The Power of TV: Nudging Viewers to Decarbonise their Lifestyles

An evidence-based guide for broadcasters

Authors: Kristina Londakova, Jake Reynolds, Alice Farrell, Jordan Whitwell-Mak, Elena Meyer zu Brickwedde, Abigail Mottershaw, Tania Loke, Toby Park

THE
**BEHAVIOURAL
INSIGHTS
TEAM**

Contents

Foreword from the Behavioural Insights Team

Societal-level behaviour change is needed to tackle climate change. It turns out that the majority of global future emissions reductions depend on us reducing our demand for high-carbon activities and materials and taking up new low-carbon technologies, according to the International Energy Agency. From changing what we buy and what we eat, to changing the technologies we use to heat our homes and travel, reaching Net Zero is conditional on large numbers of people taking up green behaviours and products.

Behavioural science can shed light on how this unprecedented behaviour change can be achieved in time. People's behaviours are shaped by their capabilities, opportunities and motivations and their decisions are affected by cognitive biases and mental shortcuts. Our behaviour is also strongly affected by our physical and social environment - from what is available on supermarket shelves, to what we watch on television. In other words, our individual behaviours are embedded within, and constrained by, the world around us. This puts a great responsibility on institutions and corporations to not only reduce their own emissions, but to be thoughtful and deliberate in how they curate the physical, social and digital world the rest of us occupy.

Broadcast organisations and content creators therefore have a unique opportunity to make a difference for the planet. Through the programs that they produce, the characters that they create, the plot-lines that they develop, and the adverts that they broadcast, content creators have the potential to have a far-reaching impact on the knowledge, attitudes and behaviours of citizens, and to spark conversations in boardrooms and political arenas alike. They are also pivotally placed to help people sift through the maze of choices and claims, to adopt behaviours - and products - that can get us to a greener future.

The question of how to best promote a low-carbon future through television, phone, and laptop screens is still up for grabs. However, whilst further behavioural research is needed, it is important that we start a conversation about what we know so far. It's time we ask ourselves, how can broadcasters do their best in the race against climate change? How can we nudge viewers to decarbonise their lifestyle on screen?

Professor David Halpern
Chief Executive Officer, The Behavioural Insights Team

Foreword from Sky

At Sky, we believe in a better world, and we're committed to reducing our impact on the environment by transforming our business to become net zero carbon by 2030.

As Europe's largest media and entertainment organisation, we also want to accelerate our industry's efforts to drive global progress towards net zero.

However, it is now widely accepted that we must shift the behaviour of millions of people to deliver on our collective net zero goals.

That's why when we became the Principal Partner and Media Partner for COP26, we were clear we wanted to lead the way in new standards for the broadcast industry, and to invest in research to better inform our collective approach.

Building on the work of BAFTA's albert consortium, and Sky's own Planet Test, the next frontier for our industry will be thinking not just about how we can reduce our own carbon footprint, but how we can encourage our viewers to do the same.

We know that what we broadcast has the power to change how we as consumers feel and act. What we see on our screens can shock us, inspire us, educate us, and entertain us.

By partnering with the Behavioural Insights Team, we aimed to answer a simple question: how does the content we see on our screens influence the sustainable choices we make in our daily lives?

In this study from BIT and Sky, we spoke to 3,500 people in all the six markets in Europe where Sky operates.

We are hopeful the results of this study will be the beginning of a growing data set that will inspire broadcasters and content creators to work in partnership to encourage - and normalise - less carbon use by consumers.

For the first time, we have the empirical evidence to help broadcasters understand how change can be achieved if we work together.

We believe that by feeling closer to our planet, to the problems that it faces, and to the solutions available to protect it, consumers will truly feel empowered to act. Now we must all commit and work to deliver this.

Dana Strong
Group Chief Executive, Sky

Executive summary

The size of the prize is big

Achieving Net Zero requires widespread behaviour change at a societal level. The majority of future emissions reductions - 63% - are, in one way or another, behavioural. This means we must change how we travel, how we power and heat our homes, what we eat, and what we consume more broadly. Fortunately, many are starting to realise we need to change, with concern about climate change and willingness to take action reaching new heights. For instance, BIT's new survey of six European countries shows that seven in ten are worried and willing to make changes. Still, to decarbonise in time, we need to urgently mobilise consumers on an unprecedented scale.

Mass media, such as television, can play a pivotal role in encouraging consumers to decarbonise. An estimated 4.3 billion people watch TV content on different devices for an average of 2h 54 minutes a day, across the world.[1] Television can educate, entertain and inspire viewers of the world - and even encourage people to change how they behave. Our survey revealed that one in three viewers say a television programme has inspired them to make a change in their lives, with one in four following in the footsteps of a television character to do something differently (interestingly, almost one in two found regular people inspiring). **Imagine the potential for emissions reductions! If at least one in ten television viewers could really change their behaviours - we would save 159 million tonnes of CO2 emissions per year (tCO2e) if they avoided food waste, 258 million tCO2e for avoiding a medium-length flight, 244 million tCO2e for switching to a plant-based diet or 500 million tCO2e for switching to an EV. To put this into perspective, we'll need to cut our emissions by 23.3 billion tCO2e by 2030, if we are to limit global warming to 1.5°C.[2]**

The question must be not *if*, but *how* best to use this powerful tool of persuasion for maximum good. The potential for television to influence people's behaviour is well known and has historically aimed to improve public health, boost gender equality, and reduce violence, mostly in developing countries. Only more recently have researchers and broadcasters (defined in this report as any organisation broadcasting a programme, as well as anyone else creating content now or in the future) started to think about using television content to encourage sustainability. This area presents both opportunities to build on what we know, and to push the frontiers of applied behavioural science. **The aim of this report is to help broadcasters continue on this journey by providing new data on consumers' views, and consolidating existing evidence on what works to encourage sustainability through content and advertisement.**
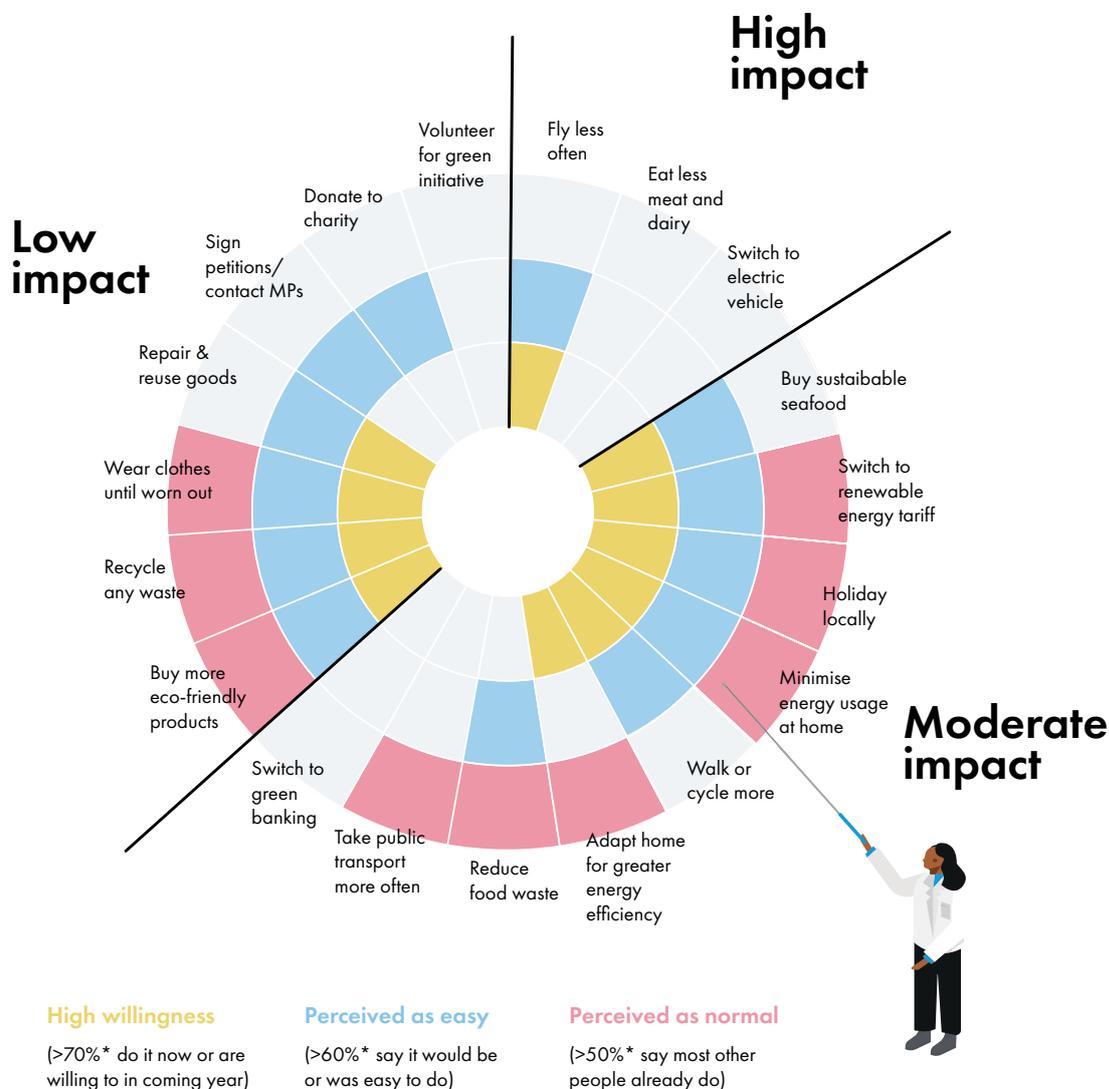
There are several ways broadcasters can help people change — and the evidence shows it's necessary and wanted

Our research shows that broadcasters can help improve people's knowledge, perceived ease, and normality of sustainable behaviours, hence boosting their willingness to take action. Behavioural science teaches us that these are all important antecedents to the adoption of green behaviours. These also happen to be factors that television and other media can inspire. Looking at a mix of 19 sustainable actions, our survey shows that 66% of respondents perceive them as easy, 44% think they're normal but just 16% know what to do and how.

What first stands out is the lack of knowledge and perceived normality of many actions, followed by the lack of willingness for some of the most impactful ones. Just two in ten viewers know how to recycle, how to save energy at home, and which foods have the worst carbon impacts. The majority of people say they're willing to fly less, to walk and cycle more, and to repair and reuse products, but don't consider it to be a common behaviour. And then there are some notable 'blank spots' on this behavioural map, with low levels of willingness for many impactful actions such as eating less meat and dairy, switching to electric vehicles (EVs), using public transport or switching to green pensions. This is where television and other media can help. People's knowledge on 'what to do' and 'how to do it' can be boosted by agentic documentaries or news coverage. Role models, from regular people to the heroes from our favourite movies, can show us that green choices are common, desirable, and give us confidence we need to follow through with green behaviours.

Figure 1. Where to focus - willingness, perceived ease, and normality of green actions

We want this figure to be filled with pink, blue and yellow. Where cells are grey, we need to explore what broadcasters can do to make those actions seem more normal, easy, and desirable.

High willingness (>70%* do it now or are willing to in coming year)

Perceived as easy (>60%* say it would be or was easy to do)

Perceived as normal (>50%* say most other people already do)

Broadcasters have a clear mandate from viewers to encourage them to take up sustainable actions, our research shows. Eight in ten support the idea of broadcasters taking specific actions using their content and advertisements to encourage viewers to adopt pro-environmental behaviours. This could include educating viewers through documentaries, helping them to connect the dots through investigative news coverage, as well as featuring issues related to the environment more prominently in fictional content to increase empathy, shift values, or boost social desirability of pro-environment choices, from electric cars to new recipes. Such activities will be perceived as more legitimate if broadcasters are seen to lead by example. Six in ten viewers expect all production to become Net Zero, and five in ten would like broadcasters to donate to environmental charities and run environmental awareness campaigns.

The rest of this report seeks to provide evidence-based answers to two big questions: 1) How can broadcasters nudge viewers to take up sustainable actions? and 2) How can broadcasters nudge *themselves* to take up practices that i) make their activities more environmentally-friendly and ii) effectively nudge viewers to take up sustainable actions? We have drawn on our evidence review of over 100 academic studies and our expertise in behavioural science to produce the following findings and recommendations.

1. How can broadcasters nudge viewers to take up sustainable actions: 10 behavioural principles for green TV content creation

What works
Good evidence of medium to high impact

1. Put people centre stage. Shed light on the role of human behaviour across different content, provide information on what people should do, and model how.

2. Give green content screen time and make it explicit and engaging. Broadcasters should give more screen time to sustainability, increase the salience of sustainability in plotlines, and make it emotionally engaging for better impact.

3. Target systemic change. Use content to influence public discourse and highlight systemic issues to politicians and business leaders for a big impact 'upstream'.

What is promising
Emerging evidence of medium to high impact

4. Use credible and relatable green messengers. To convince viewers to take up green actions. characters, presenters, and talent must be trustworthy and relatable role models.

5. Promote intergenerational spillover with kids content. Broadcasters should use kids' content to encourage positive environmental behaviours amongst children - and their parents.

What is helpful
Good evidence of small impact

6. Make it implicit with background action. Use green product placement and model green actions in the background to improve familiarity and create positive attitudes and norms.

7. Promote green choices through adverts and reviews. Ensure adverts and product reviews promote green products and behaviours, where possible.

8. Frame it closer to the individual. Zoom in on local environmental impact and highlight the co-benefits of individual action.

What to avoid
Evidence of negative impact

9. Avoid a negative tone. Fearmongering, guilt-tripping, blaming, or preaching can be counter-productive.

10. Avoid boilerplate content. Ensure green content has integrity and is tailored across contexts.
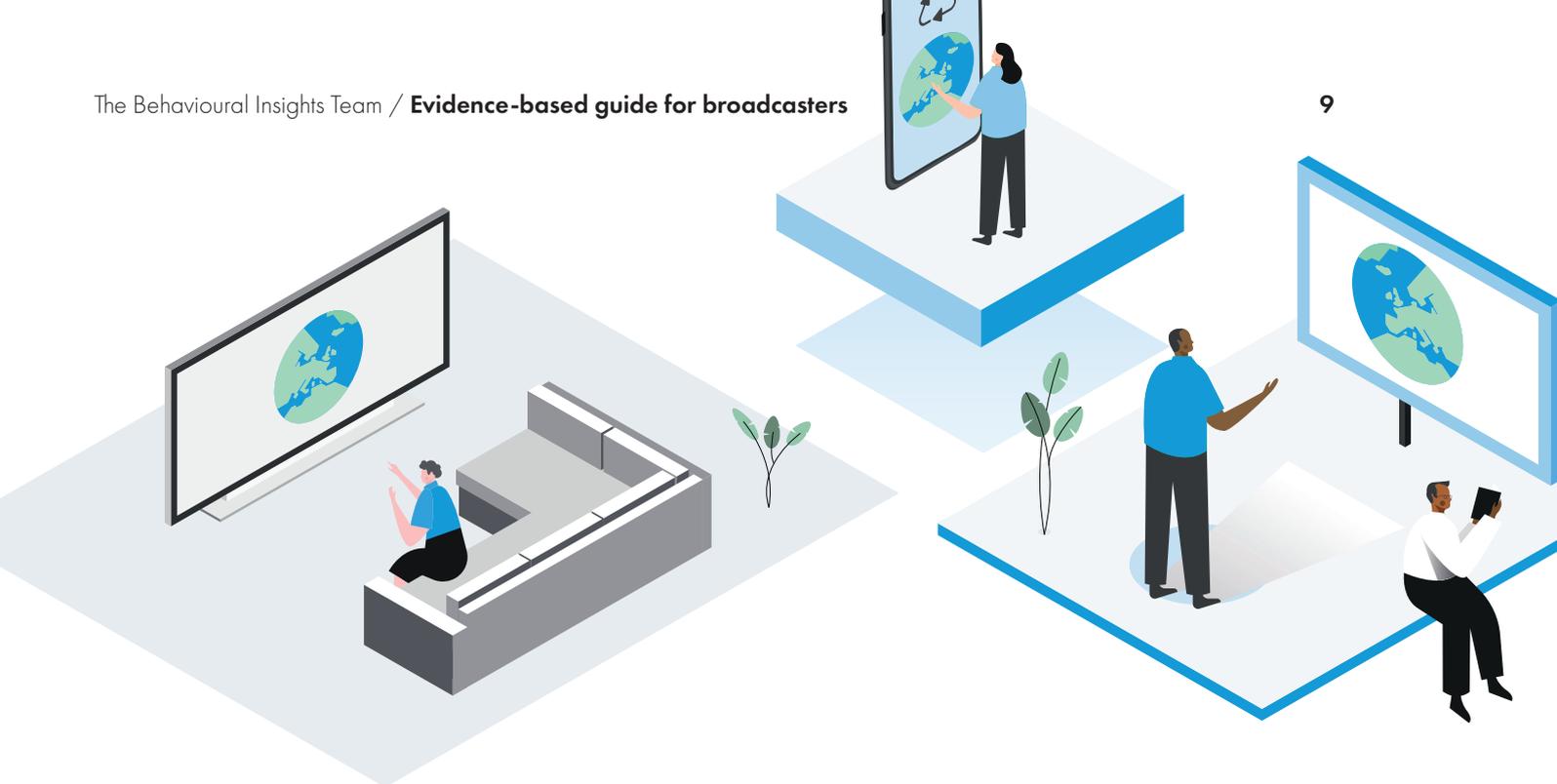
2) How can broadcasters nudge *themselves* to take up practices that i) make their activities more environmentally-friendly and ii) effectively nudge viewers to take up sustainable actions? 6 behavioural recommendations for broadcasters

1. **Provide timely advice for production teams on how to reduce their carbon footprint.** Although production teams are often keen to reduce the carbon footprint of their activities, they may not know what steps to take to limit their impacts.

2. **Provide helpful tips for broadcasters on how to encourage green behaviours using content.** Help creators to integrate green messaging into their programs by providing flexible prompts and guidance at timely moments.

3. **Make public commitments to SMART targets on sustainability.** We are more likely to achieve our goals when they are specific, time-bound, monitored, and when we commit to them publicly.[3][4]

4. **Introduce industry-level awards / rankings.** Recognition and transparency can boost performance in improving sustainability.

5. **Embed iterative and systematic evaluation of what works.** Expand the evidence base on nudging sustainability via content by (1) rigorously testing new approaches wherever possible; and (2) sharing results publicly, so that the rest of the industry can learn from the findings.

Ultimately, broadcasters have a huge opportunity and an equally huge responsibility.
The broadcasting industry has an outsized influence on the world and cultural norms. The question is how will they choose to use it? Television is important, it provides distraction and entertainment. But does it need to promote unnecessary and unsustainable consumption? Or can the broadcasting industry rise to the challenge and become responsible stewards of audiences' attention, desires, knowledge and awareness, and willingness to take action? Broadcasters who take up this opportunity will need to manage a difficult balancing act - embedding green messaging to educate and inspire, without compromising the intrinsic aim of the content, whether it is to inform or to entertain.

This report represents just a contribution to this conversation; at this stage, there are as many questions as there are answers. Answering those questions cannot be left solely to academics, who rarely have access to high-quality content and audiences. Therefore, we call on broadcasters to join us in the mission to build evidence on 'what works works' to encourage green behaviours via TV content, so that we can create a carbon-neutral future together.

Section 1. *Setting the scene: Our survey reveals broadcasters' role in saving the planet*

An estimated 4.3 billion people across the world watch television content, for an average of two hours and 54 minutes a day.[5] Television content can educate, entertain, and influence viewers' perceptions of the world – and even encourage them to change how they behave. television inspires millions in some of the most important choices they make, such as what career to choose or where to live. Our new survey also shows that television inspires audiences to take pro-environmental action - avoiding plastics, reducing waste, or switching to a plant-based diet. One in three viewers say a television programme has inspired them to make a change in their lives, with one in four following in the footsteps of a television character to do something differently. Television likely has further influences on viewers' decisions which they may not be aware of - subtly influencing what behaviours, values, and beliefs we think of as normal, aspirational, good, and true.

An adage of behavioural science is that there is 'no such thing as a neutral choice environment' – in other words, influence is unavoidable. The adverts broadcasters choose to air; the actions of characters; the lifestyles conveyed through drama and reality television; the news items covered; and the design of online platforms through which viewers make viewing choices - these are all influencing audiences in one way or another. But, is it being done thoughtfully? Perhaps in some areas it is – broadcasters tend to be extremely careful to promote sound values in children's television, for example. But what about the rest of society, and their relationship to the planet? Is the industry yet part of the solution? Is it yet to recognise this responsibility at all? Or worse, are there instances where it is a part of the problem, as a myriad of other sectors may be, unwittingly promoting unsustainable consumption?

Evidence – in this report and beyond – shows that these considerations matter. Broadcasters' power to shape films, television shows, news, or documentaries can inform and motivate behaviour change. Evidence on positive effects of edutainment and other forms of media influence is strong, if patchy, and summarised in detail later in this report. Historically, much of the research in this field has focused on issues of public health, poverty, and violence reduction in developing countries. Only more recently have researchers turned their attention to content designed to encourage sustainable behaviours, but the research – and practice – in this space is still emerging, with many questions left unanswered. This report is therefore part user-guide, drawing on the best evidence available to encourage the broadcasting industry to act now, and part call to action to continue to learn what works through gold-standard research.

As world leaders gather in Glasgow at the 2021 United Nations Climate Change Conference, we ask in this report, how could this powerful tool of education, inspiration, and persuasion be harnessed to encourage viewers to take up pro-environmental action needed to save the planet?

Survey findings: a strong mandate for action, and clues on promising target areas

We surveyed 3,604 people across six countries in which Sky operates: Austria, Germany, Ireland, Italy, Switzerland, and the UK. The results highlight not only a strong mandate for broadcasters to support green choices among their viewers, but by exploring some of the barriers to green actions, we can begin to see where broadcasters should focus their efforts to have maximum impact.

Broadcasters can make a real difference – and people expect them to. Eight in ten support the idea of broadcasters taking specific actions using their content and advertisements to encourage viewers to adopt pro-environmental behaviours. Educating people through documentaries (85%), advertising green products (82%), and increased news coverage of environmental issues (80%) were perceived as the most appropriate, followed by featuring issues relating to the environment more prominently in dramas and feature films and more implicit ways, such as increasing exposure of pro-environmental technologies and behaviours within television content (74%).

Such activities will be perceived as more legitimate if broadcasters are seen to lead by example. Six in ten viewers expect all production to become Net Zero, and five in ten would like broadcasters to donate to environmental charities and run environmental awareness campaigns.
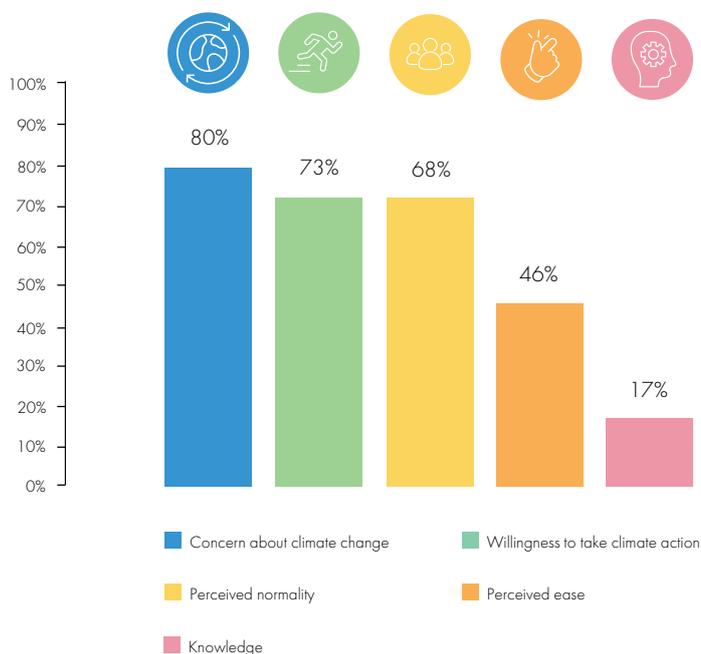
Viewers are already being inspired by TV content. One in three had previously been inspired to make a change in their life by television content, and one in four were inspired by a television personality or a fictional television character. For instance, participants reported going to medicine thanks to Grey's Anatomy, growing their own vegetables after watching the Good Life, avoiding buying plastics following the Blue Planet, buying sustainable fish following the Seaspiracy documentary or reducing their waste, thanks to a News segment. For instance, our respondents attributed the following behaviours to content they had seen: 'I now shop second-hand' (AT), I use glass bottles instead of plastic' (AT), 'I lowered the temperature I wash at' (CH), 'I pay more attention to recycling and try to consume less' (IT), 'I became vegan' (DE), or 'I use less electricity and heating' (IT). As for who inspires them to do things differently, most cited regular people (41%), followed by activists (33%), charities (32%), a television/movie character (25%), a sports personality (23%), or a television personality (22%). Businesses (22%) and politicians (18%) ended up at the bottom of the ranking.

Concern about the environment is at an all-time high, and so is people's willingness to take further individual action. Seven in ten people are worried about the environment and seven in ten are willing to make changes in their lives to fight the climate crisis, with eight in ten thinking that their action – however small – can make a difference, according to BIT's exclusive new survey.

However, people feel overwhelmed by the choice of actions they could take, often don't know which steps will make a real difference, and don't know how to follow-through. Looking across 19 sustainable actions, 66% perceive them on average as easy, 44% think they're normal, but just 16% demonstrate the knowledge of what actions to take to reduce their carbon footprint. The lack of knowledge, in particular, stands out. Just two in ten know how to recycle, save energy at home, and which foods are more carbon intensive. Lack of normality is also pronounced. The majority of people say they're willing to fly less, to walk and cycle more, or to repair and reuse products, but don't consider these to be common behaviours. Furthermore, there are some notable 'blank spots' on this behavioural map, with low levels of willingness for many impactful actions such as eating less meat and diary, switching to EVs, using public transport, or switching to green pensions.

Figure 2. Key dimensions for broadcasters to focus on: perceived normality, ease, and knowledge

Overall scores for willingness, ease and normailty are averages for 19 green actions (weighted for environmental impact). Overall
score for knowledge is an average of five (excluding green finance) knowledge questions (weighted for environmental impact).
Data collected by BIT on 3,604 adults in 6 European countries on 23 Aug - 6 Dep 2021.

**By exploring willingness, perceived ease, and perceived normality of 19 behaviours, we can
identify the bottlenecks to action.** Is there a lack of knowledge about the behaviour or how to do it? A lack
of perceived normality or social desirability? Or a lack of confidence in being able to take up the action (self-
efficacy)? Behavioural science theory shows that these are all important antecedents to the adoption of green
behaviours. These happen to also be factors that TV and other media can inspire. Audiences' knowledge on
what to do and how can be improved by documentaries; DIY, travel, and cookery shows; and news coverage.
Role models, from normal people to heroes in favourite shows, can demonstrate that green actions are common,
aspirational, and possible, giving audiences the motivation and confidence they need to follow through. In the
figure below, any grey cell represents something which is 'missing' and could be a valuable focal point for
broadcasters (for example, walking and cycling more is perceived as relatively easy and has high willingness, but
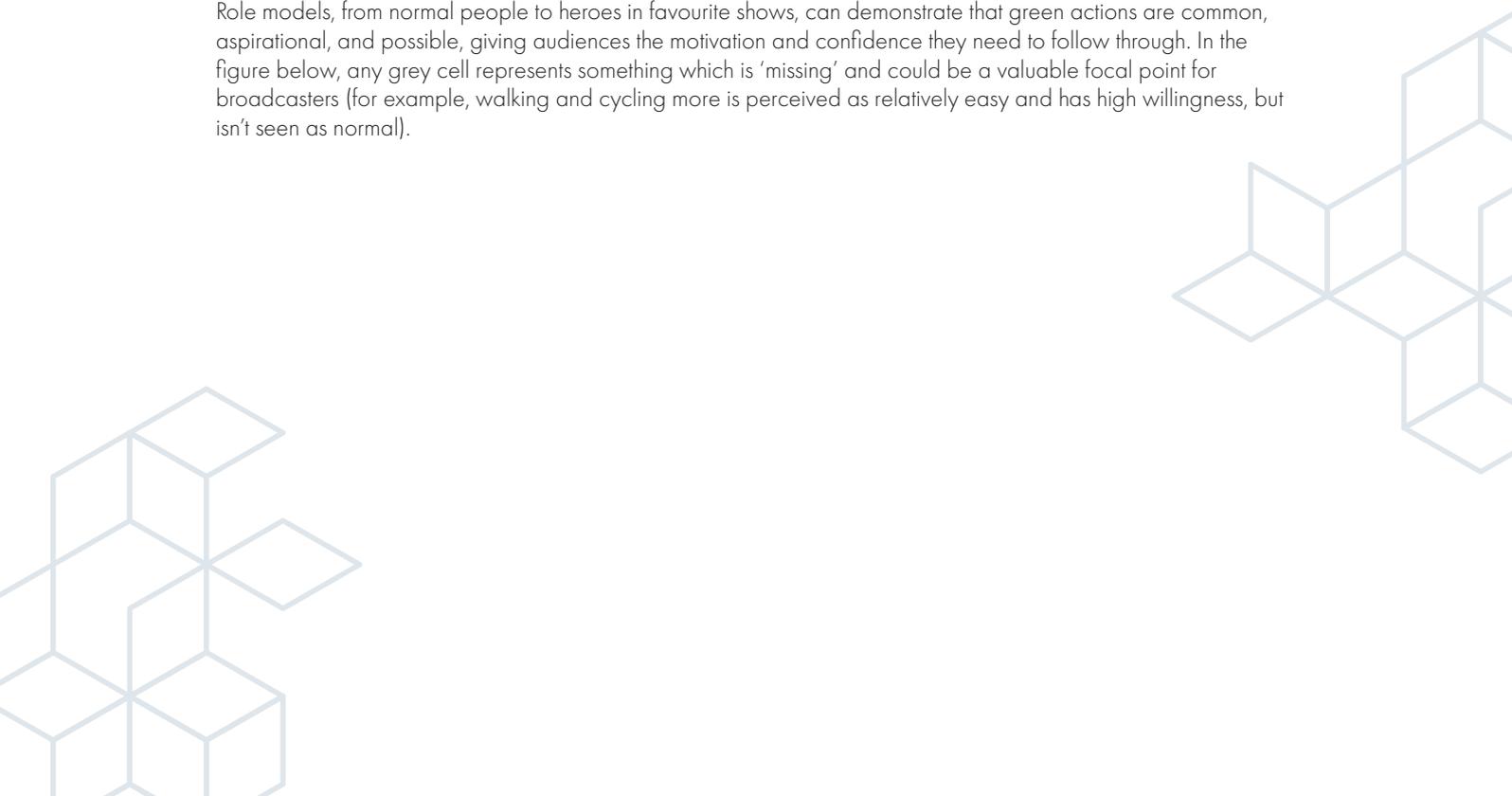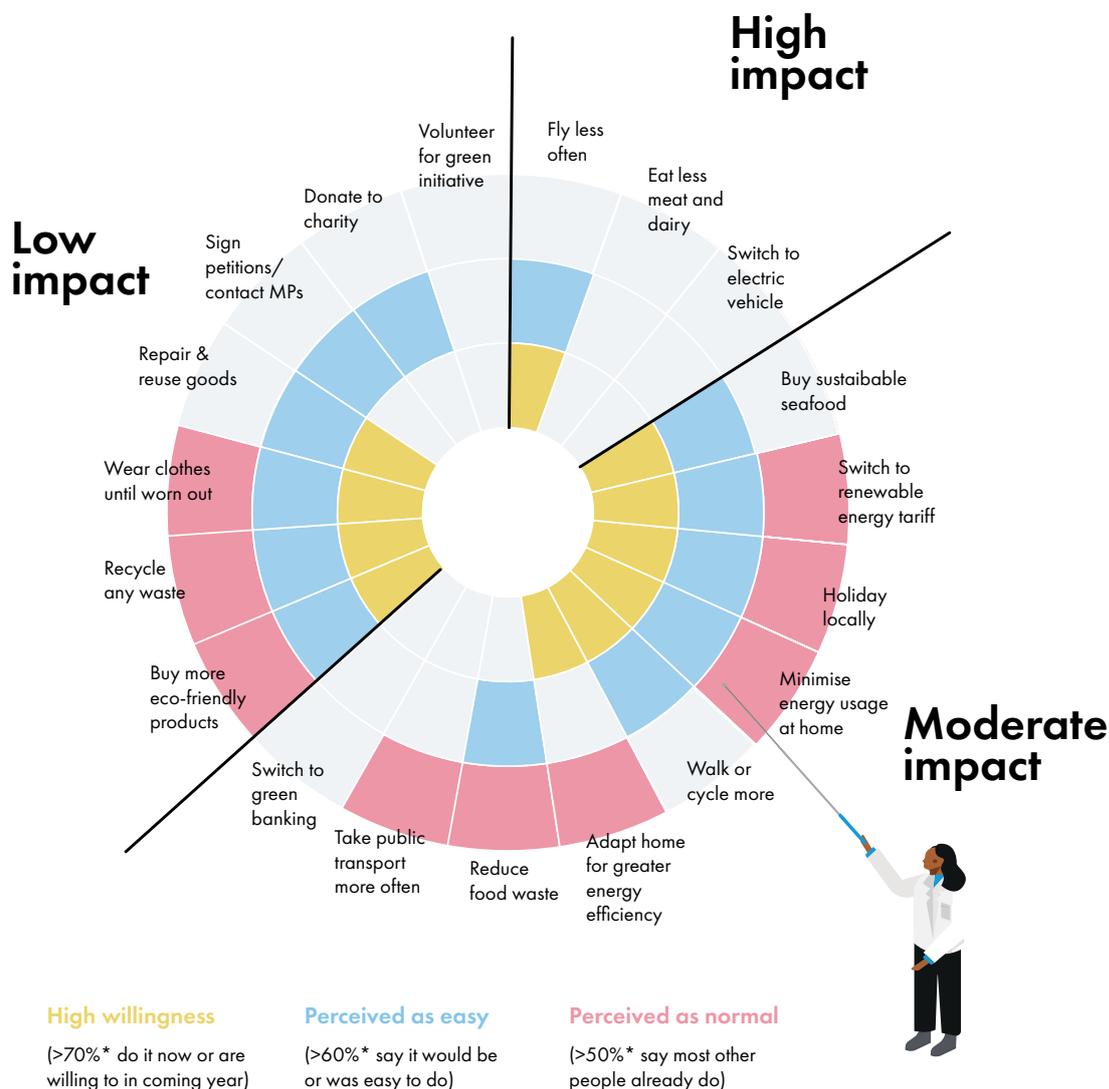isn't seen as normal).

Figure 1. Willingness, perceived ease, and normality of green actions by behaviour

High willingness

(>70%* do it now or are willing to in coming year)

Perceived as easy

(>60%* say it would be or was easy to do)

Perceived as normal

(>50%* say most other people already do)

While there were a lot of similarities across the European countries in our sample, we did find some notable differences. For instance, we found that there is much higher concern about the environment among Italian participants (96% vs 73% average). However, this may be due to an 'extreme response bias', a tendency of Italian respondents to select the most extreme responses to all attitudinal and value questions in this survey. Looking at just willingness to take action, Italy again had consistently the highest willingness, in line with the extreme response bias. Ireland tended to be the least willing to fly less often, while Austria was the most reluctant to switch to low emissions vehicles, do green banking, or donate to an environmental charity. Almost everyone, across all countries, was willing to reduce their food waste and minimise energy usage.

Section 2. How can broadcasters nudge viewers to take up sustainable actions?

With reach into billions of homes worldwide, broadcasters have huge potential to nudge viewers to take up greener behaviours. We live much of our lives via the media, including the consumption and curation of knowledge, stories, aspirations and fears, social connections, and role models. In 2021, with our lives so saturated by digital media, this feels instinctively obvious. But what evidence is actually out there on the impact that media can have on public green attitudes and behaviours? And how can behavioural science guide broadcasters to produce stories, shows, and content that packs the biggest punch for promoting pro-environmental behaviour changes in their viewers? We conducted a rapid review of relevant literature to identify how broadcasters can encourage consumers to adopt sustainable behaviours (see Figure 3).
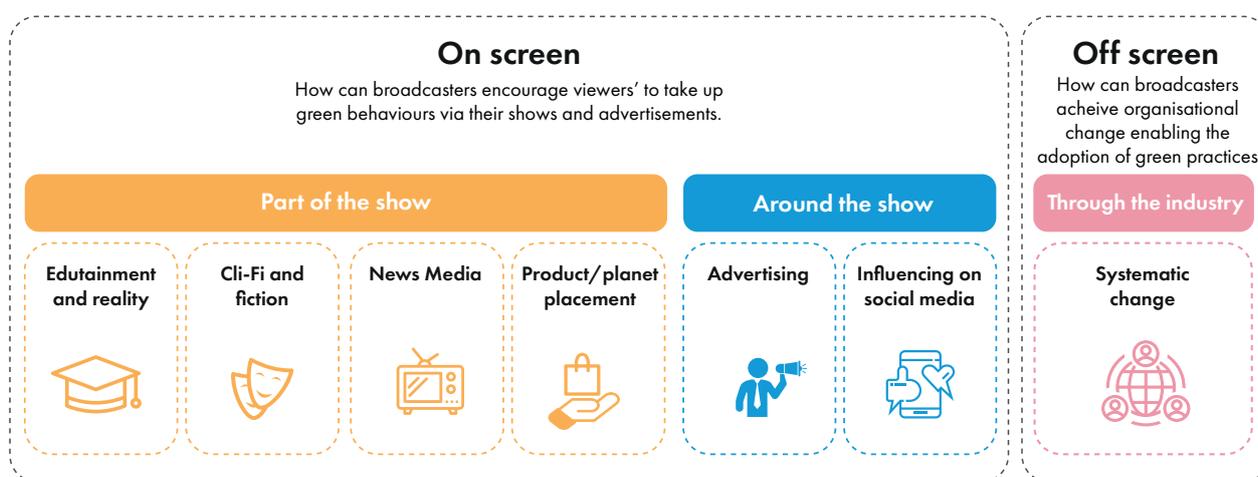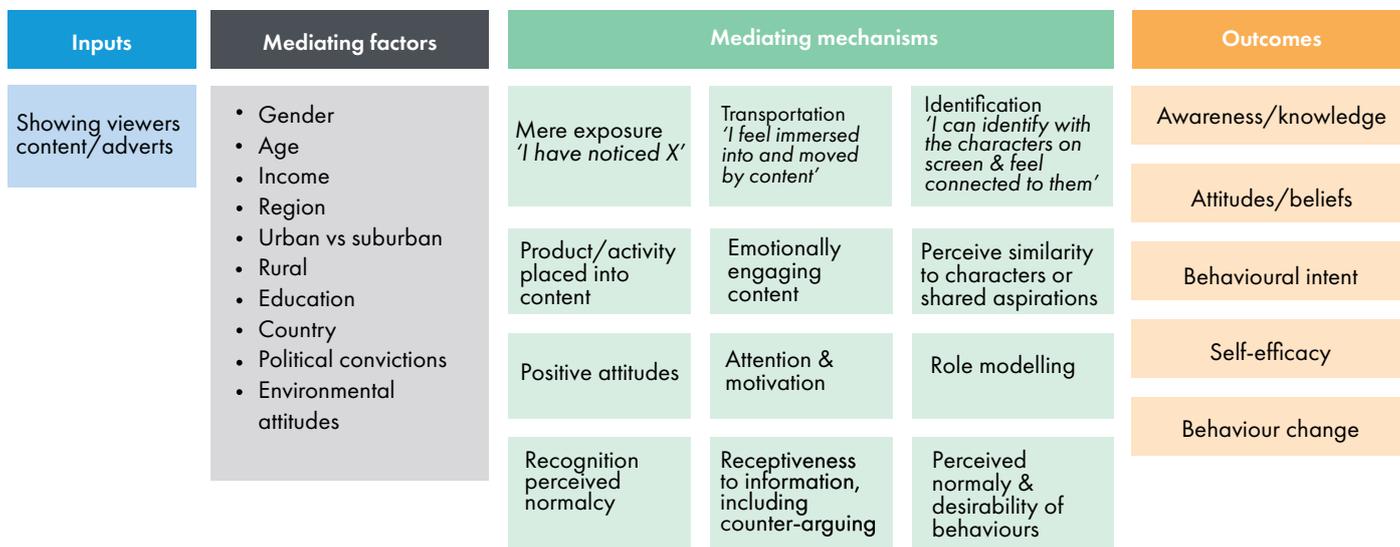

On screen
How can broadcasters encourage viewers' to take up green behaviours via their shows and advertisements.

Off screen
How can broadcasters acheive organisational change enabling the adoption of green practices

Part of the show				Around the show		Through the industry
Edutainment and reality	Cli-Fi and fiction	News Media	Product/planet placement	Advertising	Influencing on social media	Systematic change

Figure 3. Summary of review topic areas

How does it work? Our theory of change

To change viewers' attitudes – and potentially behaviours – research shows that broadcasters need to transport us with engaging content, populated with characters we can identify with. According to cultural studies theory, the two key mechanisms for broadcasters to influence viewers is through 1) transportation[6] and 2) identification.[7] Transportation refers to the fact that the more emotionally engaging a film or a show is, the more immersed we get which makes us more receptive to the arguments outlined, even if they run counter to our current viewpoint.[8] In terms of identification, if the characters on screen reflect our characteristics, views or aspirations, we're more likely to connect with them emotionally and perceive them as role models of behaviours we should seek to emulate.

This theory of media influence is mirrored in several other well-evidenced concepts from behavioural science. For instance, we know people are more likely to follow through and believe' to 'more likely to engage with and act on information coming from credible messengers (think documentary presenters or news anchors). 'Social proof' highlights the power of role models, or the perceived majority, to convey to us that behaviours are normal, sensible, desirable, or expected of us (e.g. of the behaviour of characters in your fictional content - are they driving electric cars?). Seeing others adopt behaviours, or gaining insight into how to overcome barriers, can also give us the confidence to follow through and the belief that we can succeed (self-efficacy). There are even impacts from 'mere exposure' to products and activities (think of a character carelessly drinking from a plastic bottle) which can make us more likely to recognise and purchase a product, or emulate the same behaviour. Figure 4 below summarises the most relevant behavioural mechanisms through which media content can influence a range of psychological antecedents to behaviour (awareness, attitudes, intent, and self-efficacy).

Figure 4. How television content and adverts influence us

Inputs	Mediating factors	Mediating mechanisms			Outcomes
Showing viewers content/adverts	• Gender • Age • Income • Region • Urban vs suburban • Rural • Education • Country • Political convictions • Environmental attitudes	Mere exposure *'I have noticed X'*	Transportation *'I feel immersed into and moved by content'*	Identification *'I can identify with the characters on screen & feel connected to them'*	Awareness/knowledge
		Product/activity placed into content	Emotionally engaging content	Perceive similarity to characters or shared aspirations	Attitudes/beliefs
		Positive attitudes	Attention & motivation	Role modelling	Behavioural intent
					Self-efficacy
		Recognition perceived normalcy	Receptiveness to information, including counter-arguing	Perceived normaly & desirability of behaviours	Behaviour change

2.1 Ten behavioural principles for green television content creation

Having undertaken an evidence review of the behavioural, cultural, and social sciences literature relating to TV and media influence, we have distilled ten key principles for using content to encourage viewers to consider and adopt pro-environmental behaviours. These are intended to help guide broadcasters, further develop industry conversations on the topic and inspire more research to improve on the existing evidence base. We include thought-starters on the impact that dramatic devices (e.g characters, narratives, plot points, and background set content and 'product placements') could have on viewers, but also discuss the potential that broadcasters have to impact viewers in the ad-break or through promotion via social media. Based on the current evidence, we are sharing our assessment on 'what works', 'what is promising', 'what is helpful' and 'what to avoid' when producing green content. The rest of this section summarises the principles and the scientific rationale behind them, based on existing research to date.

What works
Good evidence of medium to high impact

1. Put people centre stage. Shed light on the role of human behaviour across different content, provide information on what people should do, and model how.

2. Give green content screen time and make it explicit and engaging. Broadcasters should give more screen time to sustainability, increase the salience of sustainability in plotlines, and make it emotionally engaging for better impact.

3. Target systemic change. Use content to influence public discourse and highlight systemic issues to politicians and business leaders for a big impact 'upstream'.

What is promising
Emerging evidence of medium to high impact

4. Use credible and relatable green messengers. To convince viewers to take up green actions. characters, presenters, and talent must be trustworthy and relatable role models.

5. Promote intergenerational spillover with kids' content. Broadcasters should use kids' content to encourage positive environmental behaviours amongst children - and their parents.
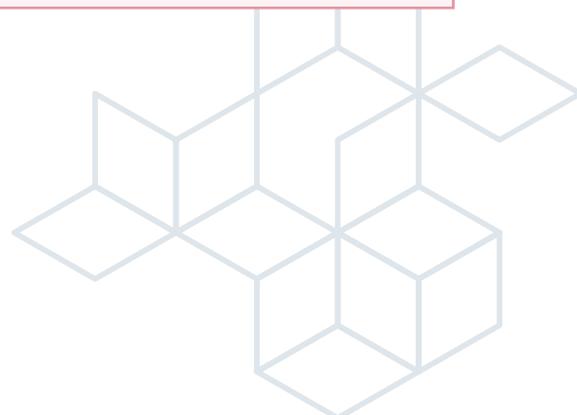
What is helpful
Good evidence of small impact

6. Make it implicit with background action. Use green product placement and model green actions in the background to improve familiarity and create positive attitudes and norms.

7. Promote green choices through adverts and reviews. Ensure adverts and product reviews promote green products and behaviours, where possible.

8. Frame it closer to the individual. Zoom in on local environmental impact and highlight the co-benefits of individual action.

What to avoid
Evidence of negative impact

9. Avoid a negative tone. Fearmongering, guilt-tripping, blaming, or preaching can be counter-productive.

10. Avoid boilerplate content. Ensure green content has integrity and is tailored across contexts.

What works
Good evidence of medium to high impact

1. Put people centre stage:

Shed light on the role of human behaviour, provide information on what people should do, and model how they should do it. The majority of people still lack critical knowledge on what actions to take to help address climate change, and many key green behaviours are far from being perceived as normal. Across all categories of content, broadcasters should plug these gaps in knowledge, motivation, and confidence by providing information on what people can do and using role modelling to actively demonstrate how to go about it.

For example, 1) contestants could prepare a plant-based recipe in a cooking show, DIY / home improvement shows can focus on energy efficiency, and travel shows can emphasise local vacations or trips by train (Reality and Lifestyle TV), 2) a family could discuss reducing their waste (Drama/Comedy show), 3) a wildlife documentary could include advice for individuals on how they should buy eco-friendly products (e.g. without palm oil) not just emphasise environmental catastrophe from related agriculture (Documentary), 4) News segments and breakfast shows could explore barriers to acting green and share stories for overcoming them (News & Chat Shows).

Broadcasters should also build narratives that focus on human responsibility, agency, and consequences, not just environmental catastrophes. This is critical to build people's sense of self-efficacy and capacity to act (rather than attempting to motivate action by implying personal responsibility or guilt). In practice, this might involve references within an episode to purchasing an electric vehicle or having characters model selecting vegetarian options in restaurant scenes. Fictional stories should reflect that humans are responsible for environmental damage, but also showcase and inspire human solutions, and incorporate plotlines with collection action' to 'which show collective action. Similarly, non-fiction content could include stories about individuals or families affected by climate, rather than focusing only on the non-human impacts.

Rationale

Broadcasters could play a major role in addressing gaps in people's knowledge and perceived normality of behaviours by putting people centre stage. Our survey has found that 32% of people perceive many green behaviours to be uncommon, and 83% don't know enough about what green behaviours to carry out. Many believe that most other people don't save energy at home (33%) or use public transport (50%). Gaps in knowledge are even more glaring - 38% don't know that buying energy-efficient appliances saves energy, 35% think EVs produce more greenhouse gases than petrol and diesel cars, and 80% can't correctly rank the carbon footprint of basic food items.

Social modelling is likely to be particularly effective at helping viewers to learn what to do and how. We pick up new behaviours through 'social modelling', that is, by observing others demonstrate something new.[9] Indeed, 'social modelling' in both fictional and non-fictional content on screen shows previous success in promoting green attitudes and behaviours. For instance, a Vietnamese soap opera that modelled sustainable agricultural practices was associated with a 31% drop in insecticide spray usage amongst local farmers.[10] An Indian soap opera tackling multiple green issues is credited with inspiring local community-level action on tree planting and fuel conservation through bike riding.[11] [12] Moreover, News broadcasts that report on what people can and are doing for the environment give viewers more hope and less fear for the future, and boost green behavioural intentions.[13] [14] Given that modelling on screen has been shown to impact behaviours in other (non-environment-related) contexts (e.g. health behaviours like HIV testing and toilet installation [15] [16] [17]), it is deemed as a' to 'it should be considered a key tool for creating green content.

Viewers also need to understand the role of human action in driving, mitigating, and adapting to climate change in order to have' to 'to improve their have environmental 'self-efficacy'.[18] [19] In fact, people heavily criticise narratives that fail to represent human agency in stories about the environment.[20] [21] For instance, 'catastrophe narratives' seen in climate disaster movies (e.g. 'The Day After Tomorrow') [22] [23] or non-fiction content that under-represents human environmental damage on screen are deemed unhelpful because the lack of human agency makes it easier to hold on to beliefs that justify climate inaction (e.g. technosalvation)[24] [25] and jeopardise self-efficacy. This also holds true for news broadcasting, as currently climate disaster content is rarely accompanied with advice on what people can do to help.[26] Evidence shows that personal climate stories with identifiable victims can significantly increase people's worries and perceptions of climate risks, [27] and news stories about how people can change their behaviour to be green can increase pro-environmental behavioural intentions and increase hope in viewers across the entire political spectrum.[28] [29]

2. Give it screen time, make it explicit and engaging

Broadcasters should give green content more screen time, more salience in plots and scenes, and make it emotionally engaging for better impacts. Engagement is broadcasters' bread and butter, but attention could be given to making environmental messages or moments more engaging and emotional through common cinematic devices. Frequency of exposure to green themes could could be enhanced by building ecological beliefs and traits into core characters within a show so that green issues can fluently be raised time and time again. Salience could be increased by bringing environmental themes into key plots and episode conflicts (e.g. main characters discussing how they need to save energy at home, a key scandal around a fundraiser to install solar panels at a community centre).

Rationale

Consistent exposure to messages over time makes viewers perceive new behaviour to be more commonplace and more important.[30] [31] Immersive and engaging content makes viewers more likely to remember key messages (and less likely to argue with information they initially disagree with).[32] [33] [34] Ultimately, these factors make viewers more likely to change their environmental attitudes and behaviours.

Frequency and length of exposure, salience, and emotional engagement all make a difference. Evidence shows that just a single viewing of the environmental documentary 'Blue Planet II' was not associated with actual behavioural change (defined as a reduction in plastic purchase and use immediately post-viewing) in a small lab experiment.[35] But the experiment also found that Blue Planet did improve participants' knowledge of green issues, and we know that real-life viewers at least displayed some change in proxy behaviours, such as googling, social media posts or stated intentions.[36] However, evidence suggests that longer exposure is more likely to impact behaviour – for example, farmers who viewed cumulatively more episodes of a sustainable agriculture soap-opera showed larger reductions in fertilizer and pesticide use (up to 60% less).[37]

Overt, salient focus on behaviours also helps. For example, one study found that an Indian soap-opera effectively increased engagement with environmental themes amongst viewers by including clips of a popular film actress actively discussing and re-emphasising green behaviours after each show, thereby increasing their salience to viewers.[38] The strength of emotional engagement with the subject matter is also important. For instance, a study found that viewers with a greater emotional response to an eco-disaster film had more intention to sacrifice effort and money to take up sustainable actions.

Box 1. Case study: Game Zero

On 19th September 2021, Sky partnered with Tottenham Hotspur to broadcast the first ever Net Zero carbon major football match. The match aimed to:

- **Reduce environmental impacts of the match itself** by using greener sources of energy to power the game, eco-friendly travel to and from the stadium for both fans and clubs, and more plant-based food options at the stadium.
- **Promote green behaviour change to viewers** by embedding discussions on climate change throughout the programming.

Specifically, Sky used the following techniques to encourage green behaviour change:

- **Making it relatable:** Research shows that football fans, as a group, tend to be slightly less engaged with issues relating to the environment.[39] By using football as an engaging and relatable starting point, Sky were more likely to grab the attention of this group of viewers.
- **Messenger effect:** During Game Zero, Sky featured football pundits discussing their concerns about the environment and what green behaviour changes they have brought about in their own lives. Given that we are more receptive to messengers who we find relatable,[40] these conversations could have been more engaging for the target demographic (ie. 18-39 male Sky sports consumers).

Sky has found promising evidence that Game Zero positively impacted viewers' engagement with the idea of green behaviour change. Immediately following Game Zero, there was a 485% increase in page views of the Sky Zero website (which includes information and tips on how individuals can reduce their carbon footprint) compared to the daily average.

3. Target systemic change

Use content to influence public discourse and highlight systemic issues to politicians and business leaders for a big impact 'upstream'. While news and documentaries can effect individual behaviour-change, they also have the potential to kickstart broader societal debates on the role of systemic factors on climate change, encouraging policy-makers and business leaders to act. Broadcasters should consider commissioning powerful documentaries which shed light on overlooked issues (similar to Ocean Rescue or Cowspiracy) and producing investigative news coverage to help viewers connect the dots and hold stakeholders accountable.

Rationale

Evidence shows that media content can promote action from politicians and investors, with impacts trickling down to individuals. The effect of the 'Blue Planet' documentary is a case in point. While we have seen some evidence suggesting it had little direct impact on behaviour, the most watched programme of 2017[41] certainly caused a public outcry and impressed politicians, such as the UK's then Secretary of State for the Environment who credited it as their inspiration in the run up to banning a number of single use plastic items in the UK.[42] The 'Blue Planet Effect' was also reflected in parliamentary discussions – plastic pollution was mentioned eight times more after the release of the documentary than before.[43][44] Similarly, a 2008 television campaign against caged hens increased sales of free-range chicken by a third in the UK,[45][46] and a similar trend in New Zealand has led to all major supermarkets phasing out cage-farmed eggs from 2024.[47] Anecdotally, celebrity chef Hugh Fearnley-Whittingstall's documentary about commercial fishing is credited with shaping the EU Common Fisheries Policy that banned the discarding of fish,[48] and the documentary 'Blackfish' (about Orca captivity) has been associated with a dip in SeaWorld's stock value.[49]

News programmes environmental content could also make an impact upstream. For instance, greater media coverage of childhood obesity in the US is credited with inspiring new policies to address it.[50] However, the framing of environment-focused news stories matters. News stories which emphasise trends and the bigger picture make viewers more likely to blame social problems on political and economic systems (rather than individuals).[51]

What is promising
Emerging evidence of medium to high impact

4. Use credible and relatable green messengers

Characters, presenters, and talent should be trustworthy, credible, and relatable role models, in order to convince viewers to take up green actions. Broadcasters should draw on experts to improve people's knowledge on key issues (ie. via news coverage, weather forecasting, documentaries). Broadcasters should also make sure to feature relatable characters taking up green behaviours, including those who represent more sceptical audience groups (e.g. older more conservative viewers). Plotlines should build in credible motivations for taking up sustainable behaviours (e.g. preventing waste or saving money), show their learning and growth over time, and demonstrate their ability to overcome barriers. Broadcasters should also work with their talent – actors, moderators, sportspeople, and other television celebrities – and encourage them to use their reach to influence viewers via multiple platforms by sharing green knowledge, attitudes, and modelling green behaviours. Indeed, BIT's research has found that one in four viewers say a television celebrity or character has influenced their life choices.

Rationale

We are more responsive to messengers we like (friends and family), with whom we can identify (peers), or who we perceive to be authorities on a subject. Messaging on green topics is no exception: messenger's characteristics are key in shaping viewer's perceptions.[52] [53] For instance, according to BIT's own research, climate activists and climate scientists (like David Attenborough) are by far the most trusted messengers on climate change, with 69% and 73% of the public (respectively) trusting them on green issues. However, regular people (42%), the royal family (41%), and some politicians resonate more with certain segments.

Broader evidence finds that green media messengers need to be relatable or credible to have an impact. For instance, studies show that that US Republican voters are more likely to be compelled by environmental or climate stories if they are told through relatable Republican characters[54] and that 'relatable' climate fiction films are rated by viewers as more compelling.[55] [56] It may be particularly effective to use 'convert communicators' – those who have previously engaged in an undesirable behaviour, such as failing to recycle, wasting food or driving big diesel cars – and have recently switched sides (e.g. Jeremy Clarkson).[57] [58] Documentary narrators that have authority, expertise, and credibility are rated as more compelling messengers by viewers.[59] Weather forecasters are another credible yet largely untapped group, as recent findings indicate that people learn effectively about climate change when weather reporters deliver tailored local climate reports in weather segments.[60]

Similarly, social media campaigns that enlist celebrities to promote products or causes could play a role in bringing sustainability and environmental issues to the public's attention.[61] Multiple studies find that celebrity 'influencing' does impact audiences behaviour [62] [63] and knowledge, [64] although reach is limited largely to those who follow them online. Nonetheless, if broadcasters harnessed the talent on shows to post on social media about any on-set sustainability initiatives, they could have a further impact (however small) on audience green attitudes and behaviours.

5. Promote intergenerational spillovers with kids' content

Broadcasters should use kids' content to encourage positive environmental behaviours amongst children and their parents. Children are not only the decision-makers of the future – and most likely to be affected by climate change – but also important influencers on their parents. While there are a number of examples of hugely popular environmentally-focused children's content (including The Lorax, Princess Mononoke, and Sesame Street), there's still little evidence on how far they impact children's – and parents' – green attitudes and behaviours. In practice, broadcasters educate children on environmental issues via kids' news programming, and inspire them with characters taking action to protect nature.

Rationale

Evidence shows that television content shapes children's behaviour. For example, studies show that exposure to sugary food adverts significantly increases children's subsequent calorie intake, [65] exposure to long television scenes demonstrating prosocial behaviour is associated with greater sharing a year later,[66] and there is even some evidence that television content that explores how to stay physically active can increase how long children exercise for.[67] For instance, a UK campaign 'Eat Them to Defeat Them', with celebrities voicing evil vegetable characters (supported by a multi-million media alliance between ITV, STV, Channel 4 and Sky), was credited with increased sales of vegetables.[68] This gives us some indication that similar kids' programmes which promote pro-environmental behaviours could also be effective. An added benefit of this approach is the potential for intergenerational exchange and influence. In fact, educating children about the environment and climate change has been shown to also improve parents' environmental concern and take-up of green behaviours.[69]

What is helpful
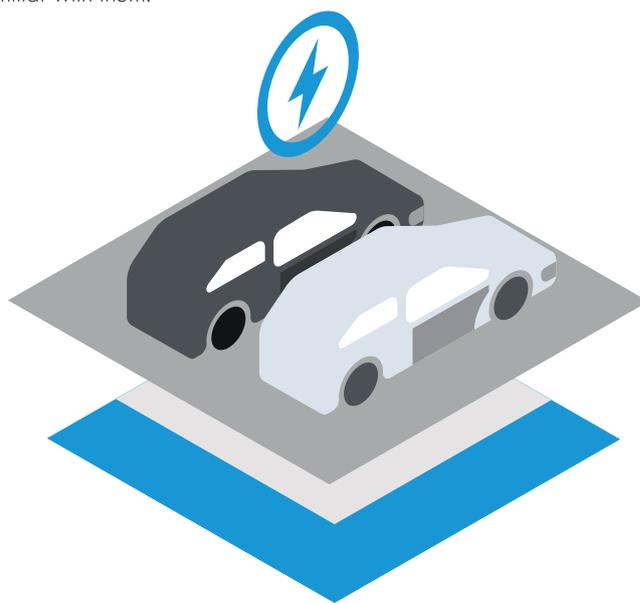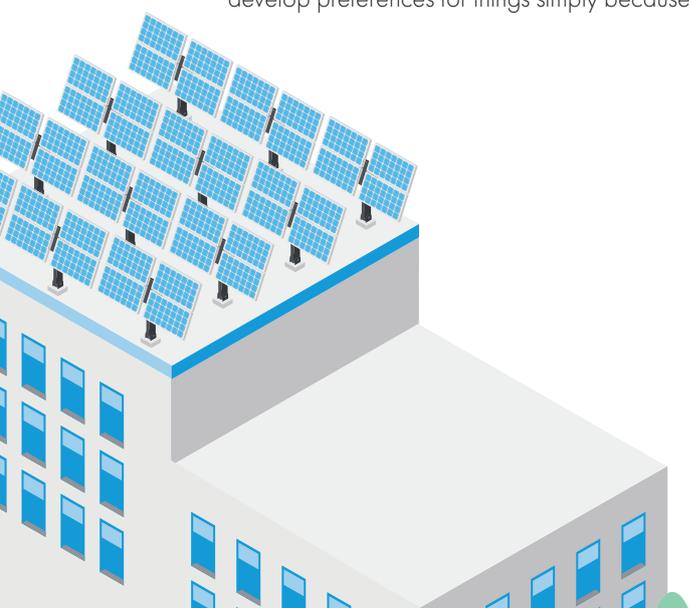### Good evidence of small impact

6. Make it implicit with background action.

Use green product placement and model green actions in the background to improve familiarity, create positive attitudes and norms. More subtle and implicit content can impact viewers, by normalising a product or an action, increasing viewer knowledge, improving their attitudes, and boosting the perception of normality of the product/ behaviour. Broadcasters should therefore consider populating their programmes with sustainable products, where appropriate, and including green behaviours in the backgrounds of scenes. This could improve viewers' familiarity with and perceptions towards these actions and products, ultimately helping to boost their take-up.

This might include showing a roof with a solar panel in the background, an EV passing by, or food in a family kitchen being stored in refillable containers. To maximise impact, broadcasters should ensure that no single product is repeated much too often (think EVs in suddenly appearing in each and every TV show) so that audiences don't feel 'preached' to.[70] While, in general, more screen time is good (Principle 2) – especially given the current low baseline levels – too much product placement may feel distracting or disingenuous to viewers. Broadcasters should also seek to integrate products into shows / plots in ways that aren't incongruent with storylines (e.g. a Bond villain drinking from a reusable coffee cup).

Rationale

Despite the widespread use of product placement within the entertainment industry, the evidence for its direct impact on purchasing behaviour is mixed: [71] evidence suggests that product placement does not have a significant impact on purchasing behaviours, and is no more effective than traditional adverts in this respect.[72] However, product placement directly impacts behaviour, it can influence key outcomes such as brand attention, knowledge, interest, recall, recognition, and purchase intent, which is encouraging for the potential impact that background green content could have on viewers.[73] [74] This can be explained by the 'mere exposure effect', where people often develop preferences for things simply because they are familiar with them.[75]

7. Promote green choices through adverts and reviews

Ensure adverts and product reviews promote green products and behaviours, where possible.
Broadcasters can have a small impact on green behaviours by using advertisements and promotions for products, programs, and campaigns, in physical or digital spaces. This could involve using high traffic moments to show pure green adverts – for programmes with environmental themes, environmental campaigns or sustainable products – as well as greening other adverts, for instance by making sure they model green behaviours. Similarly, product reviews and expositions (e.g. in motoring shows, or features in breakfast chat shows) could be used to help viewers to identify genuinely green options and avoid greenwashing.

Rationale

Across multiple different categories of behaviour, adverts and short media campaigns have a positive (though typically small) impact on people's action, their confidence to perform a behaviour, and their knowledge. [76] Indeed, green advertising campaigns have been shown to increase viewers' knowledge of green issue and intention to purchase green products,[77] [78] indicating that increasing advertising of any green product (e.g. from EVs, to advertising sustainable seafood) will have a positive impact on viewers' behaviours.

8. Frame it closer to the individual

Zoom in on local environmental impacts and highlight the co-benefits of individual action. Evidence shows that people's responses to environmental issues vary depending on how they are framed. While people are becoming more attuned to environmental arguments and more sensitive to how climate change is likely to impact their immediate surroundings, when it comes to encouraging action, we should emphasise impacts and benefits that are relevant to the individual. For example, broadcasters could emphasise local changes in long term weather patterns, local flood risks, and local pollution in regional weather broadcasts, or include coverage of local wildlife, habitats, and economic impacts as a result of climate change or other environmental threats.

On the positive side, we should also highlight the individual co-benefits of adopting sustainable behaviours. One does not need to be selfless to be green, and many people will be more powerfully motivated by the prospect of eating more healthily, or having a warmer home, or saving on energy bills – all of which happen to be planet-saving as a mere added bonus.[79] [80]

Rationale

Evidence from the UK shows that highlighting environmental and moral arguments for action is becoming more effective at building support for policy (including for segments who are traditionally uninterested in green issues) – as audiences' concern about the planet increases. However, when it comes to promoting individual action, broadcasters could consider viewers' self-interest: people often report being willing to take the sustainable option so long as it doesn't come with a penalty.[81] Additionally, viewers care more about the local impacts that climate change and environmental issues could have, because they can understand it better and relate to it more.[82]

However, the effect of a given framing tends to vary depending on (1) the context; and (2) which behaviour is being encouraged. For example, while drawing attention to personal stories with identifiable victims is most effective at encouraging donations to green causes,[83] it is less effective at convincing people to install solar panels (in which case highlighting the short-term benefit to the individual works best).[84] With this in mind, broadcasters should exercise caution when deciding which framing to use, and carefully consider which arguments are likely to be most compelling given the target behaviour and audience.

What to avoid
Evidence of negative impact

9. Avoid a negative tone

Fearmongering, guilt-tripping, blaming, or preaching can be counter-productive. Broadcasters should avoid fearmongering, guilt-tripping, or preaching if they want to make green content more persuasive. In practice this could mean communicating well-researched future scenarios of global warming in news coverage and presenting a balanced argument that the causes of climate change are largely systemic, yet positive individual action is still valuable and impactful. Highlighting a sense of pride, community, and positivity around pro-environmental behaviours is generally advised over conveying a sense of guilt or admonishment at what we are not doing, and this can in part be achieved by adhering to principle one: focussing on what we can do to make a difference, rather than fixating on what's going wrong.

Rationale

Fearmongering (e.g. over-emphasising the devastation of climate change without offering hope) can backfire when it comes to green behaviour change – messages like these can overwhelm people and diminish their hopes, sense of self-efficacy (ability to have a positive impact), and agency over the environment.[85][86][87] Additionally, messages based around guilt or admonishment risk alienating the audience. None of us like to be lectured to or told off, and our instinctive reaction is often to 'double down', defensively react against the message, and rationalise our existing behaviours. Therefore, while guilt can sometimes be an effective motivator for behaviour change, this tends to be true only when the behaviour is very easy. If the behaviour comes at some cost (e.g. monetary, or convenience), disengaging altogether from the message is the easier way to allay our guilt.

Studies on guilt vs. pride have corroborated this logic. One study found that, when left in a room with chocolate cake, people were more likely to eat the cake if they were made to feel guilty if they ate it, rather than if they were encouraged to feel proud if they did not.[88] What is true of chocolate cake is true of sustainable behaviours too.[89] Studies have highlighted the negative impacts of messages which are too self-righteous or assertive.[90] For instance, in an effort to encourage people to recycle more, Peterborough council trialled sticking labels that said "Waster" onto the bins of households who were not disposing of waste sustainably. As a result, local citizens felt patronised, branding the stickers as 'insulting and derogatory',[91] and recycling behaviour did not change.

10. Avoid boilerplate content

Ensure green content has integrity and is tailored across contexts. If green nudging using media content is to work, broadcasters will need to manage a difficult balancing act – embedding green messaging to educate and inspire, without compromising the intrinsic aim of the content, whether it is to inform or to entertain. This means they will have to exercise their best judgement as to what type of messaging should be delivered, (and by what messenger), how to tailor it to the content at hand, and when to use it. This means broadcasters should come up with novel and tailor-made solutions to effectively integrate green messaging into the content in ways that don't feel incongruent with storylines, which maintain creative freedoms, and which don't diminish the fidelity of the content creators' vision. Information must also be broad enough to be generally applicable to a wide audience, but specific and detailed enough to actually help, moving beyond 'one-size (doesn't) fit all' or simplistic content.

Rationale

For green interventions on screen to feel valid and acceptable, they need to feel authentic for a given show or context. It is well established that the credibility and authenticity of communications are key [92] [93] [94] and that messaging perceived as disingenuous or clearly aimed at persuasion is less likely to work.[95] [96] For example, greenwashing (when a company inauthentically tries to appear sustainable despite having a negative impact on the environment) has been shown time and time again to put consumers off purchasing a product.[97] This illustrates why content creators must embed green nudges on screen authentically and seamlessly, in a way that does not stand out as clunky or forced, to have the biggest impact. Furthermore, studies have shown that the more novel content feels to the viewer, the more successful it is in changing behaviour. [98] [99] This highlights how important it is for content creators to continue to innovate, creating new ways to incorporate green nudges into content. Overall, green content needs to feel authentic and fresh.

Box 2. Evidence review: Methodology & Limitations' to 'methodology & limitations

We reviewed a total of 105 academic studies, all with some degree of evaluation, describing mass media interventions targeting shifts in consumers' knowledge, attitudes and behaviours. As summarised in Figure 1, we have explored multiple touchpoints with viewers, both on screen and off. Using this evidence and consultations with experts within the industry, we developed a ranking of actions broadcasters can take.

Limitations

There are several methodological issues common in the research on impact of mass media on sustainable behaviours that make it difficult to draw firm conclusions. Studying the role of media using the gold standard research methods (such as randomised controlled trials) is inherently difficult. This is because of three main factors:

1. **Media content is 'multi-dimensional'** (e.g. a single television programme includes characters, themes, and narratives within a given show). This means that empirically studying the impact of just one aspect (e.g. the model behaviour of the lead character) is difficult because it is often confounded by other features of the program. Moreover, in the real-world people are constantly exposed to other stimuli in their physical and social environment that shapes their pro-environmental actions which makes it difficult to isolate the pure impact of media content.
2. **Measuring 'off-screen behaviour' is difficult.** It is expensive and logistically difficult to measure a person's pro-environmental behaviour after exposure to a media content, so studies often rely on self- reported behaviour changes, collected via surveys. Self-reported insights from participants are prone to social desirability bias: people tend to over-claim how sustainably they behave, because it's the more socially acceptable answer.
3. **Selection bias:** Studying the real-world impact of television and media on people's behaviour can have drawbacks due to the 'selection bias', where the people who are studied do not reflect or represent the general population. For example, people who choose to watch a climate documentary may be more engaged with environmental issues than the general public, so may be more likely and motivated to cut down on plastic after seeing 'A Plastic Whale'.

Section 3. *How can broadcasters nudge themselves?*

In the previous section, we set out ten principles which broadcasters can use to encourage green behaviours amongst viewers. However, for these suggestions to be implemented at scale, broadcasters must be sufficiently motivated and supported to embed them into their activities. Below, we describe six approaches, grounded in behavioural science, which broadcasters can use to embed environmentally-friendly behaviours and strategies within their organisation. These are summarised below:

1. Provide timely advice for production teams on how to reduce their own carbon footprint
2. Provide helpful tips for broadcasters on how to encourage green behaviours using content
3. Make public commitments to SMART targets on sustainability
4. Introduce industry level awards / rankings
5. Embed iterative and systematic evaluation of what works

Idea 1. Provide timely advice for production teams on how to reduce their carbon footprint

BIT's survey found that 60% of people think broadcasters should make all productions carbon neutral. However, while many production teams are motivated and enthusiastic about reducing the carbon footprint of their activities, they may lack knowledge on which specific steps to take to limit their impacts. With this in mind, production teams should be supplied with step-by-step guidance on how to reduce their impacts on the environment. This guidance should:

- **Be as simple as possible:** Recommendations should be given in clear and concise language. They should also be supported by practical information on how to put them into practice; for example, if the guidance recommends that production teams use EVs to transport staff and equipment, it should also contain recommendations on where to source EV hires.

- **Introduce advice at timely moments:** Evidence from the behavioural science literature shows that timing matters. The same information supplied at a different point in time can have dramatically different levels of success. For example, people are more likely to wash their hands if prompted to do so just after they've used the toilet.[100] Production teams should be prompted to consider environmental impacts at timely moments where they are best able to take action, for example: when they are placing a catering order for a large crew, or planning transport schedules to get to location.

- **Invite collaboration and flexibility:** It's important that any decisions about how to embed environmentally-friendly practices into productions are made collaboratively with the production team. Firstly, this will ensure that plans are tailored to each production. Secondly, it will help to generate buy-in amongst the production team, as people tend to be more enthusiastic about a service or initiative if they are involved in designing it. This is often known as the "IKEA effect".[101] [102]

Idea 2. Provide helpful tips for broadcasters on how to encourage green behaviours using content

As awareness and concern around environmental issues increases, creators are increasingly exploring these themes within their productions. In recent years, shows such as I May Destroy You, After Life and Jeremy Clarkson's Farm have included nuanced discussions and representations of environmental issues and green behaviours. Broadcasters can further support broadcasters to integrate green topics and behaviours by providing optional guidance. However, it's vital that creators maintain creative freedom and do not feel pressured to include environment-related elements if they feel it doesn't fit with the storyline. This is important not only to ensure freedom of expression, but also because green storylines tend to have little to no effect on behaviour if they come across as incongruous or forced.[103]

Guidance for creators should:

- **Be shared at timely moments:** As discussed above, we are more likely to act on information if it is shared at an opportune moment. Creators should be prompted to consider if and how green behaviours might be embedded during initial writer's room meetings, rather when storylines have already been developed.

- **Include suggestions for how to embed green behaviours**, in ways which are less likely to conflict with or distract from plot lines. Examples may include:

  - Having characters demonstrate familiar and low-effort pro-environmental behaviours by default. For example, characters could take the following actions, unless it is at odds with the setting, plot, or their character:
    - Use reusable water bottles, rather than disposable plastic ones
    - Choose public transport and active travel

  - Showing select characters demonstrating other (potentially less common) green behaviours, in cases where it feels appropriate and in-line with their personality (e.g. creators might determine that it is fitting for a character who cares about animals to be shown eating vegan food). Example green behaviours might include: buying second-hand clothes, having solar panels installed in their home, driving an EV, or eating plant-based food.

- **Collate case studies where it has been done well.** This will help normalise the practice, help spark ideas, and show other writers that it can be done well, and naturally within plotlines.

- **Include guidance on accessing fact checkers.** Writers may be nervous to write about environment-related topics if they don't have specialist knowledge on these issues. Broadcasters can support writers by providing access to a team of fact checkers / academics who can advise on how to realistically embed environmental storylines into plotlines.

Box 3. Case study: Embedding green behaviours

Sky's 'Planet Test' demonstrates how creative teams can be supported to integrate environmental considerations into productions. The test involves three key opportunities for environmental impact for creators to consider:

1. **Raise the issues:** Does the programme help the audience better understand environmental issues and the world around them?
2. **Show the actions:** Does the programme show positive actions that support the UN's Good Life Goals (e.g. recycling, active transport, eating sustainably)?
3. **Around content:** How could the production engage viewers outside of the programme (e.g. using talent from the production to raise awareness of environmental issues via social media etc.)

As well as encouraging creative teams to consider the environmental content of their work, the Planet Test also helps them to measure and track the carbon impact of production. In practice, Sky works with albert[104] (an independent evaluator of waste and carbon impacts within the film and TV industry) to evaluate and track the environmental impact of a given production.
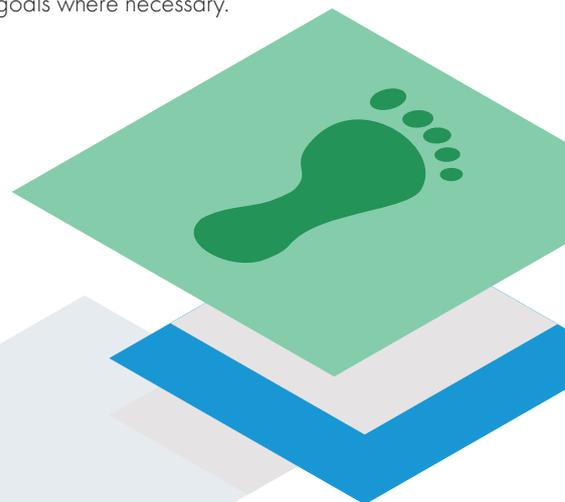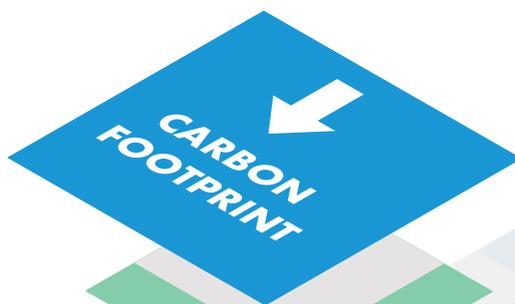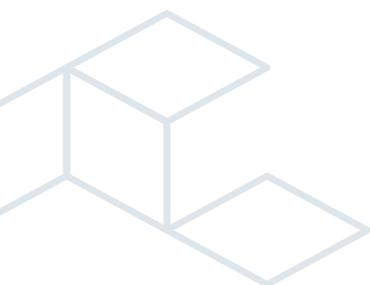
Crucially, the Planet Test is introduced at the very first stages of production, and then revisited at later stages of the production process to check progress against it. This ensures accountability and provides opportunities to tweak approaches used and identify new routes to promote green actions.

Idea 3. Make public commitments to SMART targets

The behavioural science literature shows that we are more likely to achieve our goals when we make a public commitment to do so.[105] [106] Such public commitments can also encourage others to follow suit, since it displays a certain moral leadership that others do not want to fall behind, particularly where there is commercial or consumer pressure to do the right thing. Therefore, broadcasters can increase the likelihood that they and others take action on environmental issues by publicly announcing their intention to (1) reduce the carbon footprint of their activities; and (2) encourage green behaviours through their programming. However, goals will be ineffective if they are vague and high-level (e.g. 'we will reduce our negative impacts on the environment'). With this in mind, broadcasting organisations should ensure that goals are:

- **Time-bound:** Evidence shows that targets with a deadline are more likely to be achieved.[107] For longer-term goals, it's important to also set intermediate milestones to stay on track.[108] With this in mind, realistic but ambitious deadlines should be set to motivate progress towards environmental targets.

- **Broken down into sub-goals:** We are more likely to achieve bigger-picture goals if they are also broken down into sub-targets.[109] For example, as well as setting whole-organisation-level carbon targets, broadcasters should also set goals for individual departments.

- **Monitored:** Progress towards goals should be tracked and reviewed on a regular basis. This will provide opportunities to celebrate successes, identify and resolve issues, and tweak goals where necessary.

Box 4. Case study: Pledges

As part of their work to decarbonise the TV and film industry, albert have worked with an international group of media companies (including Sky) to develop the 'Climate Content Pledge'. This new pledge has been preceded by Responsible Media Forum pact on broadcasters' emissions and climate-related content.[110] This asks broadcasters to commit to a set of principles to embed pro-environmental content in their programming, including:

- **We will incorporate climate change considerations into all our editorial processes**, informed by science and behavioural insight.

- **We will work together to enhance our effectiveness in implementing the Principles:**
  - learning from and inspiring each other
  - sharing relevant industry and audience insights and developing relevant metrics
  - improving how we measure our impact

- **We will include positive visions of a sustainable future in our content**, and other evidence rather than primarily dystopian stories that lead to fatalism and despair among our viewers, especially the younger generations.'

The behavioural science literature tells us that, because broadcasters will have made their commitment to the albert pledge publicly, they will be more likely to achieve their targets.[111]

Idea 4. Introduce industry level awards / rankings

When embedding practices that support pro-environmental behaviours, broadcasters are likely to encounter some negative impacts in the short- and medium-term: it is likely to be time-consuming and resource-intensive to establish and implement new, green initiatives. Given that people tend to experience present bias[112] (i.e. valuing short-term gains and losses over longer-term outcomes), these short-term frictions could make broadcasters less likely to pushforward with green initiatives.
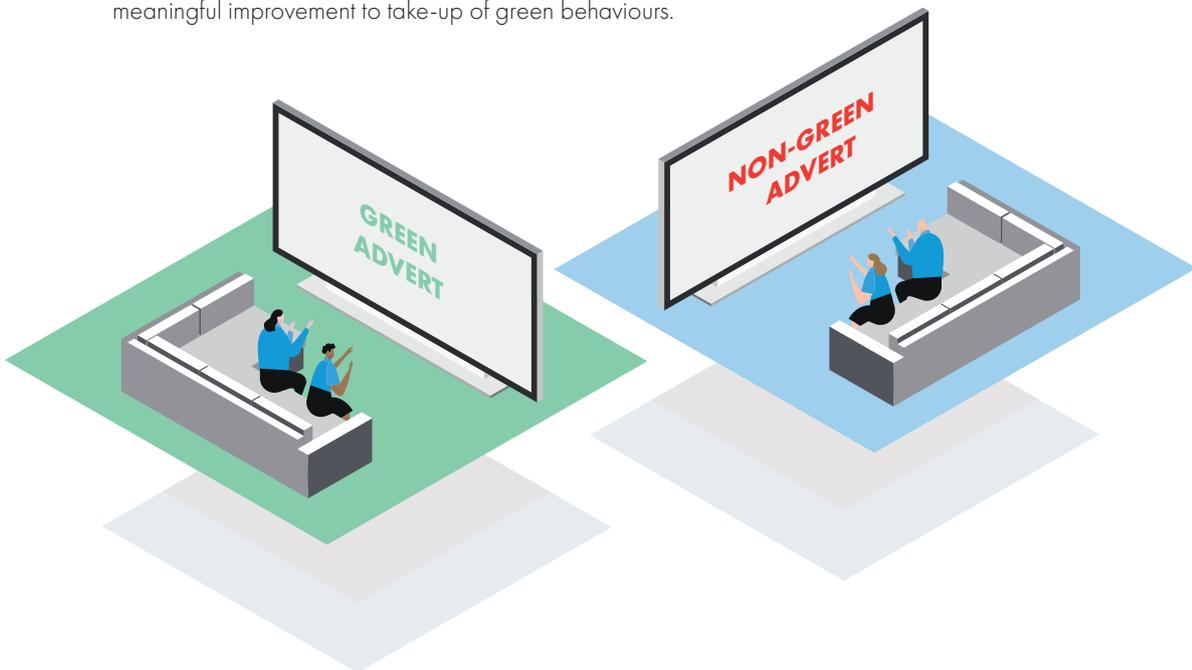
To help broadcasters to overcome these hurdles, the sector should develop industry-level awards and rankings related to environmental impacts. Evidence shows that informing people of their relative success compared to peers on a task can lead to improved productivity and performance.[113] This approach is well established across various ESG areas: the Carbon Disclosure Project encourages organisations to reduce their environmental impact by publicly scoring them on their carbon emissions, Stonewall's 'Diversity Champions' ranking encourages participating organisations to embed practices which support LGBTQ+ staff, and a recent study by LSE found that gender pay gaps closed by 20% in the UK after mandated reporting and public ranking by the government was introduced.[114]

Idea 5. Embed iterative and systematic evaluation of what works

As we have set out in this report, broadcasters have the tools and reach to facilitate a meaningful increase in take-up of pro-environmental behaviours, and therefore the media is a crucial player in helping the UK to reach their Net Zero goals. Whilst there is some emerging evidence on what works, reviewed extensively in this report, more research is needed to identify which tools and methods work best to encourage viewers to take up green behaviours.

Broadcasters can support this effort by:

- **Embedding evaluation and testing wherever possible.** Broadcasters are developing new content all the time and already have impressive machinery in place to collect viewer feedback. Going forward, broadcasters could proactively consider what type of green messaging they could embed within their next show and tweak their existing mechanisms for user testing, to embedding processes to measure impacts on knowledge, attitudes, and self-reported behaviours. However, given that changes in sentiment relating to the environment don't always translate to increased take-up of pro-environmental behaviours, it's essential to measure impacts on behaviour where possible. While behaviour-change is challenging, there are a range of options available to broadcasters. Beyond viewing figures and changes in Google Trends, broadcasters could also analyse click-through rates to websites with more information, donations to environmental charities, online purchases of green products, or other more sophisticated measures (e.g. offering people a green vs not packaging of a delivery).

- **Sharing findings via open-source platforms and channels, so that the industry can learn collaboratively.** To accelerate take-up of evidence-based action across the industry, broadcasters should share the findings of any trials publicly. Crucially, broadcasters should share null and backfire results as well as any positive findings. This will help the industry to focus its efforts on initiatives which will make a meaningful improvement to take-up of green behaviours.

Box 5. Example trials for broadcasters to run

Below, we briefly set out some high-level ideas for trials that broadcasters could run to establish best practice for nudging viewers:

1. **Test impact of fictional or factual content with green messaging.** Relying on existing mechanisms of user testing, broadcasters could expand their existing surveys to include questions on people's attitudes, knowledge and stated behaviours before and after watching a new TV show/ movie, documentary or a News show covering green themes.
2. **Test approaches to encourage viewers to watch green content.** Broadcasters can test whether promoting green content via viewers' home screens (e.g. in iPlayer) leads to increased viewing figures compared to when non-green content is promoted.
3. **Test whether green adverts prompt environmentally-friendly behaviour,** for instance, by comparing whether viewers are more likely to donate to an environmental charity after watching a green advert compared to a non-green advert.

Conclusion

In the year of the UK hosting the UN COP26 climate summit, many organisations and individuals are reflecting on what they can do to help save the planet – and need inspiration. Achieving carbon neutrality will require big changes in how we travel, how we heat and power our homes, what we eat, and how we consume more broadly. To get there, we need to know what to do and how, we need to believe we can do it, we need the green future to be aspirational rather than depressing, and we need to believe that others – like us and our role models – are headed in the same direction. Television content and advertising can play a pivotal role in these efforts.

Through this report, we aim to start a conversation on how broadcasters can help and inspire their viewers world-wide to fight climate change. Drawing on emerging evidence from behavioural and cultural studies, we have outlined ten principles for how to encourage sustainable behaviour change amongst viewers, and a further five for how broadcasters can embed these practices within their organisations.

We believe there is a huge potential in using content and advertising to improve take-up of green behaviours. However, many questions remain unanswered, and broadcasters must therefore not only aim to inform, educate and entertain the public, but also to learn how to do that more effectively, by researching what works. We still know relatively little about what type of content – fictional or factual - works best. How much is enough – a short news segment, an episode of a documentary, or a multi-year soap? What type of plots, framings, or characters resonate with which audiences? And how can we reliably measure all of this?

If you are a content or advert creator, think about how you can embed green messaging into your next project. If you are a broadcaster, think how you can contribute to the conversation and advance the evidence on what works. And we're all in this together, so share what you know, ask about what you don't, and get in touch.

Endnotes

1   Glance (2021). One TV Year in the World.

2   https://unfccc.int/news/cut-global-emissions-by-76-percent-every-year-for-next-decade-to-meet-15degc-paris-target-un-report

3   Epton, T., Currie, S. & Armitage, C.J. (2017). Unique effects of setting goals on behavior change: Systematic review and meta-analysis. Journal of Consulting and Clinical Psychology, 85(12), 1182–1198

4   Ariely, D., & Wertenbroch, K. (2002). Procrastination, deadlines, and performance: Self-control by precommitment. Psychological science, 13(3), 219-224

5   Glance (2021). One TV Year in the World.

6   Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. Journal of personality and social psychology, 79(5), 701.

7   Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. Mass communication & society, 4(3), 245-264.

8   Moyer-Gusé, E. (2008). Toward a theory of entertainment persuasion: Explaining the persuasive effects of entertainment-education messages. Communication theory, 18(3), 407-425.

9   Sally, C. (2017). Transforming behaviour: Pro-social modelling in practice. Willan.

10   Reinermann, J. L., Lubjuhn, S., Bouman, M., & Singhal, A. (2014). Entertainment-education: storytelling for the greater, greener good. International Journal of Sustainable Development, 17(2), 176-191.

11   Reinermann, J. L., Lubjuhn, S., Bouman, M., & Singhal, A. (2014). Entertainment-education: storytelling for the greater, greener good. International Journal of Sustainable Development, 17(2), 176-191.

12   Singhal, A., Cody, M. J., Rogers, E. M., & Sabido, M. (Eds.). (2003). Entertainment-education and social change: History, research, and practice. Routledge.

13   Myrick, J. G., & Conlin, J. (2020). An Experimental Test of the Effects of Hurricane News about Human Behavior on Climate-Related Attitudes. Environmental Communication, 14(6), 786-801.

14   Myrick, J. G., & Conlin, J. (2020). An Experimental Test of the Effects of Hurricane News about Human Behavior on Climate-Related Attitudes. Environmental Communication, 14(6), 786-801.

15   Wang, H., Singhal, A., Muttreja, P., Vajpeyi, A., Laddah, R., Singh, S., ... & Seth, A. (2020). The power of narrative persuasion: How an entertainment-education serial drama tackled open defecation and promoted contraceptive use in India.

16   Banerjee, A., La Ferrara, E., & Orozco-Olvera, V. H. (2019). The entertaining way to behavioral change: Fighting HIV with MTV (No. w26096). National Bureau of Economic Research.

17   Bieniek-Tobasco, A., McCormick, S., Rimal, R. N., Harrington, C. B., Shafer, M., & Shaikh, H. (2019). Communicating climate change through documentary film: Imagery, emotion, and efficacy. Climatic change, 154(1), 1-18.

18   McAuley, E. (1985). Modeling and self-efficacy: A test of Bandura's model. Journal of Sport and Exercise Psychology, 7(3), 283-295.

19   Moyer-Gusé, E. (2008). Toward a theory of entertainment persuasion: Explaining the persuasive effects of entertainment-education messages. Communication theory, 18(3), 407-425.

20   Bilandzic, H., & Kalch, A. (2021). Fictional Narratives for Environmental Sustainability Communication. The Sustainability Communication Reader: A Reflective Compendium, 123-142.

21   Brereton, P., & Hong, C. P. (2013). Audience responses to environmental fiction and non-fiction films. Interactions: Studies in Communication & Culture, 4(2), 171-199.

22   Hammond, P., & Breton, H. O. (2014). Bridging the political deficit: Loss, morality, and agency in films addressing climate change. Communication, Culture & Critique, 7(3), 303-319.

23   Salvador, M., & Norton, T. (2011). The flood myth in the age of global climate change. Environmental Communication, 5(1), 45-61.

24   Gifford, R. (2011). The dragons of inaction: psychological barriers that limit climate change mitigation and adaptation. American psychologist, 66(4), 290.

25   Lacroix, K., Gifford, R., & Chen, A. (2019). Developing and validating the Dragons of Inaction Psychological Barriers (DIPB) scale. Journal of Environmental Psychology, 63, 9-18.

26   Hart, P. S., & Feldman, L. (2014). Threat without efficacy? Climate change on US network news. Science Communication, 36(3), 325-351.

27   Gustafson, A., Ballew, M. T., Goldberg, M. H., Cutler, M. J., Rosenthal, S. A., & Leiserowitz, A. (2020). Personal stories can shift climate change beliefs and risk perceptions: the mediating role of emotion. Communication Reports, 33(3), 121-135.

28   Myrick, J. G., & Conlin, J. (2020). An Experimental Test of the Effects of Hurricane News about Human Behavior on Climate-Related Attitudes. Environmental Communication, 14(6), 786-801.

29   Feldman, L., & Hart, P. S. (2018). Is there any hope? How climate change news imagery and text influence audience emotions and support for climate mitigation policies. Risk Analysis, 38(3), 585-602.

30   Duong, H. T., & Liu, J. (2019). Vaping in the news: the influence of news exposure on perceived e-cigarette use norms. American journal of health education, 50(1), 25-39.

31   Bilandzic, H., & Sukalla, F. (2019). The role of fictional film exposure and narrative engagement for personal norms, guilt and intentions to protect the climate. Environmental Communication, 13(8), 1069-1086.

32   Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. Journal of personality and social psychology, 79(5), 701.

33   Slater, M. D., & Rouner, D. (2002). Entertainment—education and elaboration likelihood: Understanding the processing of narrative persuasion. Communication theory, 12(2), 173-191.

34   Cortese, M. (2018). Reconsidering fictional films for communicating climate change issues: An analysis of the filmmaking strategies behind sustainable energy narratives. In Handbook of Climate Change Communication: Vol. 1 (pp. 123-136). Springer, Cham.

35   Dunn, M. E., Mills, M., & Veríssimo, D. (2020). Evaluating the impact of the documentary series Blue Planet II on viewers' plastic consumption behaviors. Conservation Science and Practice, 2(10), e280.

36   https://www.rapidtransition.org/stories/the-attenborough-effect-and-the-downfall-of-plastics/

37   Reinermann, J. L., Lubjuhn, S., Bouman, M., & Singhal, A. (2014). Entertainment-education: storytelling for the greater, greener good. International Journal of Sustainable Development, 17(2), 176-191.

38   Reinermann, J. L., Lubjuhn, S., Bouman, M., & Singhal, A. (2014). Entertainment-education: storytelling for the greater, greener good. International Journal of Sustainable Development, 17(2), 176-191.

39   We know that the male Sky Sports audience is less engaged with the climate crisis topic. Over half the UK population thinks everyone should take action, even if it's small, but when it comes to 18-39 male Sky Sports customers it's only a third that have this view*". *Sample size: UK (4,000), UK males aged 18-39 who subscribe to Sky Sports.

40   Cabinet Office & Institute for Government (2010). MINDSPACE: Influencing behaviour through public policy.

41   https://www.bbc.co.uk/news/entertainment-arts-42641146

42   https://www.theguardian.com/environment/2017/dec/19/michael-gove-haunted-by-plastic-pollution-seen-in-blue-planet-ii

43   From an average of two mentions over a three-month period before the release to 17 mentions in the threem months following

44   Males, J., & Van Aelst, P. (2021). Did the blue planet set the agenda for plastic pollution? An explorative study on the influence of a documentary on the public, media and political agendas. Environmental Communication, 15(1), 40-54.

45   Ranganathan, J. et al (2016). Shifting Diets for a Sustainable Food Future. Washington DC: World Resources Institute.

46   https://www.telegraph.co.uk/finance/newsbysector/retailandconsumer/2783017/Organic-chickens-fly-after-JamieOlivers-fowl-deed.html/ Accessed January 2019.

47   https://www.stuff.co.nz/life-style/food-wine/food-news/105367829/we-want-free-range-eggs-right-up-to-the-pointof-buying-them/ Accessed January 2019.

48   Borges, L. (2015). The evolution of a discard policy in Europe. Fish and Fisheries, 16(3), 534-540.

49   Boissat, L., Thomas-Walters, L., & Veríssimo, D. (2021). Nature documentaries as catalysts for change: Mapping out the 'Blackfish Effect'. People and Nature.

50   Mendes, E. (2012). Americans' concerns about obesity soar, surpass smoking. Gallup. com.

51   Iyengar, S. (1996). Framing responsibility for political issues. The Annals of the American Academy of Political and Social Science, 546(1), 59-70.

52   Ismagilova, E., Slade, E., Rana, N. P., & Dwivedi, Y. K. (2020). The effect of characteristics of source credibility on consumer behaviour: A meta-analysis. Journal of Retailing and Consumer Services, 53, 101736.

53   Department for Food and Rural Affairs (DEFRA). (2008). A Framework for Pro-Environmental Behaviours. Retrieved September 27, 2016, from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69277/pb13574-behaviours-report-080110.pdf

54   Commercon, F., Goldberg, M., Rosenthal, S., & Leiserowitz. (2021). Radio stories increase conservatives' beliefs that Republicans are worried about climate change.Yale University. New Haven, CT: Yale Program on Climate Change Communication.

55   Sangalang, A., & Bloomfield, E. F. (2018). Mother goose and mother nature: Designing stories to communicate information about climate change. Communication Studies, 69(5), 583-604.

56   Bloomfield, E. F., & Manktelow, C. (2021). Climate communication and storytelling. Climatic Change, 167(3), 1-7.

57   Levine, J., & Valle, R. (1975). The convert as a credible communicator. Social Behavior and Personality: An international journal, 3, 81-90.

58   Eagly, A. H., Wood, W., & Chaiken, S. (1978). Causal inferences about communicators and their effect on opinion change. Journal of Personality and social Psychology, 36(4), 424.

59   Yeo, S. K., Binder, A. R., Dahlstrom, M. F., & Brossard, D. (2018). An inconvenient source? Attributes of science documentaries and their effects on information-related behavioral intentions. Journal of Science Communication, 17(2), A07.

60   Feygina, I., Myers, T., Placky, B., Sublette, S., Souza, T., Toohey-Morales, J., & Maibach, E. (2020). Localized climate reporting by TV weathercasters enhances public understanding of climate change as a local problem: Evidence from a randomized controlled experiment. Bulletin of the American Meteorological Society, 101(7), E1092-E1100.

61   Doyle, J., Farrell, N., & Goodman, M. K. (2017). Celebrities and climate change. In Oxford Research Encyclopedia of Climate Science.

62   Rosenthal, S., & Dahlstrom, M. F. (2019). Perceived influence of proenvironmental testimonials. Environmental Communication, 13(2), 222-238.

63   Rajasekar, D. (2018). A Study on Purchase Decisions of Celebrity Endorsement on Advertising Campaign in Influencing Consumer: Impact Analysis. Int. J Sup. Chain. Mgt Vol, 7(1), 230.

64   Chung, C. H., Chiu, D. K., Ho, K. K., & Au, C. H. (2020). Applying social media to environmental education: is it more impactful than traditional media?. Information Discovery and Delivery.

65   Kearney, J., Fitzgerald, R., Burnside, G., Higham, S., Flannigan, N., Halford, J. C., & Boyland, E. J. (2021). Television advertisements for high-sugar foods and beverages: effect on children's snack food intake. British Journal of Nutrition, 125(5), 591-597.

66   McHarg, G., & Hughes, C. (2021). Prosocial television and prosocial toddlers: a multi-method, longitudinal investigation. Infant behavior and development, 62, 101526.

67   Faulkner, G., Bassett-Gunter, R., White, L., Berry, T. R., & Tremblay, M. S. (2018). Can The Moblees™ Move Canadian Children? Investigating the Impact of a Television Program on Children's Physical Activity. Frontiers in public health, 6, 206.

68   https://www.itv.com/presscentre/press-releases/eat-them-defeat-them-campaign-itv-and-veg-power

69   Lawson, D. F., Stevenson, K. T., Peterson, M. N., Carrier, S. J., Strnad, R. L., & Seekamp, E. (2019). Children can foster climate change concern among their parents. Nature Climate Change, 9(6), 458-462.

70   Patton, D. (2014). A study of the effect of product placement in television shows and its influence on consumer behavior.

71   Guo, F., Ye, G., Hudders, L., Lv, W., Li, M., & Duffy, V. G. (2019). Product placement in mass media: a review and bibliometric analysis. Journal of Advertising, 48(2), 215-231.

72   Patton, D. (2014). A study of the effect of product placement in television shows and its influence on consumer behavior.

73   Williams, K., Petrosky, A., Hernandez, E., & Page Jr, R. (2011). Product placement effectiveness: revisited and renewed. Journal of Management and Marketing research, 7, 1.

74   Williams, K., Petrosky, A., Hernandez, E., & Page Jr, R. (2011). Product placement effectiveness: revisited and renewed. Journal of Management and Marketing research, 7, 1.

75   Zajonc, R. B. (1968). Attitudinal effects of mere exposure. Journal of Personality and Social Psychology, 9(2, Pt.2), 1–27. https://doi.org/10.1037/h0025848

76   Anker, A. E., Feeley, T. H., McCracken, B., & Lagoe, C. A. (2016). Measuring the effectiveness of mass-mediated health campaigns through meta-analysis. Journal of health communication, 21(4), 439-456.

77   Sharma, A. P. (2021). Consumers' purchase behaviour and green marketing: A synthesis, review and agenda. International Journal of Consumer Studies.

78   Hussain, S. A., Haq, M. A. U., & Soomro, Y. A. (2020). Factors Influencing Consumers' Green Purchase Behavior: Green Advertising as Moderator.

79   Behavioural Insights Team (2020). Menu for Change.

80   Behavioural Insights team and Rare (2019) Behaviour Change for Nature.

81   Behavioural Insights Team and Rare (2019) Behaviour Change for Nature.

82   Wang, S., Hurlstone, M. J., Leviston, Z., Walker, I., & Lawrence, C. (2019). Climate change from a distance: An analysis of construal level and psychological distance from climate change. Frontiers in psychology, 10, 230.

83   Cantuarias, M., O'Hara, K., Rmeih, N., & Sheibani, F. (2018). Identifying a victim in nature: How psychological and behavioural interventions can help increase environmental donations.

84   Wolske, K. S., Todd, A., Rossol, M., McCall, J., & Sigrin, B. (2018). Accelerating demand for residential solar photovoltaics: Can simple framing strategies increase consumer interest?. Global Environmental Change, 53, 68-77.

85   Yang, X., & Weber, A. (2019). Who can improve the environment—Me or the powerful others? An integrative approach to locus of control and pro-environmental behavior in China. Resources, Conservation and Recycling, 146, 55-67.

86   Bloodhart, B., Swim, J. K., & Dicicco, E. (2019). "Be worried, be VERY worried:" preferences for and impacts of negative emotional climate change communication. Frontiers in Communication, 3, 63.

87   Chiang, Y. T., Fang, W. T., Kaplan, U., & Ng, E. (2019). Locus of control: The mediation effect between emotional stability and pro-environmental behavior. Sustainability, 11(3), 820.

88   Patrick, V. M., Chun, H. H., & MacInnis, D. J. (2009). Affective forecasting and self-control: Why anticipating pride wins over anticipating shame in a selfregulation context. Journal of Consumer Psychology, 19(3), 537-545

89   Schneider, C. R., Zaval, L., Weber, E. U., & Markowitz, E. M. (2017). The influence of anticipated pride and guilt on pro-environmental decision making. PloS one, 12(11), e0188781

90   Kronrod, A., Grinstein, A., & Wathieu, L. (2012). Go green! Should environmental messages be so assertive?. Journal of Marketing, 76(1), 95-102.

91   https://www.theguardian.com/uk-news/2018/dec/01/peterborough-council-apologises-over-waster-recycling-stickers

92   Rabinovich, A., Morton, T. A., & Birney, M. E. (2012). Communicating climate science: The role of perceived communicator's motives. Journal of Environmental Psychology, 32(1), 11-18.

93   Molleda JC. Authenticity and the construct's dimensions in public relations and communication research. Journal of Communication Management. 2010;14(3):223–36.

94   Petraglia J. The Importance of Being Authentic: Persuasion, Narration, and Dialogue in Health Communication and Education. Health Communication. 2009;24(2):176–85. pmid:19280461

95   Jacks, J. Z., & Devine, P. G. (2000). Attitude importance, forewarning of message content, and resistance to persuasion. Basic and Applied Social Psychology, 22, 19e29.

96   Knowles, E. S., & Linn, J. A. (2004). Resistance and persuasion. Mahwah, NJ: Erlbaum.

97   Szabo, S., & Webster, J. (2021). Perceived greenwashing: the effects of green marketing on environmental and product perceptions. Journal of Business Ethics, 171(4), 719-739.

98   Tsay, C. H. H., Kofinas, A. K., Trivedi, S. K., & Yang, Y. (2020). Overcoming the novelty effect in online gamified learning systems: An empirical evaluation of student engagement and performance. Journal of Computer Assisted Learning, 36(2), 128-146.

99   Kovacs, G., Wu, Z., & Bernstein, M. S. (2018). Rotating online behavior change interventions increases effectiveness but also increases attrition. Proceedings of the ACM on Human-Computer Interaction, 2(CSCW), 1-25.

100   Judah, G., Aunger, R., Schmidt, W.-P., Michie, S., Granger, S. & Curtis, V. (2009). Experimental pretesting of handwashing interventions in a natural setting. American Journal of Public Health, 99(S2), S405–S411.

101   Norton, M., Mochon, D.; Ariely, D. (2011). The IKEA effect: When labor leads to love. Journal of Consumer Psychology. 22 (3): 453–460.

102   Marko Sarstedt; Doreen Neubert and Kati Barth, (2017), The IKEA Effect. A Conceptual Replication, Journal of Marketing Behavior, 2, (4), 307-312.

103   Williams, K., Petrosky, A., Hernandez, E., & Page Jr, R. (2011). Product placement effectiveness: revisited and renewed. Journal of Management and Marketing research, 7, 1.

104   www.wearealbert.org

105   Mento, A.J., Steel, R.P. & Karren, R.J.(1987). A meta-analytic study of the effects of goal setting on task performance: 1966–1984. Organizational Behaviour and Human Decision Processes, 39(1), 52–83

106   Epton, T., Currie, S. & Armitage, C.J. (2017). Unique effects of setting goals on behavior change: Systematic review and meta-analysis. Journal of Consulting and Clinical Psychology, 85(12), 1182–1198

107   Ariely, D., & Wertenbroch, K. (2002). Procrastination, deadlines, and performance: Self-control by precommitment. Psychological science, 13(3), 219-224

108   The Behavioural Insights Team (2017) A review of optimism bias, planning fallacy, sunk cost bias and groupthink in project delivery and organisational decision making.

109   Kruglanski, A. W., Pierro, A., & Sheveland, A. (2011). How many roads lead to Rome? Equifinality set-size and commitment to goals and means. European Journal of Social Psychology, 41(3), 344-352.

110   https://responsiblemediaforum.org/pactCommitments

111   Mento, A.J., Steel, R.P. & Karren, R.J.(1987). A meta-analytic study of the effects of goal setting on task performance: 1966–1984. Organizational Behaviour and Human Decision Processes, 39(1), 52–83

112   Green, L., Fry, A.F., Myerson, J. (1994). Discounting of delayed rewards: A life-span comparison. Psychological Science, 5(1).

113   Gino, F., & Staats, B. R. (2011). Driven by social comparisons: How feedback about coworkers' effort influences individual productivity. Harvard Business School NOM Unit Working Paper, (11-078).

114   LSE, (March 2021), 'Gender pay gap closes by one fifth after reporting introduced', accessed 13th July 2021, available at: https://www.lse.ac.uk/News/Latest-news-from-LSE/2021/c-March-21/Gender-pay-gap-closes-by-one-fifth-after-reporting-introduced

The Behavioural Insights Team

www.bi.team

4 Matthew Parker Street
London SW1H 9NP

THE
**BEHAVIOURAL
INSIGHTS
TEAM**