NEGOTIATING CLIMATE CHANGE IN CRISIS

Edited by Steffen Böhm and Sian Sullivan



https://www.openbookpublishers.com

© 2021 Steffen Böhm and Sian Sullivan. Copyright of individual chapters is maintained by the chapters' authors.



This work is licensed under a Creative Commons Attribution 4.0 International license (CC BY 4.0). This license allows you to share, copy, distribute and transmit the text; to adapt the text and to make commercial use of the text providing attribution is made to the authors (but not in any way that suggests that they endorse you or your use of the work). Attribution should include the following information:

Steffen Böhm and Sian Sullivan (eds), *Negotiating Climate Change in Crisis*. Cambridge, UK: Open Book Publishers, 2021, https://doi.org/10.11647/OBP.0265

Copyright and permissions for the reuse of many of the images included in this publication differ from the above. This information is provided in the captions and in the list of illustrations.

In order to access detailed and updated information on the license, please visit https://doi.org/10.11647/OBP.0265#copyright. Further details about CC BY licenses are available at http://creativecommons.org/licenses/by/4.0/

All external links were active at the time of publication unless otherwise stated and have been archived via the Internet Archive Wayback Machine at https://archive.org/web

Digital material and resources associated with this volume are available at https://doi. org/10.11647/OBP.0265#resources

Every effort has been made to identify and contact copyright holders and any omission or error will be corrected if notification is made to the publisher.

ISBN Paperback: 9781800642607 ISBN Hardback: 9781800642614 ISBN Digital (PDF): 9781800642621 ISBN Digital ebook (epub): 9781800642638 ISBN Digital ebook (mobi): 9781800642645 ISBN XML: 9781800642652 DOI: 10.11647/OBP.0265

Cover image: Photo by Thijs Stoop on Unsplash available at: https://unsplash.com/ photos/A_AQxGz9z5I Cover design by Anna Gatti

27. Public Engagement with Radical Climate Change Action

Lorraine Whitmarsh

The role of people in addressing climate change is often relegated to merely consumers. While adopting electric vehicles and heat pumps, for example, will indeed be critical for reaching climate targets, people will also need to engage as political, social and professional actors to achieve the scale of societal transformation needed. This includes actively engaging in both decision-making and in delivery in respect of climate action. Here, I discuss the varied roles that the public can play in decision-making and in taking rapid and radical climate action, their current levels of engagement with climate change, and how to foster further public action. I argue that we have a unique opportunity as we build back society post-COVID-19 to lock in low-carbon habits created during the pandemic, and to build on the growing social mandate for bold policy action to support sustainable lifestyles.

Introduction

In this chapter, I discuss the multiple roles the public can play in climate action—as consumers, citizens, parents, community members, employees and professional decision-makers—and how we can better engage the public in decision-making and action to achieve rapid and significant emission cuts to mitigate climate change. I argue that public engagement is critical both for building a public mandate for radical social change, but also for achieving profound lifestyle, community, organisational and policy transformation. Public engagement is

potentially a very broad concept that captures: (a) engagement in *decision-making* (including policy-making) about how to reach net zero; and (b) engagement in *delivery* of action to reach net zero (i.e., 'behaviour change' in its broadest sense, including lifestyle change, technology adoption/use, policy support, activism, and awareness raising). These two forms of engagement are interlinked—if we have joined-up thinking and a national conversation on these issues (i.e., engagement with decision-making) that would also help with the delivery of net zero since it provides the context and rationale for specific behavioural and structural interventions; and fosters collective efficacy and trust (Dietz and Stern 2009; Capstick et al. 2019).

Evidence shows a key predictor of policy acceptance by the public is perceived *fairness*, including procedural fairness (i.e., involving people in decisions that affect them; Drever and Walker 2013; Schmocker et al. 2012). This means that we cannot have a net zero transition without the public 'noticing' (i.e., via supply-side change and consumer nudges); indeed, social/behavioural change is required for the *majority* of measures to reach net zero (CCC 2019). Reconfiguration of urban environments, food and transport systems, energy technologies, and provision of goods and services, are hugely disruptive to lifestyles and may require changes in values and norms. Developments that may be less disruptive to lifestyles but still pose risks and costs to society (e.g., supply-side and negative emissions technologies) also require public buy-in (RCUK 2010). Thus, the inevitably visible, disruptive and risky transformation to net zero requires a public mandate—hence active engagement with publics to co-produce net zero futures and pathways, including collectively assessing their risks and benefits, and to achieve buy-in to their delivery (also see Halme et al., this volume).

How Engaged Is the Public?

So, how 'engaged' is the public with climate change at the moment? The last few years have seen a significant rise in public concern about climate change: polling in the UK and elsewhere showed unprecedented worry about climate change during 2019, which has been maintained into 2020 despite competing concerns over COVID-19 (BEIS 2019; Leiserowitz et al. 2020; Ipsos MORI 2020). In fact, one UK survey (Whitmarsh et al. 2020)

found that the perceived urgency of tackling climate change was higher during the pandemic (May 2020) than in August the previous year (74% up from 62% seeing it as an 'extremely high' or 'high' level of urgency). Furthermore, support for climate change mitigation policies, including measures to decrease meat consumption and flying, was higher during the pandemic (67% and 85%, respectively) than in 2019 (53% and 67%, respectively). This apparent support for ambitious action to address climate change has been reflected in (and strengthened by) high-profile public protests and 'school strikes' around the world (Thackeray et al. 2020), as well as a shift in media language and societal discourse to reconceptualise the issue as a 'climate emergency' (Carrington 2019; Zhou 2019).

There has also been a growth in deliberative democracy activities that provide a stronger voice for the public in national and local policy-making on climate change, notably the Climate Assembly UK, the French Citizens' Convention for Climate, and various regional and city-level citizens' assemblies and juries (Capstick et al. 2020). These engagement activities seek to elicit informed public opinion on low-carbon visions and pathways, and have shown strong support for ambitious climate action (e.g., CAUK 2020; Citizens Convention on Climate 2020). Yet, it is widely acknowledged that stated preferences (via polls, interviews, deliberative discussions, etc.) often diverge from actual behaviour-the so-called 'value-action' gap (Blake 1999). Indeed, despite people's good intentions, there remain significant structural and social barriers to engagement with climate change at the behavioural level (e.g., Lorenzoni et al. 2007). Demand for material goods, car travel and aviation, for example, have grown rapidly in recent years; while low-carbon behaviours—such as walking and cycling, eating a plantbased diet, and reduced consumption-often remain inconvenient, inaccessible, socially and/or economically costly (CAUK 2020; Whittle et al. 2019).

Here, I provide some concrete suggestions for how to build public engagement with climate change, both in terms of providing a stronger role for the public in decision-making, and in public participation in the delivery of action to achieve the UK's net zero goal. These suggestions are grounded in psychological, sociological, economics and political science literatures which provide insights on public participation and behaviour change in its broadest sense.

Engagement in Decision-Making

In the case of engagement in decision-making, this would ideally involve local deliberative processes to identify tailored solutions and build community participation, as well as an overarching 'national conversation' on options for reaching net zero, including *supply-side and demand-side* changes. This would require being:

- a. Joined up across sectors and scales (i.e., consistent messaging and policies embedded across government departments, devolved governments, local authorities, etc.). This could involve co-development of a shared vision and 'branding' around net zero (similar to the 'Energiewende' in Germany; Moss et al. 2015) that provides the coordinated, overarching, joined-up vision demanded by citizens (CAUK 2020), tying together the variety of changes people see and are asked to make, and giving a sense of collective efficacy and ownership; and
- b. Timely in influencing decision-making—i.e., upstream engagement in policy-making at national and local levels (using deliberative approaches, such as citizens' assemblies/juries, online deliberative polling, etc.; Dietz and Stern 2009).

Engagement in Delivery

Behaviour change is a central element of delivering net zero, so public engagement is key for realising this goal (CCC 2019). Behaviour change, though, is not only required for consumer-citizens, but also other individuals and groups across a range of contexts (e.g., parents, communities, employees, employers, political actors; Whitmarsh et al. 2010). Behaviour change is not only about adoption of net zero technology—though consumer behaviour is important. It more fully encompasses:

c. Adoption of low/no-carbon technology and products (in personal or professional contexts);

- d. Use and disposal of low/no-carbon technology and products (in personal or professional contexts);
- e. Acceptance of (or demand for) large-scale low/no-carbon infrastructure, including supply-side and greenhouse gas removal technologies;
- f. Political action to support or demand climate change action (voting, protesting, boycotting);
- g. Community and voluntary action to promote low-carbon choices (hosting or owning low/no-carbon developments, volunteering for climate causes, etc.); and
- h. Creating and disseminating climate change narratives/ discourses that normalise and promote low-carbon lifestyles, call out inaction (by people, businesses, policy-makers, schools, family members, etc.), and raise awareness through conversations, as well as modelling change through action.

There is a vast literature on how to change behaviour, and much can be learnt from historical and international examples of transformation (e.g., tobacco control, urban sustainable transport). Key findings from this evidence base include:

- a. Change is required across *multiple levels* and *using various levers* (information and incentives alone will not be sufficient; broader social, infrastructural, technical, and regulatory interventions are also required; Lorenzoni et al. 2007; Corner et al. 2019);
- b. Interventions should exploit and be framed around *co-benefits* or *win-wins* (e.g., wellbeing/health, equity, cost-saving/profit; Bain et al. 2016; Maibach et al. 2010; Whitmarsh and Corner 2017);
- c. Interventions should be *timely* at the point of decisionmaking (e.g., buying a car or appliance; renovating a house) and when habits are disrupted/malleable (see below; Graham-Rowe et al. 2011; Wilson et al. 2015);

- d. Changing social norms through *leadership*, exemplifying/ disseminating innovations and *good practice* through networks, and using *trusted messengers* to communicate, are important (Clayton et al. 2015; Corner et al. 2019; Pettifor et al. 2017); and
- e. Building *public support* is key to leveraging government action for behavioural interventions (particularly if there is industry resistance; Willis 2017; Corner et al. 2019).

Moments of Change and COVID-19

A growing literature points to the importance not only of how to intervene to achieve social and lifestyle change, but also when. Much of our behaviour is habitual-unconscious routines triggered by contextual cues (e.g., 'it's 8am, time to drive to work') rather than conscious deliberation of alternatives (e.g., 'which mode of transport would be best today?'; Kurz et al. 2015). Habits are one of the strongest impediments to lifestyle change, acting to 'lock in' behaviour (Marechal and Lazaric 2011). Many interventions (e.g., information campaigns) are ineffective because they are not strong enough to disrupt habits (Verplanken et al. 1997). But since habits are cued by stable contexts (i.e., the same time, place and/or social group; Wood et al. 2005), change in context disrupts habits (Verplanken et al. 2008). Consistent with this observation, 'moments of change'-defined as "occasions where the circumstances of an individual's life change considerably within a relatively short timeframe" (Thompson et al. 2011)-have been identified as one of the most important levers for lifestyle change (House of Lords 2011; Capstick et al. 2014). Research shows that disruptions-whether concerning a person's life-course (e.g., moving home) or structural (e.g., economic downturn, extreme weather events)—can provide opportunities to recraft social practices in new directions (Verplanken et al. 2018; Birkmann et al. 2010), for example shifting from commuting by car to home-working (Marsden et al. 2020). Furthermore, interventions targeted to moments of change are more effective than at other times (Verplanken et al. 2018). Several studies show that mobility interventions are more effective when targeted to relocation (Thøgersen 2012; Ralph and Brown 2017;

Bamberg 2006). Other low-carbon behaviours, such as energy efficiency and wasted reduction measures, have also been shown to be more effectively changed using low-cost interventions in the twelve weeks following relocation (Verplanken and Roy 2016; Maréchal 2010), as well as at other moments of change, such as buying an electric vehicle (Nicolson et al. 2017). Other such opportunities to intervene include temporal milestones (e.g., New Year, becoming an adult), having a child, retiring, infrastructure disruption (e.g., road closures), and COVID-19 (e.g., Verplanken et al. 2018; Burningham & Venn 2020).

COVID-19 and measures to respond to it may be the most significant disruption to lifestyles since World War II. Citizens are working, consuming and interacting in new ways, some of which may be more desirable both personally and environmentally (e.g., commuting less). For example, one UK study (Whitmarsh et al. 2020) found that during lockdown: online food shopping more than doubled; food waste and consumption of energy and goods reduced; working from home rose significantly and most people found this a positive experience. In line with this, around a third said they intend to increase the amount they work from home (compared to pre-lockdown) once restrictions are removed, and even more plan to socialise more online (43%) and to fly less on holidays (47%). Importantly, of course, intentions do not always manifest in behaviour change (Whitmarsh 2009). Since new habits take two to three months to form (Lally et al. 2010), lockdown periods in most countries have been long enough to establish new routines. However, when lockdowns are lifted, there is a risk of recidivism into pre-existing habits (Carden and Wood 2018), particularly if economic stimulus measures promote unfettered, high-carbon consumption (Peters 2020). So, while COVID-19 may represent a unique window of opportunity to promote low-carbon lifestyles, this is only likely to occur with appropriate infrastructure, incentives, and norms to encourage and lock in new low-carbon routines. Fortunately, there is strong public support for net zero policies (e.g., shifting to low-carbon transport; reducing red meat consumption) and a green recovery (CAUK 2020; Whitmarsh et al. 2020), which provides a mandate for policy-makers to take bold climate change measures to establish and lock in low-carbon habits.

Conclusion

Public engagement in decision-making and action is essential for radical societal transformation to address climate change. While public support for climate action has grown in recent years, demand-side emission reductions lag far behind supply-side reductions, highlighting the need to focus efforts on achieving society-wide behavioural change (CCC 2019). Much can be learnt on how to engage the public with climate change from COVID-19; however, there are unique challenges associated with climate change that make it a "different kind of crisis" (Howarth et al. 2020). Although the pandemic has shown that measures to change behaviour and society can be taken rapidly, we require a social mandate for such radical interventions to be implemented for the longer term, for example via further deliberative democratic opportunities and a coherent national conversation on climate change. COVID-19 as a 'moment of change' has also created many low-carbon habits that could be locked in with the right policy measures, such as reallocating road space from cars to active and public modes, economic (dis)incentives to promote consumption of low-carbon products and services, and support for businesses to encourage more flexible working and teleconferencing (e.g., Cairns et al. 2002; Henderson and Mokhtarian 1996; Capstick et al. 2014; CAUK 2020). Embarking on a green economic recovery from COVID-19 requires using the insights outlined here on how to engage the public to achieve a low-carbon societal transformation.

References

- Bain, Paul, Taciano Milfont, Yoshi Kashima, et al., 'Co-benefits of Addressing Climate Change Can Motivate Action Around the World', *Nature Climate Change*, 6 (2016), 154–57, https://doi.org/10.1038/nclimate2814.
- Bamberg, Sebastian, 'Is a Residential Relocation a Good Opportunity to Change People's Travel Behaviour? Results From a Theory-driven Intervention Study', *Environment & Behavior*, 38 (2006), 820–40, https://doi. org/10.1177/0013916505285091.
- BEIS, *BEIS Public Attitudes Tracker: Wave 29—Key Findings* (2019), https://www.gov.uk/government/statistics/beis-public-attitudes-tracker-wave-29.
- Birkmann, Joern, P. Buckle, Jill Jaeger, et al., 'Extreme Events and Disasters: A Window of Opportunity for Change? Analysis of Organizational,

Institutional and Political Changes, Formal and Informal Responses After Mega-disasters', *Natural Hazards*, 55 (2010), 637–55, https://doi.org/10.1007/s11069-008-9319-2.

- Blake, James, 'Overcoming the "Value-action Gap" in Environmental Policy: Tensions Between National Policy and Local Experience', *Local Environment*, 4 (1999), 257–78, https://doi.org/10.1080/13549839908725599.
- Burningham, Kate, and Susan Venn, 'Are Lifecourse Transitions Opportunities for Moving to More Sustainable Consumption?', *Journal of Consumer Culture*, 20 (2020), 102–21, https://doi.org/10.1177/1469540517729010.
- Cairns, Sally, Stephen Atkins, and Phil Goodwin, 'Disappearing Traffic? The Story so Far' (Nacto.org, 2002), https://nacto.org/docs/usdg/disappearing_traffic_cairns.pdf.
- Capstick, Stuart, Irene Lorenzoni, Adam Corner, and Lorraine Whitmarsh, 'Social Science Prospects for Radical Emissions Reduction', *Carbon Management*, 4 (2014), 429–45, https://doi.org/10.1080/17583004.2015.1020011.
- Capstick, Stuart, Christina Demski, Catherine Cherry, Caroline Verfuerth, and Katharine Steentjes, *Climate Change Citizens' Assemblies*, CAST Briefing Paper 03 (2020), https://orca.cardiff.ac.uk/131693/1/CAST-Briefing-03-Climate-Change-Citizens-Assemblies.pdf.
- Carden, Lucas, and Wendy Wood, 'Habit Formation and Change', Current Opinion in Behavioral Sciences, 20 (2018), 117–22, https://doi.org/10.1016/j. cobeha.2017.12.009.
- Carrington, Damien, 'Why the Guardian is Changing the Language it Uses About the Environment' (Guardian.com, 2020), https://www.theguardian. com/environment/2019/may/17/why-the-guardian-is-changing-thelanguage-it-uses-about-the-environment.
- CAUK, 'The Path to Net Zero: Climate Assembly UK full report' (Climateassembly. uk, 2020), https://www.climateassembly.uk/.
- CCC, Net Zero: The UK's Contribution to Stopping Global Warming (UK Committee on Climate Change, London, 2019), https://www.theccc.org.uk/ wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stoppingglobal-warming.pdf.
- Citizens Convention on Climate, 'Citizens Convention on Climate Final report' (conventioncitoyennepourleclimat.fr, 2020), https://www. conventioncitoyennepourleclimat.fr/wp-content/uploads/2020/07/062020-CCC-propositions-synthese-EN.pdf.
- Clayton, Susan, Patrick Devine-Wright, Paul Stern, Lorraine Whitmarsh, Amanda Carrico, Linda Steg, Janet Swim, and Mirilia Bonnes, 'Psychological Research and Global Climate Change', *Nature Climate Change*, 5 (2015), 640– 46, https://doi.org/10.1038/nclimate2622.

- Corner, Adam, Hilary Graham, and Lorraine Whitmarsh, 'Engaging the Public on Low-carbon Lifestyle Change', CAST Briefing Paper 01 (Cast.ac.uk, 2019), http://cast.ac.uk/wp-content/uploads/2020/01/CAST-briefing-01-Engaging-the-public-on-low-carbon-lifestyle-change-min.pdf.
- Dietz, Tom, and Paul Stern (eds), *Public Participation in Environmental Assessment and Decision-Making* (Washington DC: National Academies Press, 2009).
- Dreyer, Stacia, and Iain Walker, 'Acceptance and Support of the Australian Carbon Policy', *Social Justice Research*, 26 (2013), 343–62, https://doi.org/10.1007/s11211-013-0191-1.
- Graham-Rowe, Ella, Stephen Skippon, Benjamin Gardner, and Charles Abraham, 'Can We Reduce Car Use and, if so, How? A Review of Available Evidence', *Transportation Research Part A: Policy & Practice*, 45 (2011), 401–18, http:// dx.doi.org/10.1016/j.tra.2011.02.001.
- Henderson, Dennis, and Patricia Mokhtarian, 'Impacts of Center-based Telecommuting on Travel and Emissions: Analysis of the Puget Sound Demonstration Project', *Transportation Research Part D: Transport & Environment*, 1 (1996), 29–45, https://doi.org/10.1016/S1361-9209(96)00009-0.
- House of Lords, *Behaviour Change* (House of Lords Select Committee on Science & Technology, London, 2011).
- Howarth, Candice, Peter Bryant, Adam Corner, et al., 'Building a Social Mandate for Climate Action: Lessons from COVID-19', *Environmental & Resource Economics*, 76 (2020), 1107–15, https://doi.org/10.1007/s10640-020-00446-9.
- Ipsos MORI, Two Thirds of Britons Believe Climate Change as Serious as Coronavirus and Majority Want Climate Prioritised in Economic Recovery (Ipsos.com, 2020), https://www.ipsos.com/ipsos-mori/en-uk/two-thirds-britons-believeclimate-change-serious-coronavirus-and-majority-want-climate-prioritised.
- Kurz, Tim, Benjamin Gardner, Bas Verplanken, and Charles Abraham, 'Habitual Behaviors or Patterns of Practice? Explaining and Changing Repetitive Climate-relevant Actions', WIREs Climate Change, 6 (2015), 113–28, https:// doi.org/10.1002/wcc.327.
- Lally, Phillippa, Cornelia van Jaarsveld, Henry Potts, and Jane Wardle, 'How Are Habits Formed: Modelling Habit Formation in the Real World', *European Journal of Social Psychology*, 40 (2010), 998–1009, https://doi.org/10.1002/ ejsp.674.
- Leiserowitz, Anthony, et al., 'Climate Change in the American Mind' (Climatecommunication.yale.edu, 2020), https://climatecommunication. yale.edu/publications/climate-change-in-the-american-mind-april-2020.
- Lorenzoni, Irene, Sophie Nicholson-Cole, and Lorraine Whitmarsh, 'Barriers Perceived to Engaging with Climate Change Among the UK Public and their Policy Implications', *Global Environmental Change*, 17 (2007), 445–59, https:// doi.org/10.1016/j.gloenvcha.2007.01.004.

- Maibach, Edward, Matthew Nisbet, Paula Baldwin, et al., 'Reframing Climate Change as a Public Health Issue: An Exploratory Study of Public Reactions', *BMC Public Health*, 10 (2010), 299, https://doi. org/10.1186/1471-2458-10-299.
- Maréchal, Kevin, and Nathalie Lazaric, 'Overcoming Inertia: Insights from Evolutionary Economics into Improved Energy and Climate Policies', *Climate Policy*, 10 (2011), 103–19, https://doi.org/10.3763/cpol.2008.0601.
- Maréchal, Kevin, 'Not Irrational but Habitual: The Importance of 'Behavioural Lock-in' in Energy Consumption', *Ecological Economics*, 69 (2010), 1104–14, https://doi.org/10.1016/j.ecolecon.2009.12.004.
- Marsden, Greg, Jillian Anable, Tim Chatterton, Iain Docherty, James Faulconbridge, Lesley Murray, Helen Roby, and Jeremy Shires, 'Studying disruptive events: innovations in behaviour, opportunities for lower carbon transport policy?' *Transport Policy*, 94 (2020), 89–101, https://doi.org/10.1016/j.tranpol.2020.04.008.
- Moss, Timothy, Sören Becker, and Matthias Naumann, 'Whose Energy Transition is it, Anyway? Organisation and Ownership of the Energiewende in Villages, Cities and Regions', *Local Environment*, 20 (2015), 1547–63, https://doi.org/1 0.1080/13549839.2014.915799.
- Nicolson, Moira, Gesche Huebner, David Shipworth, and Simon Elam, 'Tailored Emails Prompt Electric Vehicle Owners to Engage with Tariff Switching Information', *Nature Energy*, 2 (2017), 17073, https://doi.org/10.1038/ nenergy.2017.73.
- Peters, Glen, 'How Changes Brought on by Coronavirus Could Help Tackle Climate Change', *The Conversation* (Theconversation.com, 2020), https:// theconversation.com/how-changes-brought-on-by-coronavirus-could-helptackle-climate-change-133509.
- Pettifor, Hazel, Charlie Wilson, David McCollum, and Oriane Edelenbosch, 'Modelling Social Influence and Cultural Variation in Global Low-carbon Vehicle Transitions', *Global Environmental Change*, 47 (2017), 76–87, https:// doi.org/10.1016/j.gloenvcha.2017.09.008.
- Ralph, Kelcie, and Anne Brown, 'The Role of Habit and Residential Location in Travel Behavior Change Programs, a Field Experiment', *Transportation*, 46 (2019), 719–34, https://doi.org/10.1007/s11116-017-9842-7.
- RCUK, Progressing UK Energy Research for a Coherent Structure with Impact Report of the International Panel for the RCUK Review of Energy (Rcuk.ac.uk, 2010), www.rcuk.ac.uk/documents/reviews/reviewpanelreport-pdf.
- Schmocker, Jan-Dirk, Pierre Pettersson, and Satoshi Fujii, 'Comparative Analysis of Proximal and Distal Determinants for the Acceptance of Coercive Charging Policies in the UK and Japan', *International Journal of Sustainable Transportation*, 6 (2012), 156–73, https://doi.org/10.1080/15568318.2011.570 856.

- Thackeray, Stephen, Sharon Robinson, Pete Smith, et al., 'Civil Disobedience Movements Such as School Strike for the Climate are Raising Public Awareness of the Climate Change Emergency', *Global Change Biology*, 26 (2020), 1042–44, https://doi.org/10.1111/gcb.14978.
- Thøgersen, John, 'The Importance of Timing for Breaking Commuters' Car Driving Habits', in *The Habits of Consumption*, ed. by A. Warde and D. Southerton (Helsinki: Helsinki Collegium for Advanced Studies, 2010), pp. 130–40.
- Thompson, Sam, Juliet Michaelson, Saamah Abdallah, et al., 'Moments of change' as Opportunities for Influencing Behaviour. A Report to the Department for Environment, Food and Rural Affairs (London: NEF / Defra, 2011).
- Verplanken, Bas, and Deborah Roy, 'Empowering Interventions to Promote Sustainable Lifestyles: Testing the Habit Discontinuity Hypothesis in a Field Experiment', *Journal of Environmental Psychology*, 45 (2016), 127–34, https:// doi.org/10.1016/j.jenvp.2015.11.008.
- Verplanken, Bas, Deborah Roy, and Lorraine Whitmarsh, 'Cracks in the Wall: Habit Discontinuities as Vehicles for Behavior Change', in *The Psychology of Habit*, ed. by B. Verplanken (Dordrecht: Springer, 2018), pp. 189–205.
- Verplanken, Bas, Henk Aarts, and Ad van Knippenberg, 'Habit, Information Acquisition, and the Process of Making Travel Mode Choices', *European Journal of Social Psychology*, 27 (1997), 539–60, https://doi.org/10.1002/ (SICI)1099–0992(199709/10)27:5<539::AID-EJSP831>3.0.CO;2-A.
- Verplanken, Bas, Ian Walker, Adrian Davis, and Michaela Jurasek, 'Context Change and Travel Mode Choice: Combining the habit discontinuity and self-activation hypotheses', *Journal of Environmental Psychology*, 28 (2008), 121–27, https://doi.org/10.1016/j.jenvp.2007.10.005.
- Whitmarsh, Lorraine, Claire Hoolohan, Olivia Larner, Carly McLachlan, and Wouter Poortinga, *How Has COVID-19 Impacted Low-Carbon Lifestyles and Attitudes towards Climate Action?* CAST Briefing Paper 04 (2020), https:// cast.ac.uk/wp-content/uploads/2020/08/CAST-Briefing-04-Covid-lowcarbon-choices-1.pdf.
- Whitmarsh, Lorraine, and Adam Corner, 'Tools for a New Climate Conversation: A Mixed-methods Study of Language for Public Engagement Across the Political Spectrum', *Global Environmental Change*, 42 (2017), 122–35, https:// doi.org/10.1016/j.gloenvcha.2016.12.008.
- Whitmarsh, Lorraine, Saffron O'Neill, and Irene Lorenzoni (eds), *Engaging the Public with Climate Change: Behaviour Change and Communication* (London: Earthscan, 2010).
- Whitmarsh, Lorraine, 'Behavioural Responses to Climate Change: Asymmetry of Intentions and Impacts', *Journal of Environmental Psychology*, 29 (2009), 13–23, https://doi.org/10.1016/j.jenvp.2008.05.003.

- Whittle, Colin, Paul Haggar, Lorraine Whitmarsh, Phil Morgan, and Dimitrios Xenias, Decision-Making in the UK Transport System. Future of Mobility: Evidence Review, Foresight, Government Office for Science (2019), https:// assets.publishing.service.gov.uk/government/uploads/system/uploads/ attachment_data/file/773667/decisionmaking.pdf.
- Willis, Rebecca, 'How Members of Parliament understand and respond to climate change', *The Sociological Review*, 66 (2017), 475–91, https://doi. org/10.1177/0038026117731658.
- Wilson, Charlie, L. Crane, and George Chryssochoidis, 'Why do homeowners renovate energy efficiently? Contrasting perspectives and implications for policy', *Energy Research & Social Science*, 7 (2015), 12–22, https://doi.org/10.1016/j.erss.2015.03.002.
- Wood, Wendy, Leona Tam, and Melissa Guerrero Wit, 'Changing circumstances, disrupting habits', *Journal of Personality and Social Psychology*, 88 (2005), 918– 33, https://doi.org/10.1037/0022-3514.88.6.918.
- Zhou, Naaman, 'Oxford Dictionaries declares 'climate emergency' the word of 2019' (Theguardian.com, 2019), https://www.theguardian. com/environment/2019/nov/21/oxford-dictionaries-declares-climateemergency-the-word-of-2019.