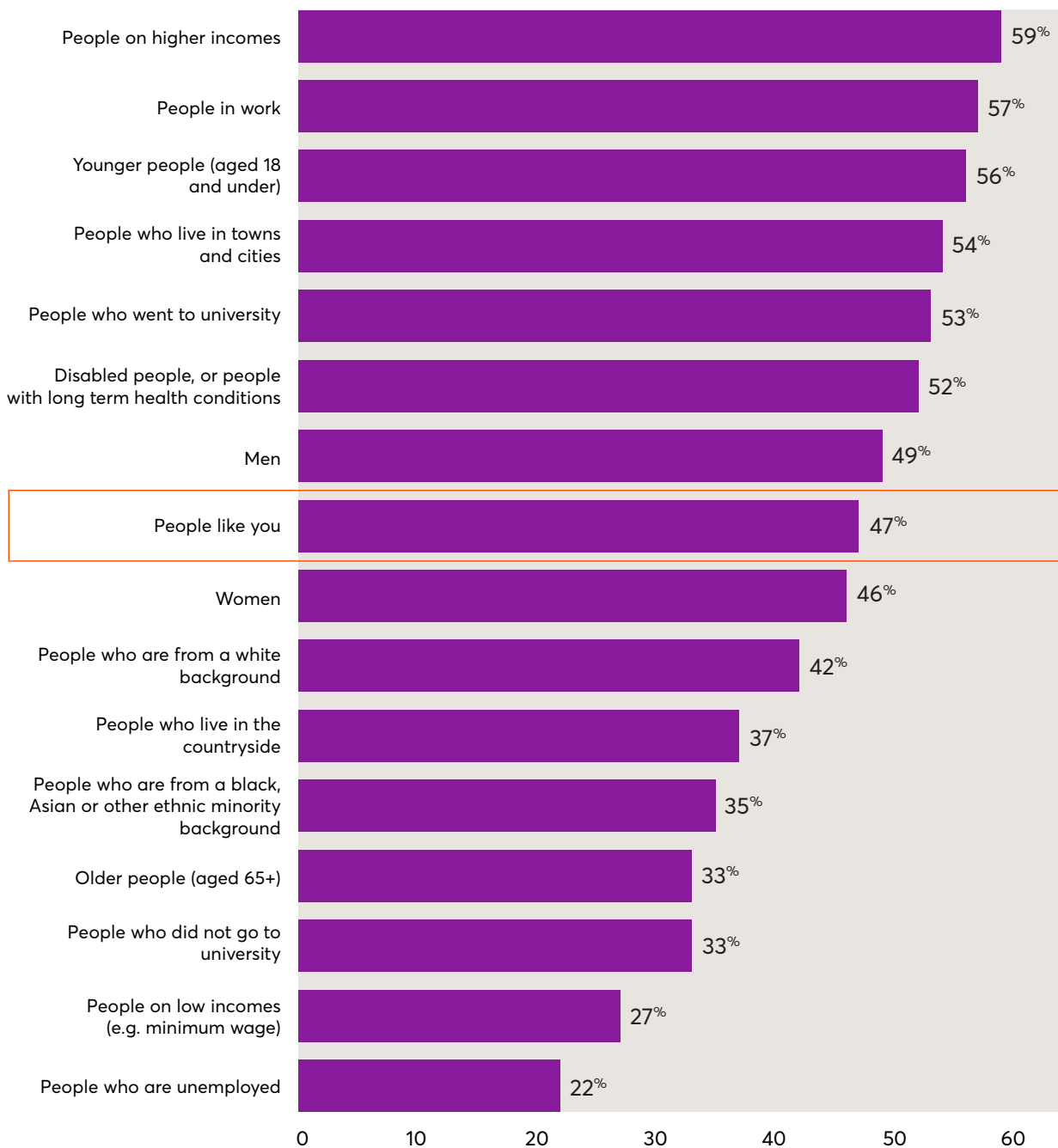
"I feel like mine was the last generation to be okay without technology."

Workshop participant, Liverpool

6 Beneficiaries of innovation

Innovation is not perceived to have equal public benefit. Many believe that within society, there are innovation 'winners' and 'losers'.

Percentage believing that innovation has had a positive impact on each group of people



Q3. How positive or negative is the impact of innovation on each of the following groups of people? (Total positive impact = very positive impact + somewhat positive impact). Base: all respondents (n=3,838).

Those in Scotland (and to a slightly lesser extent Wales) are more likely to believe that groups are innovation 'winners'

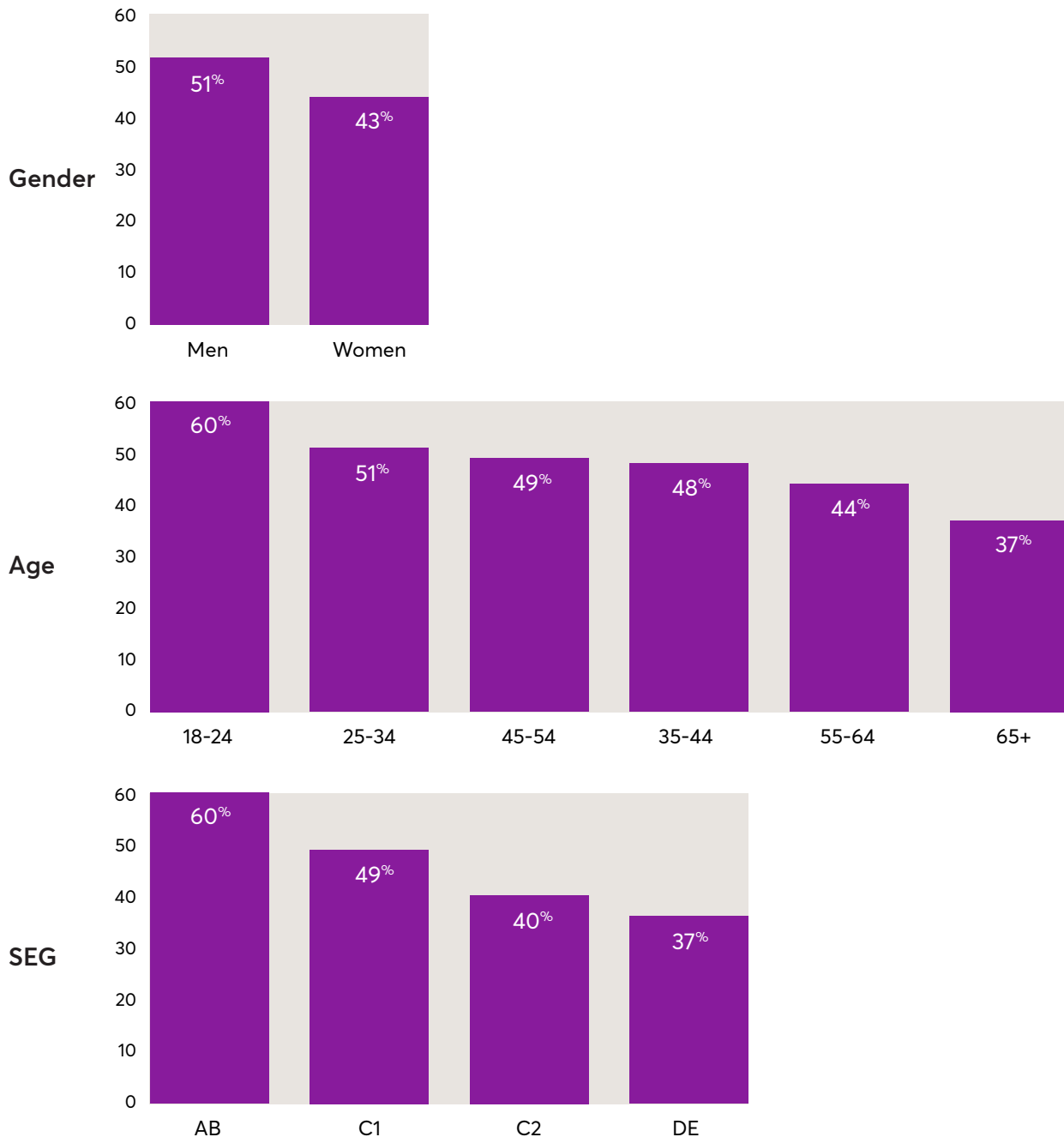
These different groups are:

- People in work (61 per cent)
- Younger people, aged 18 and under (60 per cent)
- People who live in towns and cities (59 per cent)
- People who went to university (59 per cent)
- Disabled people or people with long term health conditions (58 per cent)
- People who live in the countryside (41 per cent)
- Older people (aged 65+) (37 per cent)
- People who did not go to university (38 per cent)
- People who are unemployed (27 per cent)

In Wales, the groups more likely to be seen as 'winners' than in the UK sample overall are:

- People who live in towns and cities (58 per cent)
- People who went to university (58 per cent)
- People who are from a BAME background (39 per cent)
- Older people aged 65+ (38 per cent)
- People who did not go to university (37 per cent)
- People who are unemployed (26 per cent)

Whilst half of the public feel that innovation has had a positive impact on people like them, demographic differences play a role in determining who has 'won' or 'lost'.



Q3. How positive or negative is the impact of innovation on each of the following groups of people? (Total positive impact = very positive impact + somewhat positive impact). Base: all men (n=1,883), women (n=1,955), 18-24 (n=435), 25-34 (n=540), 35-44 (n=664), 45-54 (n=640), 55-64 (n=650), 65+ (n=909), AB (n=1,286), C1 (n=1,137), C2 (n=537), DE (n=878).

Men, young people, and those from socio-economic groups AB (who are likely to be higher income earners) are more likely to say that innovation has had a positive impact on people like them.

Those in Scotland are particularly likely, at 54 per cent, to believe that 'people like you' feel the positive impact of innovation.

And those who feel that they are missing out are also perceived by wider society to be among those who actually are missing out.

Alongside women, older people and those from socio-economic grades C1, C2, and DE (who are likely to be lower income earners), other groups that are seen to benefit least from innovation include:

- People who live in rural areas.
- People who did not go to university.
- People who are unemployed.

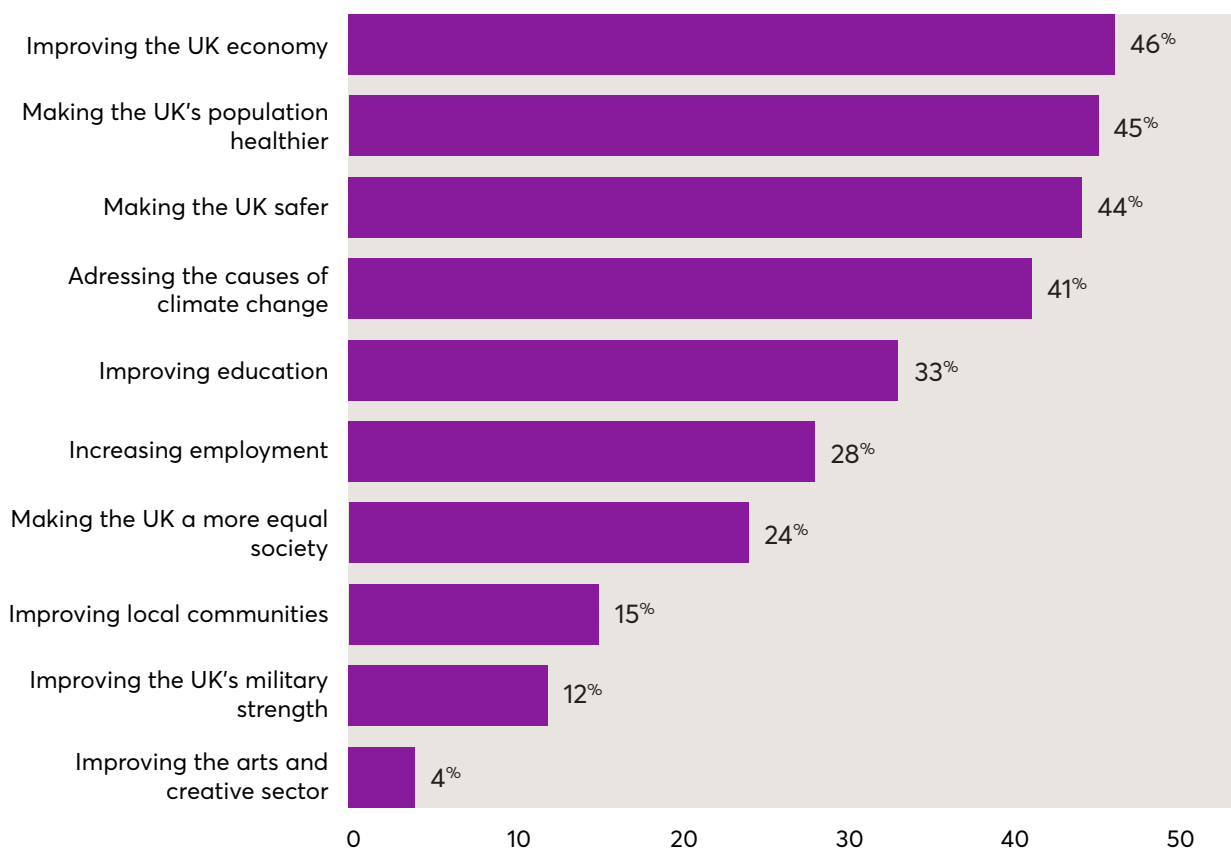
"What works for some people might not necessarily work for others... too complex for the older generation isn't it."

Workshop participant, Liverpool

7 Priorities for innovation

The public would like to see innovation address the areas that they see as the biggest challenges facing society.

Percentage believing that innovation in each area is amongst the top three most important to society



Q6. In which of these areas do you think that innovation is most important to society? Top three most important.
Base: all respondents (n=3,838).

Making the UK's population healthier

Health is universal. As such, there is significant appetite for innovation to address both physical and mental health issues. The public treasure the NHS, but see it as underfunded: innovation is seen as a potential route to addressing this perceived funding deficit.

Mental health is a particularly topical issue, linked to a belief that mental health problems are becoming much more common, especially amongst young people. There is a sense that, while progress is being made in treating mental health issues and in battling relating social stigma, there is still a lot more to be done.

"Building people's resilience... so for example a family grievance... men's mental health is a big thing... if you go into a barber's they probably just talk about safe things, did you see the footie at the weekend."

Workshop participant, Liverpool

The public note that successful health innovations do not need to be large-scale or widespread, but can address a local need or disease area. One example of a successful innovation is a 'chemotherapy bus', which successfully delivers treatment to people who struggle to access the hospital.

"There are a lot of older people who can't physically get to their units for treatment. [A nurse] came up with the idea of the [chemotherapy] bus, so the treatment's on the bus. She commits her whole life to these people. Underfunded, no support, but she's doing it herself."

Workshop participant, St Albans

Improving the UK economy

Economic stability is seen to underpin a successful society; as a result, it is considered to be a priority area for innovation. Some members of the public say they feel they are 'in survival mode', with financial hardships having a significant impact on all other areas of their life. The key challenges that people believe need to be addressed by innovation include:

- Homelessness.
- A lack of jobs.
- Generation Rent and limited access to affordable housing.
- The cost of living (food, travel, bills).

It is difficult for the public to suggest specific innovations that would improve the economy on a macro level, though some do report instances of smaller innovations that address some of the impacts of economic issues. Most notably, these include Right to Buy initiatives to increase home ownership and further education courses to help people gain the skills they need for different employment opportunities.

"When it comes down to it, everything is to do with money."

Workshop participant, Liverpool

Addressing the causes of climate change

Climate change, and its causes and effects, is a front of mind issue – particularly given recent media coverage of Extinction Rebellion action. The public feel that addressing climate change will have both short and long-term benefits; in the short-term, reducing the severity of pollution and of extreme weather events across the world, and in the long-term, ensuring the safety of the planet for future generations.

The public feels it is everyone's responsibility to tackle the causes of climate change, and recognise the need for individual and wider-scale action. These wider initiatives include improving education about climate change in schools, government funding for new infrastructure (e.g. electric car charging points) and commitments from manufacturers to produce sustainable products with sustainable materials.

"For a first world country, we've fallen behind others in this – other countries are doing it and it's successful, so why do we as a rich country not incentivise recycling?"

Workshop participant, St Albans

Improving education

A sense that the education system is not fit for purpose was clearly apparent in our innovation workshops, most notably in Liverpool. Issues associated with problems with the education system included:

- Young people struggling to find employment.
- A lack of motivation when employed.
- Increased levels of crime and involvement in gang culture.
- Universities not equipping graduates with the skills to get a job.
- Poor health.

The public believes the education system is a root cause of each of these issues – and that it could be improved via tactical improvements to careers advice, teaching quality, discipline in the classroom and a broader curriculum including practical life skills.

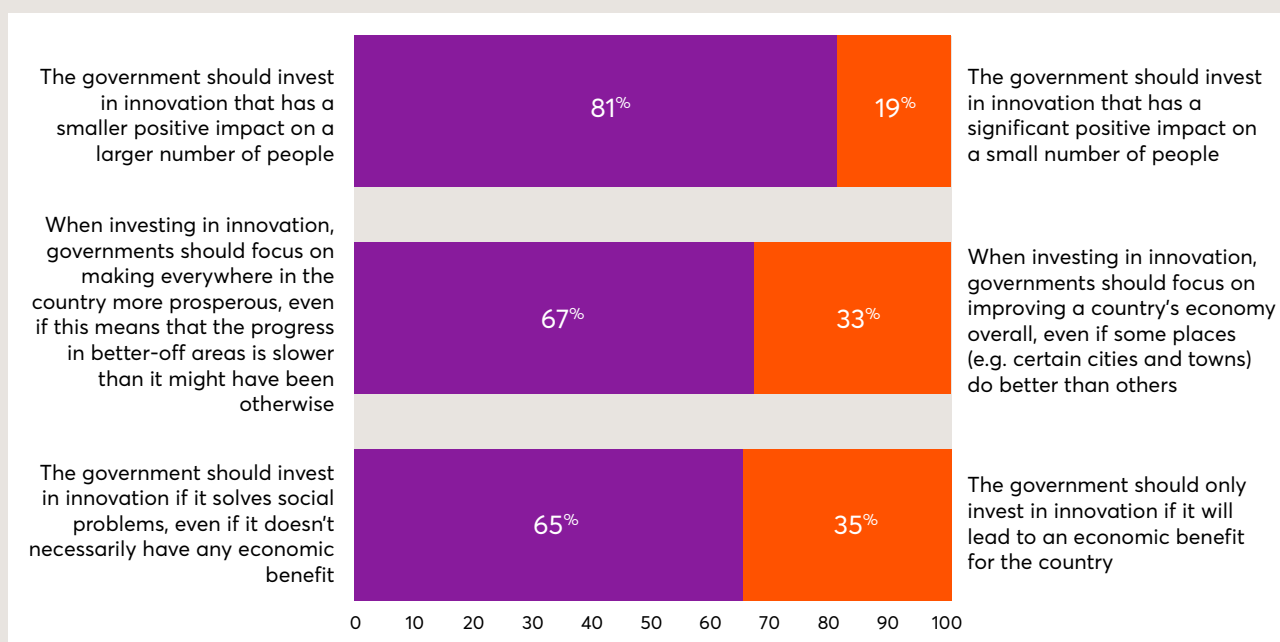
"It all comes down to the education system again... every child has a different level. Not everyone in first grade learns at the same level. The brain takes things in at different stages. It all depends on where you are mentally, and I think the schools need to take that into account."

Workshop participant, Liverpool

Innovation priorities in Scotland and Wales are similar to the UK as a whole. Unlike the UK overall, however, both nations selected 'addressing the causes of climate change' as the most important issue.

In addition, 'improving education' made it into the top four priorities in Scotland, at the expense of 'making the UK safer'.

The public have clear ideas for investment in innovation – prioritising innovation that benefits a large number of people, across the country, and with an aim to solve social problems.



Q7. For each of the following pairs of statements, please indicate which comes closest to your view. Base: all respondents (n=3,838).

These principles include:

- **Ensuring that innovation benefits a large number of people** – even if the comparative benefit they experience from this is small.

The public is far more likely to believe the Government should prioritise investment in innovation that has a smaller positive impact on a larger number of people (81 per cent) than a significant positive impact on a small number of people (19 per cent).

- **Ensuring that innovation benefits the entire country** – even if that means the pace of progress in better-off areas is slower than it could be.

Over two-thirds (67 per cent) say that governments should focus on making everywhere in the country more prosperous, even if this means progress in better-off areas is slower than it might have been otherwise. A third (33 per cent) say that governments should focus on improving a country's economy overall, even if some places (e.g. certain cities and towns) do better than others.

• **Solving social problems** – even if there is no economic benefit to doing so.

The public is more likely to argue that the Government should invest in innovations which solve social problems without any economic benefit (65 per cent) than only investing in innovations where there will be an economic benefit to the country (35 per cent).

However, beyond investment, the public are divided on a range of innovation issues – from the use of their personal data, to who innovation should seek to benefit.



Q7. For each of the following pairs of statements, please indicate which comes closest to your view. Base: all respondents (n=3,838).

Long-term vs. future generations

Notions of 'long-term' for the general public are, in fact, fairly short in public policy terms. The public understandably has a strong tendency to prioritise those innovations it expects to have a direct personal impact in a lifetime. 'Long-term' is interpreted by the public as lasting for a period of up to ten years, so 'long-term' changes feel directly relevant to anyone expecting to still be alive in ten years time.

Conversely, the public is less likely to prioritise innovations that focus on 'future generations', feeling they will not have any tangible impact on those who are alive now.

In St Albans, we provided the public with a scenario setting out two training programmes available to a local factory. One provided training to help unemployed people get a job, and the other provided training for those currently working at the factory, whose jobs may be at risk in 10 to 20 years.

In response to this scenario, the public felt an ideal solution would be to provide a combination training programme: one that

upskills unemployed people, but that also helps those currently employed by the factory. When asked to choose, the tipping point for participants was the desire to help those less fortunate: they selected the training programme for unemployed people.

They felt those currently unemployed would have job security for 10 to 20 years – which felt long-term enough to not be an immediate risk.

"If they could split the training budget that would be best, but on balance the unemployed people have a greater need."

Workshop participant, St Albans

Personal data sharing

Whilst three in five (58 per cent) members of the public say they are happy for their personal data to be shared if it meant innovation could take place, underlying this is a more complex picture. The misuse of personal data is felt to invade privacy and facilitate profiling of minority ethnic groups, amongst other problems.

"Nobody should be trusted with such power."

Workshop participant, Liverpool

The only area in which there was consensus for sharing personal data was healthcare, particularly when the benefits are tangible – such as better detection, treatment or cures for diseases.

In Liverpool, we provided the public with three scenarios relating to personal data use: personalised pricing, surveillance, and genomic testing.

Facial recognition software was felt to be beneficial for safety and could be used for catching criminals. However, the public had

concerns that it is too invasive, that there is too much room for error (e.g. cases of mistaken identity) and that minority groups could be targeted. On balance, there were felt to be too many 'losers' from this innovation – specifically the general public, society as a whole and civil rights.

"It might create safety in identifying criminals and terrorists."

Workshop participant, Liverpool

Genomic testing was generally supported because of the tangible benefits to society – this was felt to outweigh the acknowledged downside that people may find out they have an incurable disease they didn't want to

know about, or that they might find out other unwanted information about their heritage (e.g. that they were adopted). Despite support for this, the public still wanted reassurances about data protection and anonymous data-sharing.

"The government should make sure information isn't given to the patients without an 'opt in' or 'opt out' system."

Workshop participant, Liverpool

Unintended disadvantage

Over half (55 per cent) of the public say we should be prepared to limit the use of innovation and new technologies if they have the potential to lead to inequality, or disadvantage certain groups of people. However, when explored in more depth, the public is much more divided on this issue. Many of those surveyed felt there should be safeguards in place to protect the most vulnerable in society.

In response to a scenario about personalised pricing in Liverpool, participants felt this technology could widen inequality in society. They felt it would not be sufficiently accurate when ascertaining how wealthy individuals are; some who were on lower incomes cited their own buying habits, such as saving their limited finances to spend on high-end, luxury items and designer brands. This was just one example

of how this technology could have unintended consequences on those most in need of its benefits.

Furthermore, the public lack trust in this technology not being manipulated – for example tricking it so that individuals who would not truthfully benefit from personalised pricing ended up with the best deals.

"There could be manipulation of personal data to get cheaper prices."

Workshop participant, Liverpool

In Liverpool, we also tested a scenario whereby resource allocation for schools was based on achievement potential of students. Participants were resistant to this idea, feeling

it would deepen social divisions. They believed those from wealthier backgrounds, with more educated families and who attend fee-paying schools, would benefit most.

"This is going to create a two-tier education system."

Workshop participant, Liverpool

The role of experts

The public is divided on whether decisions should be largely made by experts (53 per cent) or by the public (47 per cent). It is clear that there is a role for both experts and the public to play in shaping decisions about innovation.

In St Albans, we tested a scenario in which experts' views differed to a hypothetical public on where a hospital should be built. The experts' proposed plan was the best choice, according to participants, because more people would benefit.

However, participants did attach some conditions to this choice, requiring some public

involvement. As such, the ideal solution to the scenario was felt to be a form of consultation whereby the public were actually listened to – counter to the 'box ticking' exercise current public consultation was felt to be. The public understands successful consultation to mean having the power to amend or alter a proposal.

"I would like to have some input, I would like to have the choice of some input, but I wouldn't want the decision on my shoulders."

Workshop participant, St Albans

Economic benefits

Whilst the public is divided on whether or not the economy should be the overarching driver behind innovation, it does see the economic benefit as being important in specific circumstances. Wider contextual discussions in both workshops touched on economic uncertainty on a personal and societal level, with people mentioning the high cost of living, zero-hours contracts, and lack of job security as challenges they face.

In St Albans, we tested a scenario in which a town would benefit economically if the local factory automated a large portion of its business; however, this would result in job losses. Despite consensus that the economic benefits of automation would be beneficial for

residents and that keeping up with the pace of change is important, job losses remained a sensitive topic. The public felt that, should automation be introduced, those facing unemployment should be supported.

"If you don't modernise and [...] stay with it and your competitor from the next town [...] says 'Oh fantastic, we're going to double our profit', then you're not going to survive."

Workshop participant, St Albans

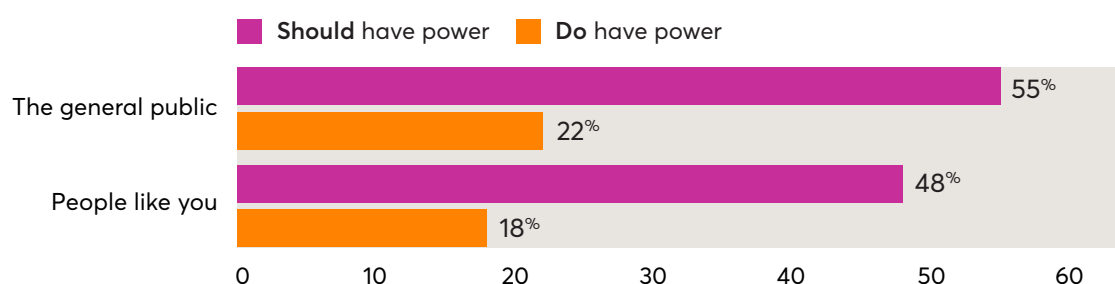
Even where public priorities are more divided, there were some key considerations on which participants were united in workshops:

- **What the public think of as long-term isn't very long-term**, but it is better to talk about the long-term benefits of innovation than the benefits to future generations.
- **The public is nervous about use of personal data** unless it is for health. Even then, people still want reassurance about how data will be used, stored and shared – and want confidence in its anonymity.
- **Innovation should positively discriminate in favour of the most disadvantaged in society**. It should reassure that it is seeking to narrow, rather than widen the gap.
- **Job loss is a sensitive topic**, despite general agreement that keeping up with the pace of change is important.

8 Actors in innovation

The public feel they should have decision-making power around innovation, but most believe they currently have none.

Those who believe each group currently has/should have decision-making power over innovation



Q10. How much decision-making power if any, do you think each of the following groups of people currently have over innovation? Q11. How much decision-making power, if any, do you think each of the following groups of people should have over innovation? On a scale of 1–7, where 1=no influence and 7=a lot of influence. (Total do/should have power = 5–7). Base all respondents (n=3,838).

A majority (55 per cent) believe the general public should have decision making power about innovation, but feel that both people like them (63 per cent) and the general public as a whole (54 per cent) currently have no decision-making power.

- Divisions between innovation 'winners' and 'losers' persist: half (54 per cent) of those surveyed say they believe that under the current system only people who are well-off and influential are able to get involved in innovation.

In workshops, public involvement in innovation was felt to be important – but the public didn't want the responsibility of being the final decision-maker. In this instance, many feel this would be best left to experts, but with early-stage public involvement. Attitudes to the role of experts in innovation differ according to socio-economic grade, with a greater proportion of ABC1s (59 per cent) than C2DEs (45 per cent) believing that decisions about innovation should be made by experts, even when those experts disagree with most of the general public.

However, participants also perceived current forms of public consultation to be broken, as they do not provide the public with a 'fair voice' on decisions they may be affected by. They perceive public consultation in its present state to be too restrictive, only allowing public input once a decision has already been taken – as a 'tick-box exercise'.

"To be honest, I think they just pay lip service to public consultation."

Workshop participant, St Albans

"I've been to quite a few public consultations. Even if it is actually just being ignored, I still do like to feel that I've done my bit."

Workshop participant, St Albans

- Public votes were considered as an option, but 2016's Referendum result was felt to have created such divisions across society and within families and friendship groups that it was not seen to be an acceptable solution: dependent on the result, the public could be divided on the outcome.

"If you went purely public vote, it's not going to be reflective or unbiased."

Workshop participant, St Albans

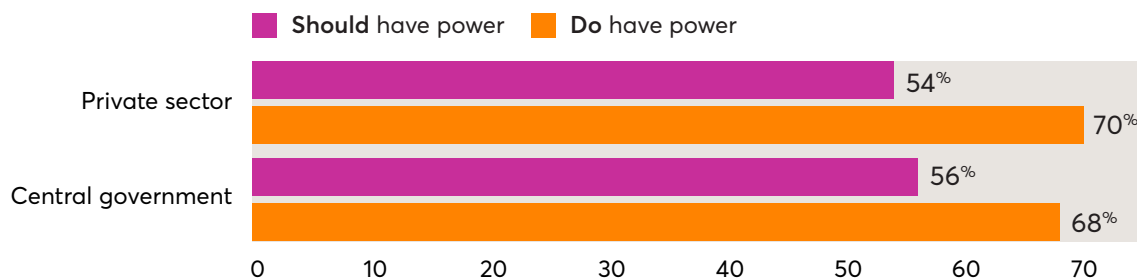
Some even went so far as to suggest that those who contribute to innovation should have a say, as they would already be engaged on the topic. This idea involved a £1 contribution to a funding pot per month, with contributors eligible to vote for the innovation they would most like to see funded.

"I don't know why we're not all forced to give one pound a month, and then every few months there's three ideas and we vote on what we want."

Workshop participant, St Albans

The public see the private sector (70 per cent) and central government (68 per cent) as currently holding decision-making power over innovation – but feel they have more power than they should.

Those who believe each group currently has/should have decision-making power over innovation



Q10. How much decision-making power, if any, do you think each of the following groups of people currently have over innovation? Q11. How much decision-making power, if any, do you think each of the following groups of people should have over innovation? On a scale of 1–7, where 1=no influence and 7=a lot of influence. (Total do/should have power = 5–7). Base all respondents (n=3,838).

In the wider context, big businesses are seen to be motivated by profit, and the government is not trusted to act in the public interest. However, there is a role for both to play – a majority also believe these bodies should have decision-making power, with 54 per cent saying the private sector should have some decision-making power and 56 per cent saying the same for central government.

"The government can't be a master of all things, but they need to find the people who are... find the best person."

Workshop participant, St Albans

"I wouldn't trust [private] companies... you need a governing body to be independent. If they're governing their own product, they're going to be biased."

Workshop participant, St Albans

The public feel they should have decision-making power around innovation, but most believe they currently have none.

Percentage who feel that central government currently has decision making power

UK overall	68%
Wales	73%

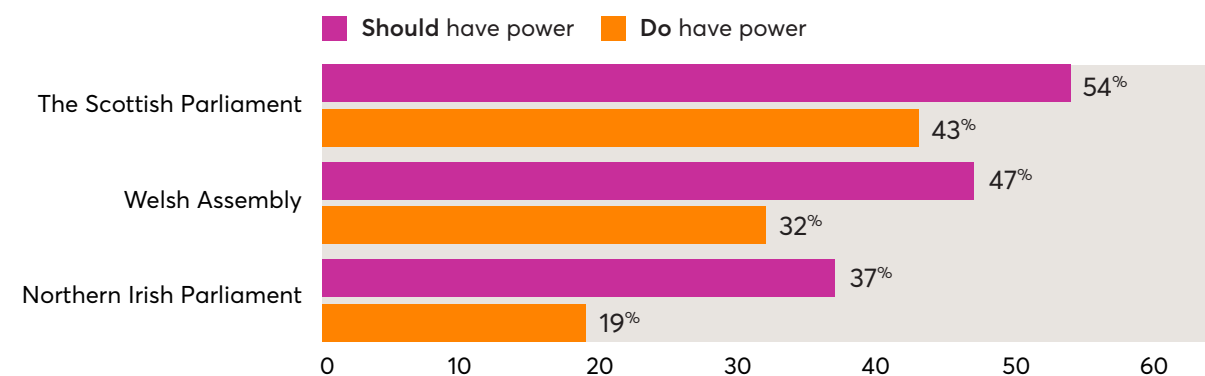
...however, in both Scotland and Wales, the public is more likely to believe that central government should hold this power.

Percentage who feel that central government should have decision making power

UK overall	56%
Scotland	62%
Wales	62%

Echoing tensions within the Union in the wider political climate, those in Scotland, Wales and Northern Ireland feel their respective parliaments should have more influence in decision-making than they currently do.

Those who believe each group currently has/should have decision-making power over innovation



Q10. How much decision-making power, if any, do you think each of the following groups of people currently have over innovation? Q11. How much decision-making power, if any, do you think each of the following groups of people should have over innovation? On a scale of 1–7, where 1=no influence and 7=a lot of influence. (Total do/should have power = 5–7). Base all respondents in Scotland (n=1,031), Wales (n=1,012), Northern Ireland (n=61).

The 'ideal' solution is to have different actors involved at different stages of innovation.

	Planning for the future	Coming up with new ideas	Developing new ideas	Manufacturing goods	Delivering services	Adapting to change
Responsibility	Government	Mixed	Business	Business	Business	Individuals
Government	58%	7%	10%	3%	23%	27%
Business	14%	43%	59%	84%	60%	20%
Individuals	17%	39%	22%	4%	7%	40%

Government is seen to be best placed to plan for the future, due to a belief that it is duty-bound to promote the best interests of the country – to make sure that no-one (e.g. private businesses) is working to the detriment of the public, and that no one group of people is benefitting more than others.

- This is more true on some issues than others. For example, health is seen to be a cross-societal issue that the government should be involved in due to its duty of care over the NHS.

"If it's the National Health, the government would have some input in that."

Workshop participant, St Albans

Whilst the public feels let down by the current government, its role as 'caretaker' may mean it is best placed to regulate innovation unless an independent regulator can be appointed. Without one in place, government is perceived to be able to bridge the gap between the public and innovators, to understand what the impacts are on both sides, and to have the authority to limit or encourage innovation as appropriate.

"You're supposed to trust them to verify these things and ensure the wellbeing of the country. They should be trusted to say, 'this is good, these are the pros and cons.'"

Workshop participant, St Albans

"The governing bodies coming up with the ideas should come up with rules to protect people from it."

Workshop participant, St Albans

The public wants to play two roles: coming up with new ideas (alongside businesses), and adapting to change. It recognises the power of individuals, in having direct experience of services that could benefit from innovation, and in the generation of ideas.

"A child could come up with a great idea."

Workshop participant, St Albans

Despite the pace of change in some areas of innovation (e.g. technology) being considered a risk to society, many people are accustomed to adapting, thus feeling they would have to respond to change or risk being left behind.

"I just believe technology is inevitable, I just think you've basically to deal with it. If you feel like a time out, you can go to a retreat and do that. I'm self-employed and my business is online, so I'm basically connected 24/7."

Workshop participant, St Albans

While overall trends are the same, the public in Scotland and Wales is more likely than the UK sample as a whole to believe that the government should be responsible for delivering services...

...at 30 per cent and 27 per cent respectively.

9 Conclusions

Our investigation found Britain approaching the future with a mix of optimism and trepidation.

Having elected a Government with a majority large enough to push through its legislative agenda – including Brexit – relatively unfettered, the British people can reasonably expect political attention to turn back to domestic issues. However, two thirds of people do not feel a sense of agreement around what a long-term vision for the UK should be, and most feel no opportunity to shape it themselves.

People feel positive about innovation. But they want innovation that promotes social good as well as economic growth, with top priorities improving the British economy, making the UK population healthier and safer, and addressing the causes of climate change. British people want:

- Innovation to act as a force to tackle inequality – but don't see it having that effect at present.
- To see effort put into avoiding the unintended consequences of innovation that might disadvantage certain groups, with 55 per cent even prepared to limit certain types of innovation where it is likely to lead to inequality.
- To see the whole country benefit from innovation. 81 per cent would rather see innovation that has a smaller impact on a greater number of people over that which has a deeper impact on fewer people, and most would be willing for some areas to grow more slowly if it meant that more parts of the UK would feel the benefits of innovation.

To ensure the public's expectations are met, we urge the Government to rethink its innovation agenda for the new decade to:

- Direct research and development funding to tackle the challenges that really matter to people, like climate change, inequality and poor health.
- Increase the impact of innovation at a local level by devolving more of the UK's research and development budget to cities and regions, spreading the benefits of innovation across the UK.
- Become more transparent about how public money is spent on innovation and how these decisions are made, to justify to the public how innovation policy is improving people's lives.
- Involve the public in meaningful conversations about the future and the role of innovation by making greater use of new 'participatory futures' methods.



58 Victoria Embankment
London EC4Y 0DS

+44 (0)20 7438 2500

information@nesta.org.uk

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