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Report No.344

Citizens' Views of Climate Action in Ireland: Insights on Media Use, Trusted Sources and Perceptions

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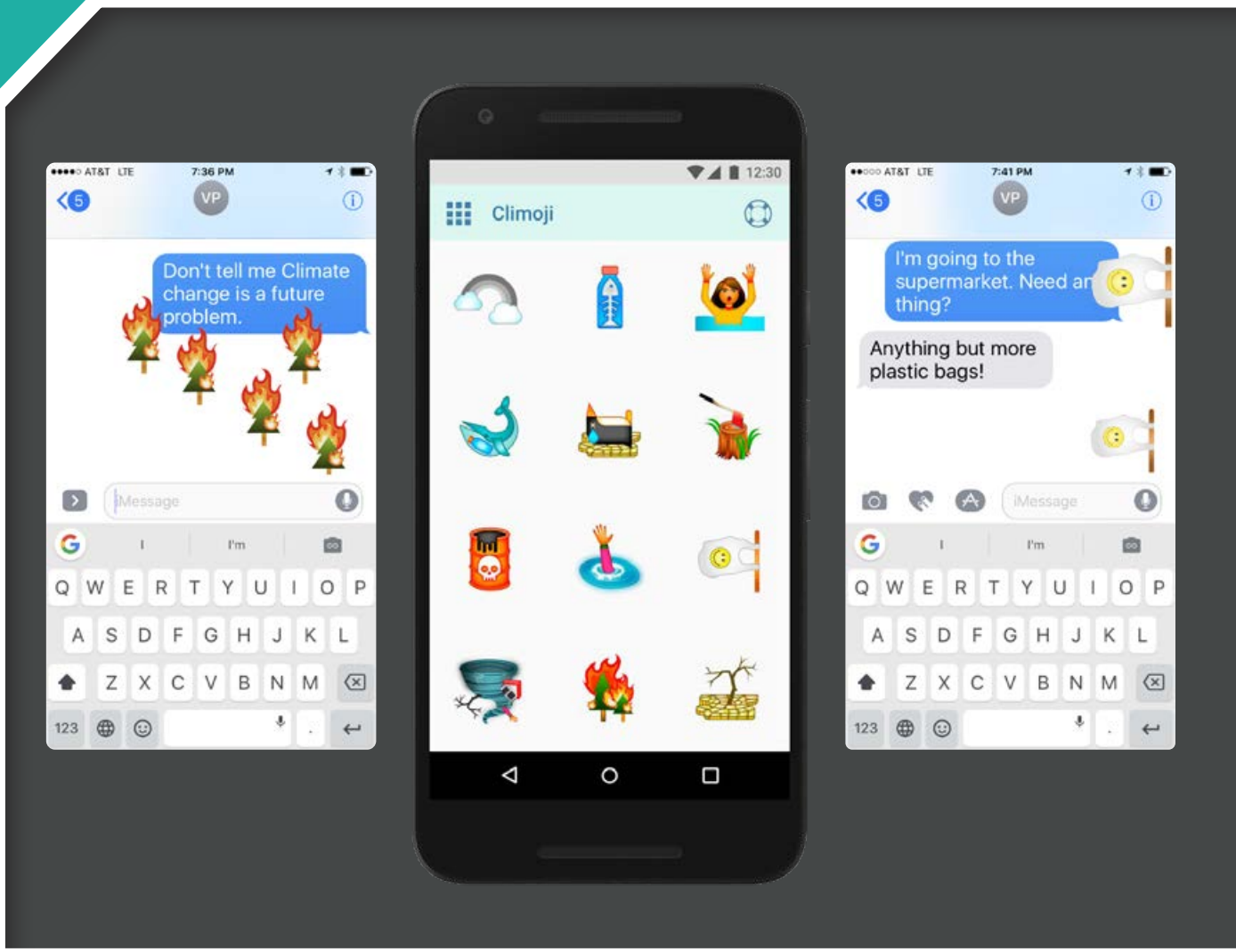

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Rialtas na hÉireann
Government of Ireland

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) is responsible for protecting and improving the environment as a valuable asset for the people of Ireland. We are committed to protecting people and the environment from the harmful effects of radiation and pollution.

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- Office of Environmental Sustainability
- Office of Environmental Enforcement
- Office of Evidence and Assessment
- Office of Radiation Protection and Environmental Monitoring
- Office of Communications and Corporate Services

The EPA is assisted by an Advisory Committee of twelve members who meet regularly to discuss issues of concern and provide advice to the Board.

EPA RESEARCH PROGRAMME 2014–2020

Citizens' Views of Climate Action in Ireland: Insights on Media Use, Trusted Sources and Perceptions

(2018-CCRP-DS.19)

EPA Research Report

Prepared for the Environmental Protection Agency

by

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Cover images are from the Climoji project (http://climoji.org/) led by Marina ZurKow and Vinyata Panya which aims to popularise climate change conversations online through the use of proactive and playful emojis.

This report is based on research carried out/data from January to June 2019. More recent data may have become available since the research was completed.

The EPA Research Programme addresses the need for research in Ireland to inform policymakers and other stakeholders on a range of questions in relation to environmental protection. These reports are intended as contributions to the necessary debate on the protection of the environment.

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Executive Summary

As the physical impacts of climate change become more urgent and the subject of wider public concern, greater understanding of the societal responses will be needed. Therefore, research to support communication about climate action plans and to increase citizen engagement with climate and energy transition is necessary. This project addresses that challenge through an analysis of citizens' views on and media consumption about climate actions in Ireland. By investigating citizens' current understandings of and involvement in climate action, the study sheds light on what additional or new communications messages are needed. Likewise, knowledge of citizens' media use is crucial in the contemporary media landscape where the proliferation of media outlets requires nuanced communications strategies to reach targeted audiences. This report outlines the exploratory research undertaken as part of the project and provides timely, empirical data on citizen engagement as it occurs in the course of daily life.

First, the report provides a systematic review of the literature on media and climate mitigation action to shed light on the wide range of disciplines now undertaking media analysis of this multi-dimensional challenge. The review examines trends in the research questions and methods deployed across disciplinary fields and shows how this project contributes to research on climate change communication. Overall, the review found that the field is dominated by research on energy technology and production and highlighted a need for interdisciplinary research to employ critical approaches in media analyses of climate and energy transition.

Second, the study undertook 10 group discussions with participants ($n = 55$), who also completed a media consumption survey. Participant groups were drawn from diverse communities of interest and geographical locations, including a mother and baby group, a retirement group, community conservationists, community gardeners, youth advocates, local authority workers, teachers, employees of a science research centre and energy sector union representatives. While this does not claim to be a generalisable sample, the findings offer granular insights about the perceptions and media uses of citizens who are concerned about and interested in climate change. However, this also indicates the need for future research on uninterested, disadvantaged and vulnerable groups, who were not included in this exploratory study.

Third, the media survey provides original empirical data on participants' media uses, which can be used to help tailor and target informational content about climate action in Ireland. The survey found that, despite high levels of information-seeking and -sharing, participants indicated that they wanted more information. The findings suggest a need to review informational content, formats and channels/platforms employed in mediated communication about climate action. The data on participants' trusted sources were particularly instructive. They showed that participants were very concerned about conflicts of interest on climate action and that scientists were viewed as reliable sources because they were perceived as objective conveyors of facts. These findings draw attention to the role of trust and transparency in climate action communications and the need to build trust in citizen engagement initiatives.

Fourth, an analysis of the focus group discussions illuminates trends in participants' current understandings of, involvement in and experience of climate action. These findings provide baseline insights for broadening citizen engagement with climate action and highlight new starting points for citizen dialogues in Ireland. For example, the analysis found that very few participants drew on themes identified in international studies, indicating a unique Irish inflection to public discourse about tackling climate change. Overall, participants wanted to see and hear more about the actions and steps that government and business will take. In addition, the research identified a need for more communication about the social and technological impacts of climate action and energy transition. Future engagement initiatives should focus on building affective engagement and addressing potential negative sentiment about climate action, as well as on increasing citizens' public sphere involvement by facilitating opportunities for collective and community-based actions.

Fifth, the final chapter synthesises the key findings and outlines strategies for broadening citizen engagement with climate action and energy transition. The findings and recommendations in this report on media and everyday engagement with climate action are highly significant in the context of the COVID-19 pandemic, where the need to reduce face-to-face meetings will place greater emphasis on mediated engagement initiatives in the short term.

1 Communication and Climate Action

1.1 Engaging Citizens with Climate and Energy Transition

> We cannot invent our way towards a low carbon future without also engaging society … what is at stake is not a simple choice between different paths to the future, but rather a complex and negotiated process. (Bulkeley *et al.*, 2011, p. 27)

Climate change has been described as "the biggest challenge to humanity in the twenty-first century" (Ban, 2007). This is not only because of the expected physical impacts in terms of increasing extreme weather, or the impacts on citizens' livelihoods and on economies, but also because it is a "wicked problem". That is, climate change intersects with just about every other area of life. Therefore, tackling climate change encompasses critical social questions about energy, diet, transport, inequality, poverty and foreign policy and involves radical social transformation associated with regime change. In other words, as a multi-dimensional challenge, tackling climate change entails making choices about different transition pathways. Furthermore, if we are to succeed in responding to the scale and urgency of the challenge, societal involvement in the form of widespread citizen engagement is required. As a result, decisions about tackling climate change must be negotiated socially. Therefore, communication about climate change must include public discussion of climate responses as well as citizen engagement with climate mitigation and energy transition.

But what do the public know about tackling climate change or climate mitigation action in Ireland? Do citizens understand the complexity of the challenge or the multi-faceted processes for responding to climate change? Addressing climate change as a "wicked problem", this project investigates citizens' current perceptions of climate action in Ireland against a backdrop of an increasingly urgent need for societal decarbonisation, growing public concern about climate change and the need to motivate and mobilise widespread citizen engagement with carbon reduction activity and energy transition. In addition, given that most people rely on a proliferating range of media channels and platforms to access information about climate change, mapping both citizens' media consumption and trusted sources on climate actions is also imperative. Therefore, the study also examines how citizens come to know about different climate actions and sheds light on how citizens engage with climate action in the course of daily life.

1.1.1 Media and everyday engagement with climate action

Developing citizen engagement with climate change is a major research and policy concern in Ireland. This study contributes to the growing number of projects funded by the Environmental Protection Agency (EPA) by undertaking critical communications research and providing a media and communications perspective on engaging citizens. It complements recent studies employing governance and sociological frameworks for understanding citizen engagement, for example the development of climate policy and the design of deliberative processes for engaging citizens in policymaking (Torney, 2018; Devaney *et al*., 2020), sociological analyses to develop participatory dialogues (Desmond, 2019) and community engagements with low-carbon transitions (e.g. the Imagining 2050 project; see https://www.ucc.ie/en/imagining2050/).

This study employs two significant insights from the communications literature on public engagement with climate change. First, it investigates citizen engagement as "a state of mind" rather than a public event or process for generating citizen support. This approach defines engagement with climate mitigation as "a personal state of connection with the issue of climate change, in contrast to engagement solely as a process of public participation in policy-making" (Wolf and Moser, 2011, p. 550). Second, it examines engagement as an inter-related concept involving cognitive, affective and behavioural–political dimensions (Moser, 2009; Carvalho and Peterson, 2012). Affective engagement is significant because, as Stoknes (2015) points out, feelings drive concern and compel us to action. Thus, the analysis also

draws attention to the role of emotional processes in connecting citizens with climate change to motivate action.

Given the omnipresence of media devices in daily life, an analysis of citizen engagement also requires a greater understanding of citizens' media consumption and practices. Media devices act as channels or conduits for textual, visual and symbolic content about climate action. As channels, print and broadcast media provide a platform for public debates, and media coverage also shapes public perception and opinion. As conduits, the interactive capabilities of digital media provide new opportunities for participatory engagement through information-sharing, liking and comments.

1.2 Research Aims and Methods

This project set out to investigate the state of knowledge on communicating climate mitigation actions. It aimed to synthesise the range of disciplinary approaches now examining citizen engagement with climate mitigation and energy transition (henceforth referred to as climate action). The study also sought to provide a snapshot of citizens' views on climate action and to map their media uses through a small number of focus group discussions ($n = 4$). However, the project development stage coincided with the first international student marches and the long-awaited response to the Third Citizens' Assembly on Tackling Climate Change.[1] To capture this public and media interest in tackling climate change, the project increased the field work component and narrowed the scope of the literature review to focus on media studies and climate mitigation actions. The revised project therefore provides recommendations based on a larger group of citizens and addresses the need for empirical data to support ongoing climate communications initiatives such as the National Dialogue on Climate Action (NDCA), the Climate Action Plan (CAP) and the Climate Action Regional Offices (CARO).

1.2.2 Overview of methods

The research project commenced in January 2019 and employed a mix of quantitative and qualitative approaches. The methodological strategy involved the collection of data from 10 focus group discussions at which participants also completed the media consumption surveys. The project also reviewed the literature on media studies of climate actions to identify trends in media studies of climate mitigation and energy transition.

The study involved 55 participants and this number reflects international best practice for focus group research on climate and science topics (Olausson, 2011; Barba-Núñez *et al.*, 2018; Becker and Sparks, 2018). While views on the ideal number of participants for a focus group vary, most scholars agree that it is best to avoid oversized groups (Olausson, 2011). Thus, the focus groups were designed with 3–8 participants in mind to allow all voices to be heard and enable a diversity of opinions to emerge.

The research project received ethics approval from the School of Natural Sciences, Trinity College Dublin, Research Ethics Panel (reference number: 2019–01). In line with best practice, participants were all aged over 18 years. Participant recruitment commenced in February 2019 and the data collection phase was conducted between March and May 2019. In line with research integrity and ethics guidelines, participants were recruited based on informed consent and were assured that their responses would remain confidential. Confidentiality was achieved by anonymising the data at the point of data collection.

The media survey comprised closed (yes/no) questions, multiple-choice questions and open (qualitative) questions to elicit general opinion on media consumption and to identify trusted sources. The survey questions were formulated in gender-neutral language and based on a synthesis of comparative surveys of media use (see Chapter 3). The survey aimed to provide descriptive statistics on participants' preferred channels, conduits and trusted sources for information about climate action in Ireland.

1 The Joint Committee on Climate Action (2019) presented a cross-party response to the recommendations of the Citizens' Assembly examining Irish Climate Leadership (April 2018). The Department of Communications, Climate Action and Environment (2019) set out annual government actions to tackle climate breakdown and to help meet Ireland's 2030 climate commitments. The plan includes 183 actions across every sector and includes a commitment to a just global transition, community and citizen engagement activities and a series of regional engagement meetings led by the Department of Communications, Climate Action and Environment. The data collection for this study therefore precedes publication of the government's CAPs.

Additional questions asked participants to provide information related to their (1) general views and attitudes towards climate change and (2) age, gender, location and educational level. These questions helped to construct a more detailed account of participant demographics. The questionnaire is available in Appendix 1.

Participants completed the survey at the start of the focus group session. This allowed the researcher to oversee the completion of the questionnaire and address any questions that participants may have had. The focus group discussions began with a question about media coverage of climate change to encourage a general discussion about participants' experiences of media and information-seeking on the research topic. This question, which naturally followed from the final survey question, was considered an easy opening topic and likely to encourage wide debate among the group. The discussions were thematically analysed employing a conceptualisation of public engagement as a state of mind (Lorenzoni *et al.*, 2007). This framework also defines engagement as an inter-related concept comprising cognitive, affective and behavioural–political dimensions. The list of focus group topics can be found in Appendix 2.

1.2.3 Participant recruitment

The project aimed to include groups with a range of environmental perspectives as well as expert and non-expert backgrounds (Table 1.1). Thus, the recruitment process identified pre-existing social groups (e.g. retirement group, mothers) that would provide a range of views as well as diversity in terms of age, gender, location and occupation. While a large number of groups were contacted to meet these objectives, it was not possible to specifically identify and recruit participants with climate denial views within the short timeframe for data collection. It is also important to note that the focus group discussions and survey data do not aim to provide statistical or generalisable information. Rather, the strength of the findings lies in their in-depth insights on (1) what citizens know, experience and do about climate action and (2) trends in citizens' media consumption. The socio-demographic profiles of the participants are presented in Figures 1.1–1.4.

1.3 Report Structure

This chapter introduced the research project and its focus on climate mitigation actions and outlined how a media and communications perspective contributes to engaging citizens with climate and energy transition as part of daily life. Chapters 2, 3 and 4 present the empirical findings and provide a detailed discussion of the methods employed. As highlighted earlier, the data collection period preceded the publication of the government's CAP in July 2020. The final chapter summarises the project findings and outlines the main recommendations. It provides suggestions for communication about climate action policy and identifies new starting points for stakeholder communications initiatives aimed at engaging citizens with climate actions and "A Just Transition". The final chapter also provides some unexpected findings relating to participants' views on the Third Citizens' Assembly on Climate Leadership and their awareness of the EPA.

Table 1.1. Profile of participant groups

Participant group	Focus group no.	Group size and gender	Age of participants (years)	Location of group meeting
Retirement group	FG1	5 females	All >65	Dublin
Local authority workers	FG2	5 females, 1 male	30–60	Dublin, Greater
Teachers/climate ambassador	FG3	4 females, 1 male	30–50	Dublin
Mother and baby group	FG4	6 females	30–40	Galway
Urban/community gardeners	FG5	3 females, 1 male	25–50	Dublin
Local authority workers	FG6	4 females, 3 males	25–60	Dublin, Greater
Community conservationists	FG7	3 females, 5 males	40–70	Offaly
Science research institute employees	FG8	2 females, 3 males	25–50	Galway
Energy sector union representatives	FG9	3 males	50–60	Dublin
Youth advocates/activists	FG10	3 females, 3 males	18–24	Dublin

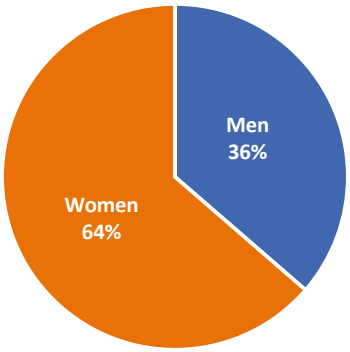

Figure 1.1. Participant gender distribution.

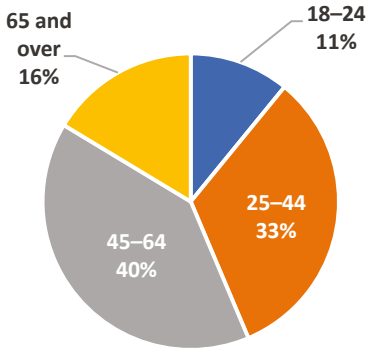

Figure 1.2. Participant age distribution (years).

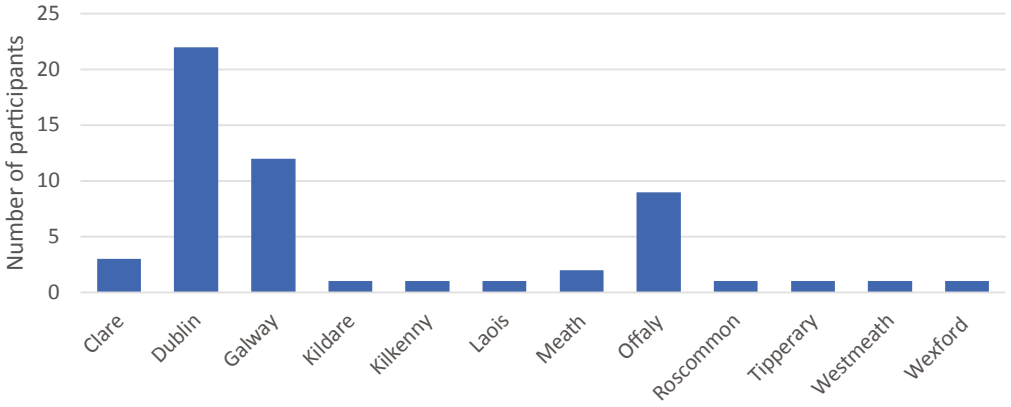

Figure 1.3. Participants' place of residence.

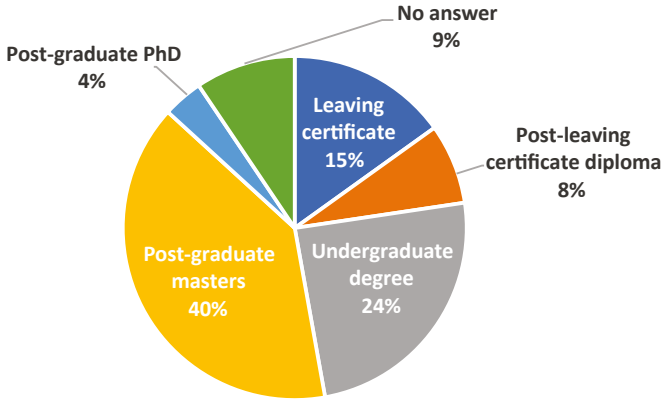

Figure 1.4. Participants' educational levels.

2 Media and Climate Mitigation Actions: A Review

The broad field of climate change and energy communication provides a rich body of theory and empirical research on which to draw when analysing citizens' views of and media use around climate actions. This chapter contributes to that field with a review of the scholarly research on media and climate mitigation actions. It advances knowledge of climate change communication by zoning in on "climate actions" (as opposed to the communication of climate science, impacts or risks) and by integrating media and climate actions research, which is currently dispersed across a range of disciplines. The aim is to systematically examine how researchers investigate the relationship between media texts and CAPs, and to situate this research project in the emerging field of studies examining the societal responses to climate change.

Reviews of the communicative aspects of climate change are a burgeoning field of study. The last 5 years has seen the publication of several edited volumes (Whitmarsh *et al.*, 2010; Nisbet *et al.*, 2017) as well as new journals (such as *WIREs Climate Change*) and dedicated review articles (Nerlich *et al.*, 2010; Wolf and Moser, 2011; Pearce *et al.*, 2015; Moser, 2016). These studies have covered significant ground, including the history of climate change research, the role of values, public perceptions and communication theory. Within this large body of knowledge, a subset of studies have focused on media analyses of climate change (Olausson and Berglez, 2014), with studies undertaken of climate change online (Schäfer, 2012), social media (Pearce *et al.*, 2018), visual media (Doyle, 2011) and comparative news media (Luedecke *et al*., 2016). However, several researchers have pointed to the need for more nuanced studies of news media representations, for example by examining stakeholder influence on media framing of climate change (Anderson, 2011) or local media narratives (Howarth and Anderson, 2019). Others, challenging the media-centric emphasis, have called for audience studies of climate change reporting (Olausson, 2011) or tripartite studies of media content, production and reception (Hansen, 2011). At the same time, developments in the contemporary media system as a result of the turn to mobile media, the omnipotence of social media and the influence of artificial intelligence have also affected traditional understandings of the relationship between the media and various publics. Finally, Moser (2016) notes that there is now an accumulation of studies examining communications of specific mitigation actions, such as energy communication (Cozen *et al.*, 2018), as well as carbon capture and storage (Howell *et al.*, 2014), but that reviews of climate communications literature have yet to synthesise this field or chart trends. Related to this, Wolf and Moser (2011) and Becker and Sparks (2018) point out that very few studies have qualitatively analysed understandings of climate mitigation or provided insight into the dynamics of how particular ideas about climate actions are shaped. This indicates a need to examine how researchers approach media analyses of climate and energy transition.

Given the wealth of reviews covering the period 2000–2010, this review analysed studies from 2010 to 2019. The review does not claim to be exhaustive. Instead, it collects a broad range of published papers offering insight into the development and trajectory of studies about media and climate actions. The aim is to synthesise the diversity of research perspectives examining media and the societal dimensions of climate action to provide indicative insights for future research.

2.1 Method

The review drew on principles of systematic analysis (Petticrew and Roberts, 2006) and produced a qualitative summary of the research topic. Consistent with standard procedures for conducting systematic analyses, the researcher developed a search string (based on Comfort and Parks, 2018; see also Schäfer, 2012) and defined inclusion and exclusion criteria to conduct a comprehensive search of the peer-reviewed literature (see Appendix 3 for a discussion of search terms).

A keyword search of Web of Science (WoS) for studies on media and climate mitigation actions was undertaken for the period 2010–2019. The search identified 734 articles, which were then subjected to

a two-stage selection process as follows. First, the title and abstract of all articles were read to identify relevant studies based on predetermined inclusion and exclusion criteria. The principal criterion for inclusion was a strong focus on understanding the relationship between media texts and citizen awareness, perception and engagement with climate responses (i.e. the article was primarily about media texts, platforms and channels). This included empirical findings on media representations (i.e. framing, discourses, narrative, visual representations, content or language use) as well as citizens' understandings or interpretations of media representations and/or audience consumption of media channels/texts about climate mitigation actions, identifying citizens' media use, experience and practices. Studies were excluded if (1) there was a tangential reference to mass media or climate actions (i.e. climate mitigation and energy transition), or (2) media representations of climate actions did not constitute a key subject of the article or audience consumption of media channels/texts about climate mitigation actions was a relatively minor part of the empirical or theoretical work of the article. After excluding duplicate articles and following the above process, 49 articles were read in full and 46 studies were identified as relevant to this literature review.

2.2 Media Analyses of Climate Mitigation and Energy Transition

A preliminary analysis of the bibliometric characteristics indicates that this is an emerging field of interest across a range of disciplines and that studies are predominantly published in environmental communication journals. While the studies are reasonably dispersed geographically, the field is dominated by US- and UK-based research, although we also identified several European studies. As might be expected, due to ease of data collection, these studies primarily focus on print media analysis, although an increasing number of studies now investigate online and social media.

2.2.1 Climate action as an object of analysis

Media analyses of climate action fall into four distinct categories: (1) studies of climate change as a wicked challenge, (2) climate and energy policy, (3) analyses of mitigation activities and (4) examinations of energy technologies and production.

Studies of climate action as a wicked challenge constitute the dominant research approach to understanding climate responses and they are the main unit of analysis for media studies across the timeframe. These studies define climate action broadly and include analyses of climate change impacts and solutions, climate and energy challenges and creative carbon compounds. Within this literature, an early body of studies examined media representation of creative carbon compounds (i.e. new lexical compounds about carbon, such as carbon finance), to understand the linguistic resources available for public discourse and for shaping public perceptions of climate action. According to these authors, lexical compounds such as "carbon footprint" are significant as they represent ubiquitous and patterned systems of language that are also communicative tools with the potential to influence the social imagination of environmentalism (Nerlich and Koteyko, 2010).

Media representations of climate and energy policy, including analyses of political statements and press releases, are another prominent research interest. These studies highlight policymakers' perspectives on climate action and the discursive drivers of climate politics. Studies of media and climate mitigation activities are the least examined aspect. This is consistent with the critique that news media representations primarily focus on elite actors' concerns with regard to climate action and crowd out the socio-cultural dimensions. These studies are broadly divided into two subgroups, one focusing on press and broadcast media treatment of societal decarbonisation, and another examining online/web applications for promoting energy efficiency and energy behaviour.

Recent research has focused on representations of new energy technology, for example examining how press coverage contributes to the diffusion of renewable energy technology, as well as media treatment of energy production and related energy security concerns. In general, these studies highlight the tendency of news media to present technological solutions as opportunities and the absence of media discussion of risks of new technologies. This is significant as societal discussion of risks associated with technology is recognised as a crucial element of responsible research and innovation and contributes to upstream dialogue in science and technology studies. Related to this, the two most recent studies in this

review examine media coverage of energy debates to understand the contentious aspects of energy transition and how media treatment balances the discussion of climate responses with local and national concerns about energy and economic security. These studies underline the value of critical analysis of media texts and of insights on the social context of transition pathways. For example, Lehotský *et al.* (2019) found that the representation of coal mining in the Czech press marginalises the discussion of climate change and the environmental aspects of coal phase-out and therefore supports a contradictory policy environment. Likewise, examining the political nature of energy advertising, Lempinen (2019) found that nationalistic arguments have been deployed over time in peat production in promotional campaigns to maintain public support.

2.2.2 Methods for analysing media

Media are the means of communication that distribute content – such as text, images and sound – to an anonymous and spatially dispersed public via technical means (McQuail, 2010). As such, media analyses may be employed to examine traditional media channels such as print and broadcast media and/or new media conduits such as social media, online or web applications. In addition, much media analysis of science and environmental challenges focuses on the role of traditional and new media in public debates. These studies, drawing on the Habermasian concept of the public sphere (Habermas, 1989), examine the role or influence of the media as a forum where social groups and actors struggle over the framing, definition and construction of issues of public concern, especially environmental challenges and climate change (Carvalho, 2010). Thus, the media are considered an important channel for conveying, translating, interpreting and giving meaning to the complex scientific and policy aspects of climate change. Based on this, media theory posits that news media representations influence public opinion, perceptions and engagement with scientific and environmental issues. However, transformations in the contemporary media landscape, across both its political–economic and technological axes, represent a challenge to traditional conceptualisations of media power, mass audiences and the media–audience relationship. For example, the omnipotence of social media and the turn to mobile media has led to the fragmentation of media and audiences. This challenges longstanding theories of mass media power and, thus, assumptions of print and broadcast media's social shaping influence.

Despite this, the most notable feature of media studies of climate action is the prominence of print media analyses and the small body of recent work examining new media. Moreover, the focus on print media textual analysis, with just three studies of visual content, stands out given the widely accepted influence of visual communications on public awareness and understanding of climate change.

In general, researchers examined media to shed light on the socialisation of the debate about climate action. These studies defined the public and focused on either policymakers and the political class (Dolšak and Houston, 2014) or, less often, the general public (McNally, 2015). Researchers also focused on analysing media content (textual and visual representations) rather than media technologies (Scheele, 2015) and examining related audience practices and uses (discussed below). Interestingly, several studies draw on qualitative methods, employing framing, discourse and thematic analyses (TAs). However, studies of the influence of media ownership on coverage and the ideological or economic factors shaping public perceptions and knowledge were notably absent. Analyses of visual content or in-depth new media analyses were also rare. Instead, researchers focused on the media's agenda-setting role and assumptions of (mass) media effects.

2.2.3 Media audience studies of climate action

While interest in audience studies has grown, it remains the least examined aspect of media studies and climate action. Overall, the focus is on understanding audience types or segments as part of efforts to develop more effective climate communications. In other words, these studies primarily aim to identify informational triggers for communication about pro-environmental behaviour. Consequently, audience reception studies primarily investigate media effects (Howell, 2011; Happer and Philo, 2016), although some studies use this approach to show how news representations of climate politics can enhance political efficacy and build political engagement with climate action (Cross

et al., 2015). A second set of studies, looking at what audiences do with media, examines media choices and information-seeking preferences. Metag *et al.* (2017) examined whether German citizens' attitudes to climate change related to patterns of media use with the aim of tailoring climate change communications messages. Although this approach prioritises audience agency, the focus is on understanding the role of media use and related variables on climate action beliefs, perceptions and policy support. In other words, researchers draw on a limited view of audience agency as they explore only marginally the wide range of theories relating to active audiences and the potential for audience participation in the digital media environment. Overall, very few studies engage with the significance of media technologies as central to everyday life and the part played by media consumption and/or citizens' information-seeking choices.

2.3 Advancing Media Studies of Climate Action

Given the range of processes for tackling climate change and the media's role as a platform for public debate and as a space for everyday engagement with societal issues, it is crucial to map the scope and direction of media research and climate action. This analysis examines what dimensions of climate action researchers target as their unit of analysis. It shows that while the overall body of scholarly research defines climate action as a wicked challenge and focuses on the issue broadly, recent studies prioritise analysis of energy technology and production.

The dominant analytical frameworks employed to examine media representations and to understand the relationship between media texts and audiences employ mass-media theories of agenda-setting and media effects. Interestingly, these studies focus on understanding the socialisation of media debate among political classes and policymakers rather than general publics. Moving forwards, contemporary analyses of online media and audience are also needed.

Although research has shown that media play a part in informing and engaging citizens with environmental issues and specifically with climate change, very few studies investigate media consumption and/or citizens' information-seeking choices. Within this small body of work, researchers primarily investigate how different audiences read or interpret media texts. This narrow conceptualisation of audience agency and limited attention to audience practices and cultures is highly significant given the media's influence as a space of everyday engagement with climate action.

The review of the level of knowledge about media and climate mitigation actions found that the field lacks a sufficient focus on research questions addressing contemporary issues in media studies, such as analyses of media production and the challenges associated with social media, as well as media reception and consumption studies. Moving forwards, there is a need for more nuanced analyses of new(s) media, audiences and climate action. This is particularly relevant in the short term given the requirement for social distancing as a result of the COVID-19 pandemic, which will increase the need for mediated engagement initiatives.

3 Survey of Media Consumption and Trusted Sources

3.1 Background

While there is consensus about the need to communicate with citizens about climate change, insights on citizens' encounters with information about climate action in everyday life are sparse. This is significant for two reasons. First, the changing media landscape and increased media conduits for accessing and sharing information about climate action, as well as audience fragmentation, increase the need to identify and map media consumption around climate actions in Ireland. Thus, the survey questions focus on how participants use media as spaces for engaging with climate actions in daily life. Second, the survey provides a snapshot of the extent of the migration to social media and digital platforms for information-seeking and -sharing about climate action and, therefore, the need for nuanced communication about climate action.

This chapter reports on the findings of a survey on citizens' media consumption around climate actions in Ireland. The findings shed light on the media spaces where climate actions are presented, discussed and possibly collectively acted on, as well as on identifying the trusted sources about climate actions. These insights can be drawn on by a range of stakeholders to help tailor and target climate action communications.

3.1.1 Method and analytical approach

The questionnaire explored whether and how participants access information about how we respond to climate change (e.g. whether it is through news media, friends or social media). It also examined participants' views on how the media and other trusted sources present information about the specific climate actions that should be adopted in Ireland (see Appendix 2). However, it is important to note that surveys rely on recall and self-reporting, which is subject to bias. To mitigate these risks, the survey instrument was developed in the preparatory phase of the study and tested prior to use. The questionnaire design was based on related climate change attitudes and news media consumption surveys and the questions were adapted to focus on climate actions. Basing questions on related international surveys also provides an opportunity to compare findings and identify commonalities and differences with respect to media consumption on this topic. Thus, it highlights whether there are unique aspects to information-seeking and -sharing about climate action and sheds light on the extent to which media consumption around environmental and techno-scientific debates differs from news consumption of social issues more broadly.

Material drawn from existing surveys includes socio-demographic questions based on those from the Central Statistics Office, climate change attitudes and perceptions [Six America's Super Short Survey (SASSY[2])], climate mitigation actions (EC, 2011, 2017) and media consumption patterns from *The Digital News Report Ireland* (Kirk *et al.*, 2019).

The survey asked two additional questions relating to understanding participants' engagement with climate action in everyday life. An open question asked about the most memorable information on tackling climate change (relevant to understanding affective engagement) and the multi-sectoral aspects of climate action (relevant to understanding cognitive engagement). The final open question provided an opportunity for participants to make any additional comment.

As discussed (see section 1.2.3), participants completed the survey by hand and these data were subsequently input into Microsoft Excel for analysis. The open/qualitative components of the questionnaire were transcribed, coded and analysed for repetition of particular themes (words, concepts and discourses) as well as for evidence of radically conflicting responses. It is important to note that while the survey includes questions on participants' perceptions or understanding of climate action, this is not an audience reception study. This project did not set out to draw insights from citizens' knowledge based on their media consumption.

2 Six America's Super Short Survey developed by the Yale Program on Climate Change Communication (see https://climatecommunication.yale.edu/about/projects/global-warmings-six-americas/).

3.2 Findings

The findings are presented in three sections relating to (1) participants' perceptions of climate action, (2) participants' media consumption trends and (3) participants' trusted sources.

3.2.1 Perceptions of climate change and climate action

The following responses shed light on potential gaps in participants' knowledge of climate change and climate actions in Ireland, which can be used to understand informational needs. It includes responses to the SASSY survey question, which categorises six levels of concern about climate change: Alarmed, Concerned, Cautious, Disengaged, Doubtful and Dismissive.

- Participants self-reported very high levels of knowledge about climate actions (Figure 3.1). The majority (73%) claimed that they were "reasonably knowledgeable", which is consistent with the high education level in this sample.
- The SASSY assesses participants' views on climate change and sorts respondents into audience groups based on their answers to four questions. Participants in this study were primarily in the Alarmed group (67%), followed by the Concerned (31%) and Cautious (2%) groups.
- As a "wicked problem", climate change involves complex inter-dependencies and may be defined in several ways (Hulme, 2009). While participants recognised this complexity (Figure 3.2), the technological and moral dimensions of tackling climate change in Ireland recorded fewer mentions than the environmental and economic dimensions, or the need for government action. While this difference is slight, it highlights a potential gap in the socialisation of climate change in Ireland and therefore represents a fruitful topic for climate action campaigns and related engagement initiatives.
- Interestingly, while these participants connect climate change with the need for behaviour change, fewer made the association with over-consumption and the need to reduce resource use as part of the societal responses. This could indicate that behaviour change is primarily understood within consumer culture rather than as challenging social norms around consumption. This suggests that more nuanced discussion of behaviour change and resource use represents an important topic for climate communication initiatives.
- Participants were also asked to assess the level of publicly available information about the different dimensions of climate action. The data suggest that citizens feel most informed about the rationale for tackling climate change (Figure 3.3) but lack information about the policy or economic benefits (Figure 3.4) and the science or technological aspects of climate action (Figure 3.5). In particular, the findings indicate the need for more communication about the science and technologies for reducing carbon emissions.

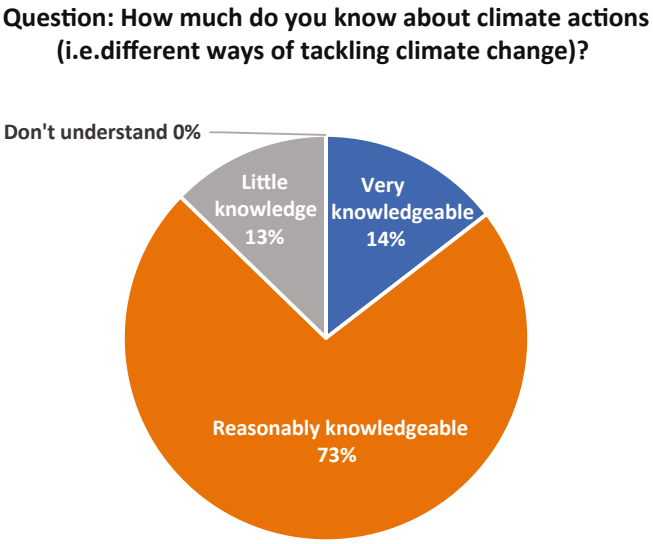

Figure 3.1. Level of climate action knowledge.

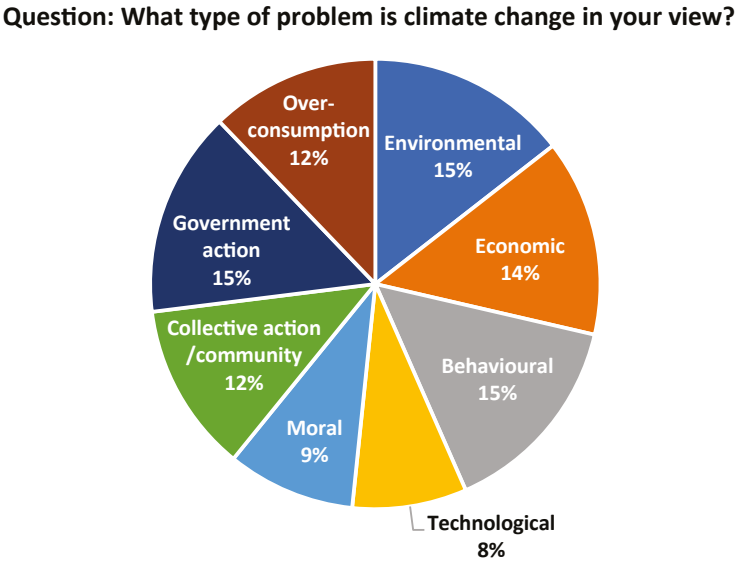

Figure 3.2. Perception of the kind of problem climate change is.

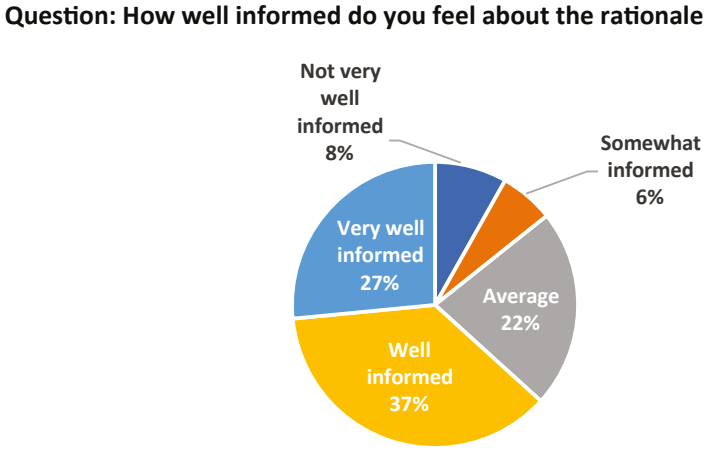

Figure 3.3. Level of information on the rationale for tackling climate change.

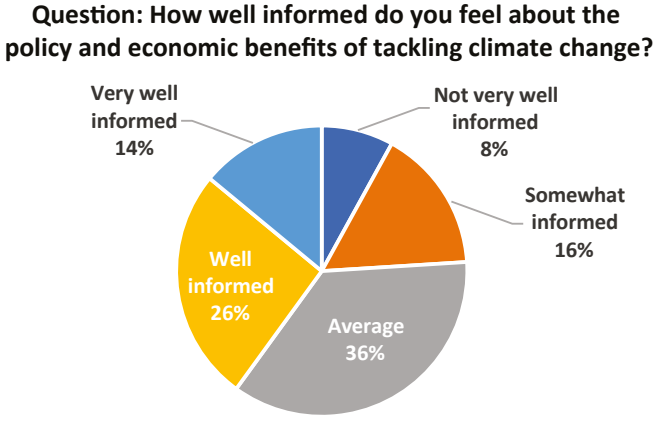

Figure 3.4. Level of information on the policy and economic benefits of tackling climate change.

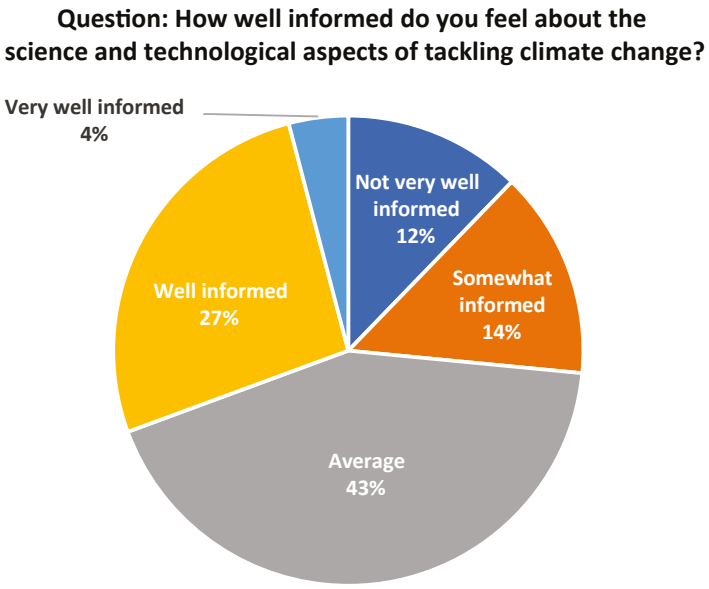

Figure 3.5. Level of information on the science or technologies for reducing carbon emissions.

3.2.2 Media consumption trends

The following responses on participants' media use and information-seeking and -sharing in relation to climate action information provide insights for targeting and tailoring communication messages.

Media use and information-seeking trends

- The majority of participants actively look for information about climate action (Figure 3.6). In addition, more than half of participants responded that they often (i.e. more than once a week) incidentally come across information about how to tackle climate change (Figure 3.7). Reasons for active information-seeking were (1) education ($n = 13$) – to keep informed and learn about actions; and (2) playing my part ($n = 15$) – because of environmental concern, feeling guilty and to make a difference. These reasons suggest that these interested and concerned participants are primarily driven by a sense of environmental duty and responsibility.
- Other reasons for seeking information included (3) to reduce energy consumption ($n = 6$), (4) to be able to talk about the global challenge or spread the word about climate change ($n = 4$) and (5) concern for future generations ($n = 3$). Relatively few participants sought information to learn more about reducing consumption, and very few indicated that they were motivated by concern for future generations. This raises interesting questions for the visual communication of climate actions and in particular for the trend in promotional campaigns to focus on images of future landscapes and technology.
- Those not actively seeking information highlighted (in order of prevalence) (1) lack of time, (2) come across information without looking for it, (3) never thought about looking for it and (4) do not need more information. These findings on the context of citizens' information-seeking offer insights for improving communications practice. First, interested and concerned citizens are often time-poor, and many are juggling demanding careers, long commutes and growing family responsibilities. Thus, communications that can be incorporated as part of contemporary family lifestyles should be considered (discussed further below). Second, it indicates that citizens regularly encounter information about climate change actions via advertising and personalised, targeted information as part of their daily media diet. This trend, associated with the rise of distribution platforms for everyday information-seeking, is a highly significant aspect of citizens' daily engagement with climate action.
- Participants reported that they used a range of new and traditional media in their information-seeking. RTÉ1 and the British Broadcasting Corporation (BBC) channels were the most named TV stations and *The Irish Times*, *Irish Independent* and digital versions of newspapers were the

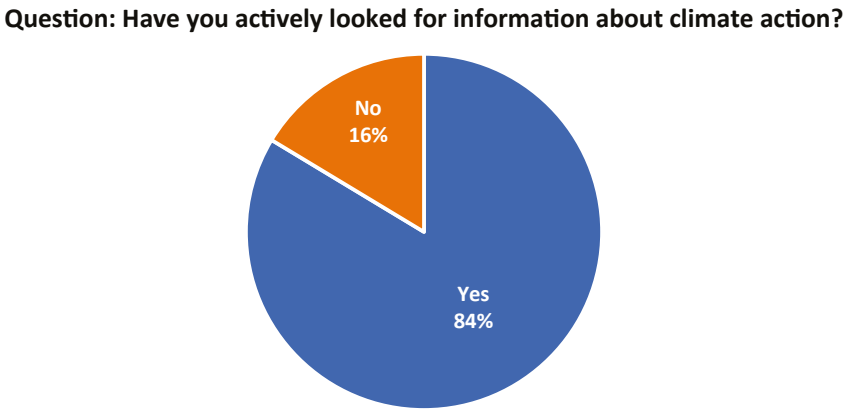

Figure 3.6. Percentage of respondents who actively look for information about climate action.

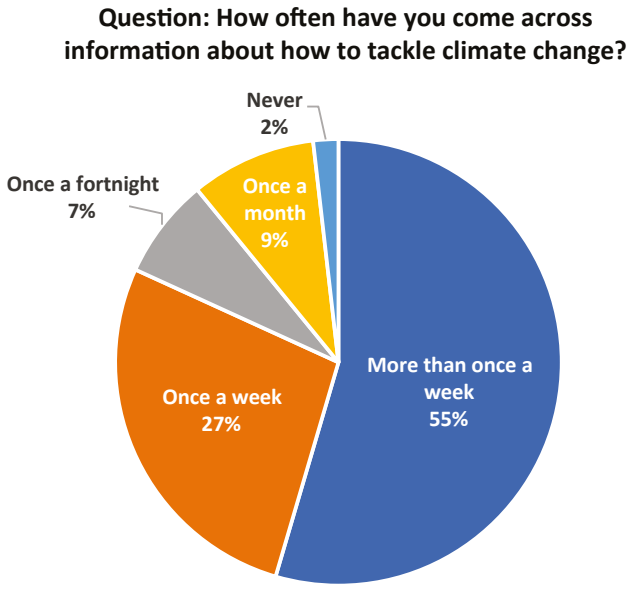

Figure 3.7. Frequency with which respondents have come across information on climate action in the last 30 days.

most named publications. While the majority of responses referenced national print and broadcast media, there were fewer responses to questions about radio use on climate action. However, consistent with recent news media consumption surveys, the youth advocate group also reported podcast usage.

- The most cited programme was BBC One's *The Blue Planet*, followed (in order of prevalence) by various nature programmes and current affairs shows. The popularity of *The Blue Planet*, an entertainment documentary series, indicates the influence of popular culture on everyday engagement, and this source of information is also easily accessible for time-poor audiences. This show can be viewed on demand and has a compelling visual aesthetic and a strong dramatic narrative. Thus, the programme corresponds with family life and viewing needs and also provides a common reference point for participants to discuss climate change with family and friends.
- The migration to mobile devices and platforms as part of daily media diets also influences information-seeking about climate action. The majority ($n = 33$) across all groups (and therefore ages) used smartphones, as well as laptops and tablets. Participants' internet use highlighted the significance of Google, YouTube and stakeholder websites as major resources for climate action information.
- As might be expected, social media use focused (in order of prevalence) on Twitter, Facebook, Instagram and YouTube. However, the prominence of Twitter among our participants

is consistent with their reported educational level and occupational interests (i.e. teachers/ advocates, union representatives, science organisation members and community activists) and is unlikely to be replicated across studies with larger sample sizes. The absence of Snapchat is noteworthy, especially as this platform includes apps to news organisations and is popular among younger audiences (especially 18- to 25-year-olds). The rise of social media use and potential dis/misinformation is highly significant. Studies of YouTube and Google have shown that concerns about artificial intelligence and algorithms on searches are an important trend to monitor. Allaiger (2019) found that YouTube searches promoted climate science misinformation.

- Several participants ($n = 16$) also called for more public events, which reflects the preference for face-to-face meetings. The use of WhatsApp as an information source, while small ($n = 4$), is a significant trend for climate communications to consider, given concerns about the growth of fake news around social issues.
- Despite high levels of climate action information across a variety of media, the majority of participants (84%) felt that there was not enough information, while just 9% agreed that there was the right amount of information and 3% said that there was too much. One explanation for this anomaly is that existing information formats, channels or content do not fit with audiences' needs or expectations. In other words, participants do not connect with the way they receive information and/or the type of information they access and thus it does not register.
- Data on preferred information formats are illuminating (Figure 3.8). Film/documentaries or videos were the preferred format for finding out about climate actions across all groups (28%). This is in line with the popularity of the documentary series *The Blue Planet* and further highlights the prominent role of popular culture in citizen engagement with climate action in everyday life.
- It is also worth noting the low ranking of lists of actions (12%) and infographics/visual images (14%). This suggests that these (well-educated) participants seek formats offering more in-depth content on this multi-faceted challenge. Visual communication research suggests that images are a powerful form for engaging citizens (O'Neill and Smith, 2014). This finding highlights that, while powerful, visual images alone do not provide the information content participants require to engage with the complexity of climate action.

Information-sharing trends

- Information-sharing among participants is reasonably high, with over half the participants self-reporting they do so often (57%; Figure 3.9) and the majority of participants discussing their information-seeking with family and friends (60%; Figure 3.10).
- As might be expected, Facebook and Instagram are major media conduits for information-sharing

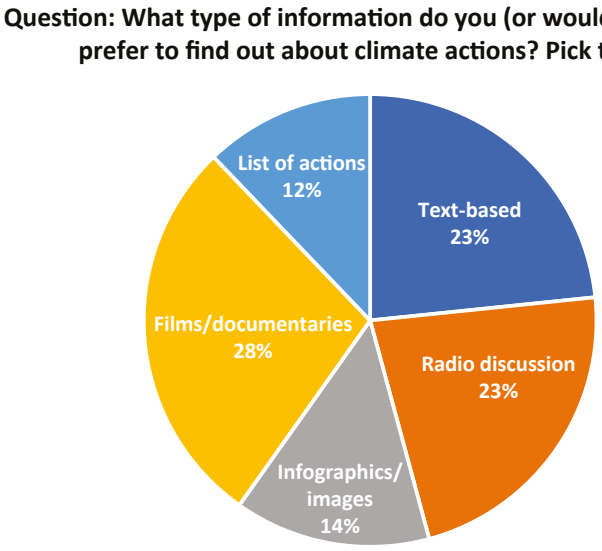

Figure 3.8. Preferred information formats.

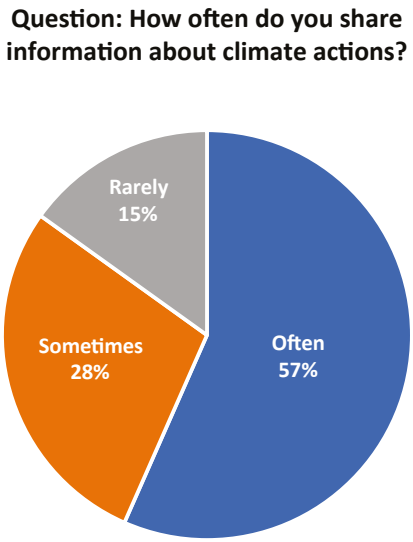

Figure 3.9. Frequency with which respondents share information about climate actions.

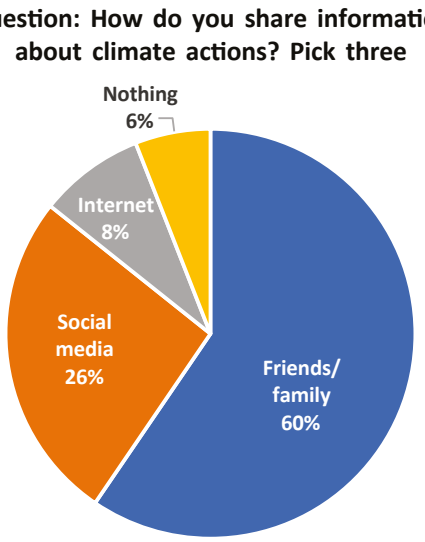

Figure 3.10. Sharing information about climate actions.

and discussions, especially via participants' personal pages. Personal Twitter pages and WhatsApp are also used by some participants.

3.2.3 Trusted sources on tackling climate change in Ireland

As a multi-dimensional issue, climate action involves a range of processes (social, technological, financial, political) and expert discussion of techno-managerial solutions. Consequently, effective public communication involves translation of expert discussions for non-expert public(s) and requires high levels of trust between stakeholders from different knowledge domains. Therefore, insights on trusted sources on climate action are crucial for engaging citizens.

- Environmental protection organisations such as the World Wide Fund for Nature (WWF) and Friends of the Earth Ireland (FOEI) (28%) and scientists (26%) topped the list of trusted sources of information on climate action among these participants (Figure 3.11). Interestingly, the stakeholders most associated with public discussions of climate mitigation actions (e.g. discussion of climate tax) in mainstream media, namely "economists" (4%) and "national government" (5%), were among the least trusted.
- A related question asking participants to rate different stakeholders on a scale of 1–5 revealed that the youth advocate group had the highest levels of distrust of "politicians", whereas "companies" were the most distrusted actors across all the participant groups. This latter finding is significant, given the high level of advertising messages related to passive consumption of information about climate action.
- Three main reasons for trusting particular sources were (1) that they were reliable sources – participants felt that these actors had "no agenda", "no conflicts of interest" and that they were non-biased and had no personal gain; (2) that they were evidence based – participants trusted the "peer-reviewed" "data-based evidence" in other words, not opinion; and (3) that they were experts – "it's their job". Typically, participants noted that "They have genuine concern but no conflicts of interest". This indicates participants' concerns about vested interests and the manipulation of information for personal gain, whereas scientists are trusted and scientific arguments leveraged by environmental organisations are considered unbiased information.
- The very low level of trust in local authorities is noteworthy as they are key intermediaries for building transition pathways at the local level and engaging citizens with the CAP. This finding indicates the need to include trust building as part of communication and engagement initiatives at local authority level.
- Despite the move to mobile media noted earlier, traditional print and broadcast media were the most trusted media conduits across all groups apart from the youth advocate group (Figure 3.12).

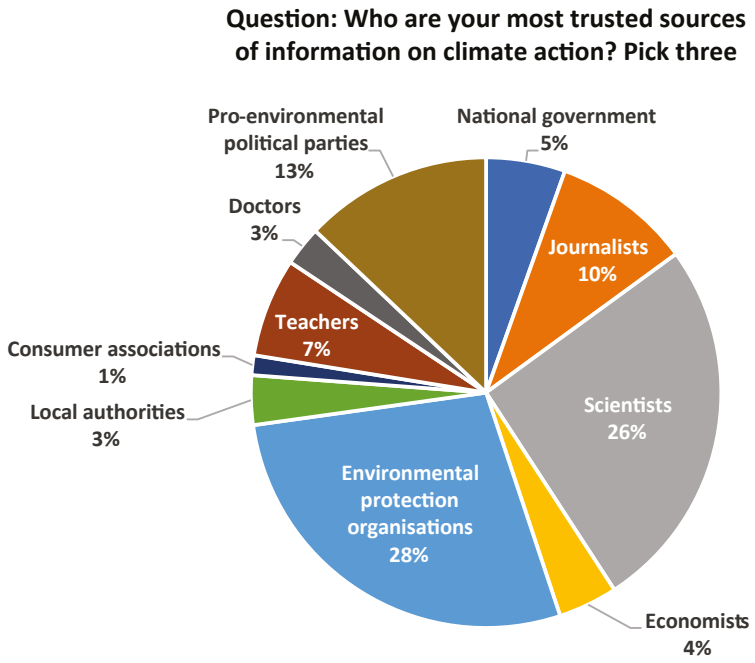

Figure 3.11. Most trusted sources on climate actions.

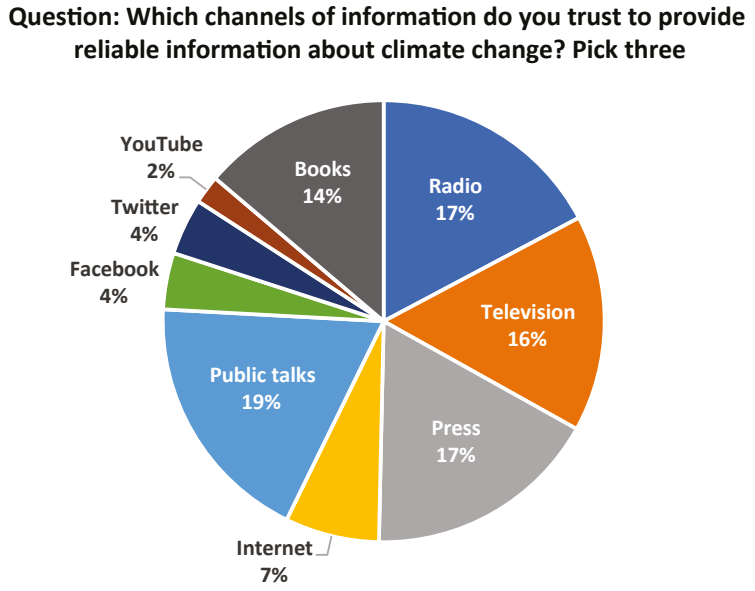

Figure 3.12. Most trusted information channels on climate action.

In other words, participants trust traditional media over social media platforms. This finding indicates high levels of media literacy and scepticism of social media sources and/or habitual engagement with TV/radio and print for news among the older age groups (i.e. over-65-year-olds).

- The high level of interest in public talks (19%) indicates a preference for face-to-face engagement and suggests that concerned citizens want to be part of community conversations with trusted experts.

3.2.4 Participants' voluntary comments

The final question provided an opportunity for participants to add any other comments. These comments generated six distinct themes (in order of prevalence): "Climate Action Communication", "Criticism of Media Coverage", "Responsibility for Action", "Scepticism of Government", "A Just Transition" and "Include it in the Educational System". A final theme comprised miscellaneous comments. The following findings arose from the comments (in order of prevalence):

- The **Climate Action Communication** theme included comments about the need for more communication, how to communicate and statements about participants' lack of knowledge. Typically, participants mentioned things such as the following:

> We're bombarded with effects of climate change, but need more information on what this actually means for us and future generations…

> Grateful for the opportunity to participate… Definitely keen to know how as a family we can make positive changes and keep up to date on the latest actions.

- **Criticism of Media Coverage** focused on the level and the type of media coverage:

> … Not enough media coverage of what everyone should be doing. There is a lot of information but the economics always seems to take priority over environment.

> The Irish media are very deficient and profligate in their exposure, to the general public, of climate change actions required to affect changes…

- **Responsibility for Action** highlighted the need for the public and government to work together to tackle climate change. Notably, many participants did not place all the responsibility at government level but felt that citizens need to lead on action and that it was a joint responsibility (discussed further in Chapter 4). Typical comments included:

> It's up to everybody. Government not proactive. Why is Ireland a laggard?

> Need to engage all sectors of the public, make it relevant to all, that we all have a responsibility for each other. Need more explanation of the Carbon Tax.

- Other themes (in order of prevalence) were:
  - **Scepticism of Government:** "Climate change is the zeitgeist of the last few days, but it remains to be seen if it's actionable on behalf of politicians or if it's just a box-ticking exercise".
  - **A Just Transition:** "The economic impacts of decarbonisation must be taken into account and more focus on A Just Transition needed for balanced debate".
  - **Include it in the Educational System:** "The current busy lifestyle for parents limits personal time for reading, radio, etc. A strong schools programme to bring subject into the home at basic level is now critical".
  - **Miscellaneous theme** included comments on "need to think more about this", climate change denial and apocalypse, need for more green spaces, Ireland a small country with minimal contribution to emissions.

3.3 Media and Everyday Engagement with Climate Action

The media survey generated original empirical data on participants' information-seeking and media uses, which can be used to help tailor and target informational content about climate action in Ireland. The survey revealed that the participants were well educated and highly concerned about tackling climate change. Despite high levels of information-seeking and -sharing, participants indicated that they wanted more information. This suggests a need to review informational content, formats and channels/platforms employed in mediated communications about climate action. For example, the findings showed that, although awareness of the environmental and economic aspects of climate action was high, there was less recognition of the technological and moral dimensions. Participants also viewed climate change as an urgent problem rather than a future challenge.

The findings highlighted a preference for films and documentaries and the influence of popular culture on citizens' media engagement. As might be expected, the BBC's *The Blue Planet* series, narrated by Sir David Attenborough, was one of the most mentioned programmes. In terms of media preferences, TV and (digital) newspapers remain popular; however, participants indicated that they also seek and share information about climate action via Facebook, Instagram and WhatsApp.

Data on trusted sources were particularly informative. Participants reported that they were very concerned about conflicts of interest on climate action and that they viewed scientists as reliable sources because

they were perceived to be objective conveyors of facts. Overall, the findings draw attention to lack of trust as a potential, unexpected barrier to engaging citizens with climate action.

The survey findings can also be compared with studies of news media consumption in Ireland, for example, *Digital News Report Ireland 2019* (Kirk *et al*., 2019). This sheds light on the similarities and differences between citizens' media use around climate action (i.e. environmental and socio-technical debates) and news consumption more generally. The move to private messaging apps and the influence of social media platforms also feature in citizens' media engagements with climate action. The rising use of private apps such as WhatsApp is an important finding because researchers and regulators cannot access these conversations (Kirk *et al*., 2019) and studies indicate that these apps may facilitate disinformation, propaganda and hate speech (Boadle, 2018). This has led researchers to question whether these groups facilitate participation or create echo chambers that drive polarisation. The migration to WhatsApp for information-sharing about climate action has implications for understanding potential barriers to citizen engagement, particularly as climate action debates become more contentious owing to the socially disruptive aspects of the radical transformations.

Both surveys noted the rise of mobile media, and the use of smartphones and laptops was found across all groups (and thus ages) in this study. Kirk *et al.* (2019) reported that the growth of smartphones is associated with the rising popularity of podcasts. Furthermore, the appetite for podcasts is especially noted for specialist subjects. Therefore, podcasts represent a novel format for climate communicators to consider, in addition to films/documentaries.

Differences in findings on media consumption around climate action compared with general news consumption are also instructive. For example, radio was not as popular among this cohort, and trust in journalists was moderate, with 27% of participants reporting that they were unlikely to trust journalists and over half (55%) indicating that they felt neutral about the trustworthiness of journalists on this issue. However, the findings on news media as trusted sources are complex. The voluntary comments section highlighted that many participants were also critical of print and broadcast media coverage on climate change and climate action. Thus, while participants trust traditional media more than social media sources, they are also critical of some aspects of traditional media reporting on climate change (see Chapter 4).

There were also differences between young people's media consumption about climate action versus general news media consumption. *Digital News Report Ireland 2019* (Kirk *et al*., 2019) found that 18- to 25-year-olds were the least interested in news and even less interested in politics. However, this finding was not the case with respect to tackling climate change, which has become a young people's cause. In addition, while Kirk *et al*. (2019) found that young people were more trusting of politicians than other age groups, this positive view of politicians was not replicated in this survey.

4 Citizens' Views on Climate Actions

4.1 Background

Climate change communication researchers argue that one of the most important things citizens can do to engage with climate change is to talk about it (Corner and Clarke, 2016). This perspective prioritises the need for citizens to take ownership of the challenge and for more collaborative approaches to tackling climate change. To take ownership, these researchers highlight the need to socialise expert discussions of climate science and to move public awareness and debate about climate change away from a focus on expert (techno-managerial) concerns and on to more socially relevant discussions. Thus, researchers increasingly advocate for more meaningful forms of public engagement, such as communication about shared values, rather than scientific facts and figures or strategies aimed at finding optimal words to trigger pro-environmental behaviour change. However, given that climate actions involve multi-faceted processes for decarbonisation, as well as individual and collective actions, questions arise as to how citizens can start everyday conversations about complex, techno-managerial aspects of climate and energy transition and what exactly these conversations should include. Therefore, this study undertook a TA of focus group discussions about climate action as a proxy for public discourse. The approach draws on the view that it is necessary to gain knowledge of current public understandings and involvement with climate action to properly address the issue of what additional or new communications messages are needed to advance citizen engagement (Tvinnereim *et al*., 2017). The themes identified illuminate the existing understandings that are brought to bear by participants in non-formal settings and provide baseline communications insights for climate dialogues and citizen engagement initiatives.

In line with the understanding of public engagement as an inter-related concept involving cognitive, affective and behavioural–political dimensions (Moser, 2009; Whitmarsh *et al*., 2011), participants responded to prompts about their perceptions, expectations and involvement with tackling climate change as well as their visions of a post-carbon future. These three dimensions of engagement were thematically analysed to identify the range of themes that participants draw on to discuss climate action.

4.1.1 Method

Ten meetings with groups of 3–8 participants were carried out between March and May 2019 (see Chapter 1). The meetings lasted approximately 1.5 hours and involved completion of a media consumption questionnaire, followed by a focus group discussion. Participant groups are outlined in Table 1.1.

The researcher acted as moderator for all 10 discussions, which followed a set of guiding questions (see Appendix 2). However, if participants identified a particular topic of interest and were content to discuss it spontaneously, they were not interrupted. In general, focus groups provide an opportunity to examine group dynamics, interactive sense-making and negotiations of meanings, which is highly relevant to understanding the socially contextualised discussion of climate action. However, the results presented here do not report on participant interactions. Instead, the following findings provide a descriptive analysis of themes and assess their prevalence and absence. Data based on group interactions will be reported in papers to be published as future academic outputs.

4.1.2 Analytical approach

The discussions were transcribed by the researcher and the transcripts were read several times to identify preliminary themes relevant to the research questions, which is consistent with TA (Bazeley, 2013). TA is a qualitative approach that focuses on identifying ideas or themes in texts. A theme was defined as a "recurrent pattern that describes and organises possible observation" (Boyatzis, 1998, p. vi) and "tells us something important about the data in relation to the research question" (Braun and Clarke, 2006, p. 82). Themes were determined by a shift in discussion from one idea to another (i.e. boundaries between themes were identified by noting distinct changes in topic, for example when participants or

the moderator moved on to talk about something else). All themes were assigned labels or identifying phrases based on a code book developed as part of the analysis.

A standardised coding template, based on Boyatzis' (1998) hybrid approach, was used to identify recurrent themes (Tables 4.1–4.6). An initial set of themes drawn from existing studies was supplemented with new themes identified in this study. Thus, the themes were data driven in that several new themes present in the Irish case study were identified and were also based on themes identified in international focus group studies of climate actions (Ockwell *et al.*, 2010; Whitmarsh *et al.*, 2011; Howell, 2013; Capstick and Pidgeon, 2014; Barba-Núñez *et al.*, 2018; Becker and Sparks, 2018; Howarth and Anderson, 2019; Wibeck *et al.*, 2019). This enabled the researcher to present a full account of the group discussions rather than restricting analysis to a predetermined set of ideas about what should be there.

TA was operationalised by systematically assigning recurrent ideas or data segments to categories of the coding frame. Different themes therefore represent different ideas, patterns of meaning or language use about climate action. Only the first instance of each theme was coded per participant, as the purpose of coding for this report was to identify the presence of themes across the groups and to note any absences. Themes were also coded in relation to the three dimensions of public engagement (cognitive, affective and behavioural–political) to provide in-depth insights on communicative resources for building citizen dialogues about climate action. The following sections elaborate on the significance of each of the three dimensions in turn.

Cognitive engagement

As a multi-faceted challenge, climate action involves a range of social, financial and technological processes. Thus, cognitive engagement with climate action requires awareness, understanding and discussion about new forms of transport, energy and agriculture as well as rethinking resource use and challenging accepted norms around production and consumption. These themes shed light on the participants' awareness or understanding of these diverse processes (summarised in Table 4.1). For example, the majority of groups talked about the need for more communication about climate action and for children to be educated about climate change.

Behavioural–political engagement

Behavioural engagement has overtaken cognitive engagement as the focus of initiatives to mobilise citizens around global environmental change (Whitmarsh *et al.*, 2010; Wolf and Moser, 2011). This is because materialising climate action also challenges existing high-carbon lifestyles and consumer culture and involves radical transformations in social life, including changes in citizens' everyday actions and their expectations of the good life. However, critics argue that, although important, behavioural engagement alone will not be sufficient to achieve the large-scale changes needed to tackle climate change (Hoppner and Whitmarsh, 2010; Ockwell *et al*., 2010). Therefore, researchers advocate the need to encourage citizen involvement in collective activities and in public sphere engagement beyond the electoral process. This school of thought points out that engagement can take place in the private sphere (e.g. individual action through green consumerism, conservation behaviour) *and* in the form of socio-political participation via public sphere actions which "…is a vital element of democracies and helps to stimulate people's belief that they can make a difference" (Hoppner and Whitmarsh, 2010, p. 48). Therefore, researchers maintain that communications initiatives should also instil a sense of political efficacy and foster collective forms of civic engagement with climate actions (Ockwell *et al*., 2010; Carvalho and Peterson, 2012). Public sphere actions such as citizens' political engagement are crucial according to Carvalho and Peterson (2012) because they involve engagement with processes of debate and decision-making on collective issues in which different values, preferences and ideals are played out and opposed. The Citizens' Assembly deliberative model and the global school strikes social movement are recent examples of citizens' political engagement.

From a communications perspective, behavioural change is associated with managerial processes of persuasion, whereas political engagement focuses on dialogue about differing interests, values and the trade-offs relating to social transformations. As a result, in this study, themes about public involvement with climate action coded references to citizens' pro-environmental behaviour as well as to collective

forms of action or citizens' political engagement. For example, many participants discussed reducing single-use plastic (individual behavioural change), but very few mentioned taking part in social protests (collective political engagement). Table 4.3 summarises themes about participants' current involvement in climate action as well as actions they aspired to undertake.

Affective engagement

Several studies have noted the presence of public concern about climate change alongside a failure to adopt behavioural changes to address carbon dependency or enact pro-environmental practices (Whitmarsh *et al*., 2011). Researchers argue that this is because many people see climate change as an abstract and distant problem and, therefore, it is something they know about but do not connect to. As a result, researchers maintain that sharing more scientific information, while necessary, is not sufficient to mobilise action and that communications initiatives also need to create emotional or experiential connections with climate change to motivate action. Thus, affective engagement themes shed light on participants' feelings and expectations of climate action and coded the use of linguistic resources (e.g. metaphors, analogies, examples, keywords) to describe feelings, experiences, expectations or visions of climate action. For example, many participants described feeling helpless when talking about their limited agency as individuals and consumers given the enormity and urgency of the climate crisis. Table 4.5 summarises the affective engagement themes that participants used to describe their feelings or expectations of climate action.

4.2 Findings

Tables 4.1–4.6 report on the themes participants used to talk about their perceptions and experiences of and involvement in climate action. These tables present data on (1) the overall prevalence of each theme and (2) a comparison of the use of each theme across the 10 focus groups. The analysis highlights new starting points to broaden citizen engagement and advance citizen dialogues about climate action.

The overall prevalence of a theme indicates the total number of focus groups in which that theme was used by participants. Thus, a theme prevalent in 9/10 groups indicates that the majority of groups drew on this theme to discuss climate action, whereas a theme prevalent in 2/10 groups indicates that this theme was rarely used. This illuminates gaps in understanding of, involvement in or connection to climate action and highlights new starting points for advancing communication. The tables also provide data on the level of use of the theme across the different groups. This identifies whether a theme was absent or was a minor theme (used by one or two participants) or a major theme (used by three or more participants). This enables in-depth insight on the specific communications needs or resources for different socio-demographic groups.

It is important to note that the findings are not generalisable to citizens in Ireland. They provide examples of recurring themes that circulate and exist within a group of concerned and well-educated citizens. Furthermore, while some participants had links to environmental organisations (e.g. the teachers' group included a Climate Ambassador), the majority did not. Moreover, the findings do not include uninterested, disengaged or denialist perspectives on tackling climate change.

4.2.1 Cognitive engagement – insights on perceptions of climate action

In response to the prompt "what comes to mind when you hear the term climate action?", three themes featured across the majority of groups: "the Communications Gap", "Media Sensationalism/Bias" and "Weather Changes" (Table 4.1). The theme participants mentioned most often was "the Communications Gap" (Table 4.2). This theme included references to the lack of information, high levels of confusion (especially around waste and recycling), the need to raise more awareness to "get the message out" and climate anxiety because of all these perceived communications gaps. "Media Sensationalism/Bias" and "Weather Changes" are also found in existing studies, while the most prevalent theme (Communications Gap) is unique to the Irish study. These comments from the mother and baby group were typical:

> I don't think I have a good, I feel like I know about some things, but then there's a lot I don't know about, a lot. (W4, FG3)

Table 4.1. Cognitive engagement themes: perceptions of climate action

Climate action themes: existing studies	Climate action themes: Irish study	Prevalence (no. of groups that drew on this theme)
Weather changes		9/10
Media sensationalism, bias, the 1%		9/10
Carbon footprint/sinks global decarbonisation		6/10
Resource use/changing consumption	Single-use plastic; waste; reusable cups/bottles; fast fashion	5/10
Environmental awareness/stewardship	Plastic and fish, oceans	5/10
Climate science (impacts, risks, causes)	Hard science and technical experts	4/10
Political party policies	Government policy response	4/10
Social justice	Climate migration, A Just Transition	4/10
Environmental impact green technology		3/10
Future energy production debates		3/10
Impact on global south	Human impacts of green technology	2/10
Reforestation/deforestation		2/10
Business responses to climate change		1/10
Energy efficiency (renewables, retrofit)		0/10
Climate adaptation		0/10
	Communication gap: raise awareness, climate anxiety; confusion over recycling	8/10
	Media presents conflicting frames and information, no coverage of climate action	5/10
	Future generations (worry about)	5/10
	System change	5/10
	Biodiversity challenge	4/10
	People power/protests	4/10
	Urgent challenge (climate crisis, emergency)	3/10
	Education (school children)	3/10
	Behaviour change, take personal responsibility	3/10
	Emissions targets/fines	3/10

> I think it's hard to discern, because there are lots of different parties and they're saying different things and trying to glean how we could be effective in our actions as a family, a clear message is difficult to discern. (W1, FG3)

The least referenced themes – "Energy Efficiency", "Emissions" and "Behaviour Change" – are noteworthy. These dimensions of climate action are possibly the most publicly reported aspects. However, their low prevalence in the focus group discussions highlights a difference between policymaker/media debate and citizens' perceptions. It is important to note, however, that these findings illuminate participants' immediate responses and therefore represent the understandings that are currently most established in participants' cognitive engagement with the issue.

The findings also reveal a distinctive Irish iteration to understanding climate action in comparison with international studies. The analysis generated several new themes, such as "Urgent Challenge", "Worry about Future Generations" and "People Power/ Protest", which reflects the influence of cultural and contextual factors on public understanding of climate action. The level of references to the need for systemic and structural change across several groups (5 of 10) is noteworthy. The "System Change" theme highlights the frustration participants expressed about the lack of government and business response to climate action in Ireland. For example, one participant said:

Table 4.2. Commonalities and gaps in use of cognitive engagement themes

Climate action themes: existing studies	Climate action themes: Irish study	Prevalence of theme across groups									
		1	2	3	4	5	6	7	8	9	10
Weather changes					–						
Media bias, the 1%					–						
Carbon footprint/sinks global decarbonisation						–	–		–		–
Resource use/changing consumption	Single-use plastic; waste; reusable cups/bottles	–			–					–	
Environmental awareness/stewardship	Plastic and fish, oceans		–	–			–		–	–	
Climate science	Hard science experts		–	–			–	–		–	–
Political party policies	Government policy	–	–		–	–	–		–		
Social justice (migration, A Just Transition)			–	–		–	–	–			–
Environmental impact green technology			–		–	–	–	–		–	–
Future energy production		–	–	–		–		–		–	–
Impact on global south	Human impact of green technologies	–	–		–	–	–	–	–	–	
Reforestation/deforestation			–	–	–	–	–	–	–	–	
Business responses		–	–	–	–	–	–		–	–	–
Energy efficiency		–	–	–	–	–	–	–	–	–	–
Climate adaptation		–	–	–	–	–	–	–	–	–	–
	Communication gap			–					–		
	Media conflicting frames, no coverage	–	–	–	–	–					
	Future generations worry	–				–		–	–		–
	System change	–	–					–	–	–	
	Biodiversity challenge			–	–	–	–		–		–
	People power/protests	–	–			–	–		–	–	
	Education (schools)	–		–	–			–	–	–	–
	Urgent challenge	–		–	–	–	–		–	–	
	Personal responsibility	–	–	–	–			–	–	–	
	Emissions targets/fines	–		–	–		–	–		–	–

Prevalence (use of theme): light grey shading indicates a minor theme, i.e. one or two participants used this theme to discuss climate action; dark grey shading indicates a major theme, i.e. three or more participants used this theme to discuss climate action; a dash (–) indicates that a theme was not discussed.

1, Retirement group; 2, mother and baby group; 3, local authority (1) group; 4, teachers' group; 5, community gardeners; 6, local authority (2) group; 7, community conservationist group; 8, energy sector union representatives; 9, science research institute; 10, youth advocate/activist group.

> But the government doesn't make it easy for us to change our behaviours. It's like the individuals fighting against the system all the time… the system is just working against you all the time really. (W4, FG6)

The tables also highlight themes with low prevalence and potential gaps in citizens' knowledge. These findings are useful as they represent new starting points for citizen dialogues. Moreover, information gaps among citizens with high levels of concern and interest are likely to reflect gaps in the broader population. Three themes identified in international studies were rarely mentioned by participants: "Energy", "Social Justice" and "Climate Adaptation/ Biodiversity".

As an island, the reported low level of discussion about the energy-related dimensions of climate action indicates a significant gap in awareness or knowledge about societal decarbonisation. Thus, energy efficiency technology, the environmental impact of green technology and norms around resource use, including

questions about over-consumption, represent new areas for public communication and media discussion about climate action (see below).

The limited references to the human tragedy and ethical dimensions of tackling climate change coded in the Social Justice theme are also noteworthy. Very few participants discussed the local challenges and the need for "A Just Transition" by protecting workers, or the international challenge of impacts on the global south and climate migration. However, these socio-political issues are central to public discussion of transition pathways. As O'Brien and Selboe (2015) point out, climate change responses entail more than technical solutions, they involve public discussion and policymaking that will "challenge mind-sets and approaches to change in general" (O'Brien and Selboe, 2015, p. xv). Citizen engagement initiatives should also incorporate the personal and political dimensions of climate action.

Finally, the absence of discussion about climate adaptation and how we can prepare to live with increasingly frequent extreme weather events is also striking given that many participants were interested in biodiversity (4 out of 10 groups). Thus, climate adaptation and biodiversity are also important topics for future conversations about climate action.

4.2.2 Behavioural–political engagement: insights on public involvement

Participants' responses on current or planned involvement with climate action described a range of activities, outlined in Tables 4.3 and 4.4. The data reveal a focus on consumer engagement (i.e. changing brands) and efforts confined to private sphere activities around the home and household management. Furthermore, citizens' consumer engagements were discussed in terms of helplessness and frustration (see section 4.2.3).

Participants recognise that these small, individual actions are inadequate as their only or main response to an urgent, large-scale challenge and that more impactful responses such as purchasing an electric vehicle (EV) or retrofitting was beyond the budget of the majority of these families. Respondents' comments included:

> Well, one of the things I'm looking at is the whole area of retrofitting the house and the preliminary research on it has horrified me. I would have to go back to work for 40 years again and retire again for the lump sum for to go towards what would be needed towards retrofitting the house, you know. The figures are astronomical, yeah. (M2, FG7)

Table 4.3. Behavioural/political engagement themes: involvement with climate action

Themes about climate actions/intentions	Prevalence (no. of groups that used this theme)
Private sphere actions: forms of behavioural–consumer engagement	
Buying green/ethical consumption: slow fashion, vegan/vegetarian, electric vehicles, energy efficiency, retrofitting, not buying/flying	10/10
Environmental sustainability: using public transport, local choices, grow your own, organic, composting	9/10
Personal/individual pro-environmental actions: reuseable cups, reduce waste, resource use, plastic, cycling, walking	8/10
Talking about climate change: green schools	5/10
Public sphere actions: political engagement – participation in governance, collective/civic actions	
Environmental actions at community level: consumer politics: "sick of plastic", beach clean-ups, Tidy Towns, Transition Towns	5/10
Lobbying/online petitions	2/10
Voting	2/10
Social protests/public marches	2/10
Grassroots initiatives: maker spaces, men's huts (non-environmental collectives, co-ops)	0/10

Table 4.4. Commonalities and gaps in use of behavioural/political engagement themes

Themes about climate actions/intentions	Prevalence of theme across groups									
	1	2	3	4	5	6	7	8	9	10
Private sphere actions: forms of behavioural–consumer engagement										
Buying green/ethical consumption										
Personal pro-environmental actions					–					
Environmental sustainability									–	
Talking about climate change: green schools	–				–	–	–			–
Public sphere actions: political engagement – civic/collective actions										
Environmental actions at community level			–		–			–	–	–
Lobbying/online petitions	–	–	–	–	–		–		–	–
Voting	–	–	–	–			–	–	–	–
Social protests/public marches	–	–	–		–	–	–	–	–	
Grassroots initiatives: maker spaces, men's huts	–	–	–	–	–	–	–	–	–	–

Prevalence (use of theme): light grey shading indicates a minor theme, i.e. one or two participants used this theme to discuss climate action; dark grey shading indicates a major theme, i.e. three or more participants used this theme to discuss climate action; a dash (–) indicates that a theme was not discussed.

1, Retirement group; 2, mother and baby group; 3, local authority (1) group; 4, teachers' group; 5, community gardeners; 6, local authority (2) group; 7, community conservationist group; 8, energy sector union representatives; 9, science research institute; 10, youth advocate/activist group.

> I'd love to buy an EV but they're not affordable, there's no great grant system in place to do it and trying to build a house in an environmentally friendly way in this country is exceptionally difficult, even at a planning stage. (M1, FG8)

Participants also talked about voting for change, as this exchange in a group held just before the local elections shows:

> I feel a bit despondent but I'm just hoping when the election happens the local and the European, that the Greens do very well. Well, people are starting to talk about it now, but I know where my number ones are going. (W2, FG5)

> … so I think the whole issue about planning is enormous. And that's an infrastructural issue that I can't do anything about personally except vote for, in a particular way, and raise those kind of issues. (W1, FG5)

> I turned vegan, I try not to use my car very much, I'm not flying anywhere. (W2, FG7)

4.2.3 Affective engagement – insights on experience and visions of climate action

Themes related to affective engagement (Tables 4.5 and 4.6) provide insights on participants' emotional or experiential connection and expectations about climate action as well as their visions of a post-carbon future. Overall, the Irish findings provide grounds for optimism when compared with findings from international studies, for example in terms of the prevalence of themes indicating a willingness to enact behavioural changes. Furthermore, participants did not use themes describing climate fatigue or apathy, which are recognised barriers to citizen engagement (Lertzman, 2011).

More significantly, participants did not draw on themes that externalise responsibility or blame for climate action. Likewise, few participants drew on the "technofix" theme, which is the view that technology (as opposed to other responses) will provide the solution. Similarly, themes describing climate action in terms of the future or of distant places were not used. Instead, these participants referenced climate change as an urgent crisis requiring immediate societal responses.

Interestingly, a public expectation that the government should take responsibility for action was not prominent in this study. The "Governance Trap" theme, based

Table 4.5. Affective engagement themes: experience and visions of climate action

Climate action: existing themes	Climate action: themes found in Irish study	Prevalence (no. of groups using theme)
The good life	Lifestyle and cultural change is hard, a huge problem	6/10
Governance trap		4/10
Impacts of not doing anything		2/10
Techno-fix		2/10
Freedom of choice	You can't force people	2/10
Financial opportunity		1/10
Visualising a low-carbon future	Post-carbon sustainable city (no oil)	1/10
Quality of life, health benefits		0
Supporting change		0
	Rationalise public inaction: people are lazy, don't care, Irish mentality	9/10
	Maintaining the status quo: government won't regulate business, profit before planet, not seeing big picture, no votes in it	9/10
	Othering and being othered: demonised by young people, given no voice; this year's hype, fad; young people talk the talk, but do they walk the walk?	8/10
	Everyone's responsibility: people should lead, challenge status quo, crush capitalism	8/10
	The cost: you have to incentivise change; media don't talk about costs	8/10
	Hope and optimism	7/10
	Guilt, what about the children? Feel sorry, have to do it for them; Greta [Thunberg], school strikes	7/10
	Climate laggard: other countries do better; we're small	7/10
	Institutional legacy issues and inertia, backlash	6/10
	Helping and helplessness: small steps, doing my bit, drop in the ocean, pace of change	6/10
	Frustration: not my fault, can't afford it, want to but impossible; not viable for older people	6/10
	It's unfair: carbon tax, the price of climate change	5/10
	Social impacts: impacts on people, ways of life, A Just Transition	4/10
	Citizen's Assembly, public debate	3/10
	Cycles of nature	1/10
Future vision[a]	Sustainable community: socio-ecological vision	5/6
	No change; avoid catastrophe, crisis and collapse	5/6
	Romanticising nature: utopian vision	4/6
	Back to the future: return to the old ways, old days	2/6
	Sustainable economy, not spiral of productivity	2/6

[a]**Data for six groups (groups 5–10) only.**

on Newell *et al.* (2015) describes the view that state-oriented solutions are needed because the government has the power to set regulations and lead business. Instead, several participants described climate action as a joint challenge ("Everybody's Responsibility") and the need for citizens to lead through "bottom-up" (i.e. citizen-led) actions. However, the majority of participants expressed strong views on the lack of government and business response, as well as negative views of the political leadership and institutional inertia on climate action in Ireland.

Analysis of the top three themes offers useful pointers for advancing public conversations and citizen dialogues about climate action. The most prevalent theme, "Rationalising Public Inaction", described participants' tendencies to explain the perceived lack of public action on climate change. This includes references to an "Irish mentality" and that "people are lazy, don't care or won't change" as reasons why tackling climate in Ireland will be difficult. The following quotations are illustrative:

Table 4.6. Commonalities and gaps in use of affective engagement themes

Climate action: existing themes	Climate action: themes found in Irish study	Prevalence of theme across groups									
		1	2	3	4	5	6	7	8	9	10
The good life	Lifestyle change is hard, problem						–		–	–	–
Governance trap					–	–	–		–	–	–
Freedom of choice	You can't force people		–	–	–	–		–	–	–	–
Techno-fix	Ireland ideal for wind power		–	–		–	–	–	–	–	–
Impacts of not doing anything		–	–	–	–	–	–		–	–	
Visualising a low-carbon future	Post-carbon sustainable city	–	–	–	–	–		–	–	–	–
Financial opportunity		–	-		–	–	–	–	–	–	–
Quality of life, health benefits		–	–	–	–	–	–	–	–	–	–
Supporting change		–	–	–	–	–	–	–	–	–	–
	Rationalising public inaction								–		
	Maintaining the status quo				–						
	Othering and being othered			–			–				
	Everyone's responsibility								–		–
	The cost: incentivise change	–				–					
	Guilt – what about the children?		–		–	–					
	Hope and optimism	–						–	–		
	Climate laggard		–	–							–
	Helping and helplessness	–			–				–		–
	Frustration				–	–		–		–	
	Institutional issues and inertia	–		–	–			–			
	It's unfair: carbon tax		–	–			–		–	–	
	Social impacts		–	–	–	–	–			–	–
	Citizens' Assembly, public debate	–	–	–	–	–	–				–
	Cycles of nature	–	–	–	–	–	–		–	–	–
Future vision	Sustainable community	N/A	N/A	N/A	N/A		–				
	No change: crisis and collapse	N/A	N/A	N/A	N/A	–					
	Romanticising nature: utopias	N/A	N/A	N/A	N/A					–	–
	Back to the future: old way, days	N/A	N/A	N/A	N/A	–	–		–		–
	Sustainable economy	N/A	N/A	N/A	N/A	–	–	–	–		

Prevalence (use of theme): light grey shading indicates a minor theme, i.e. one or two participants used this theme to discuss climate action; dark grey shading indicates a major theme, i.e. three or more participants used this theme to discuss climate action; a dash (–) indicates that a theme was not discussed.

1, Retirement group; 2, mother and baby group; 3, local authority (1) group; 4, teachers' group; 5, community gardeners; 6, local authority (2) group; 7, community conservationist group; 8, energy sector union representatives; 9, science research institute; 10, youth advocate group; N/A, not asked.

> Too many people putting it to the back of their minds, I think… I think we just need to tackle complacency. (W1, FG1)

> I mean, the Irish mentality kinda says, there has to be some other way around this, you know? We're just not going to do it. (W5, FG1)

> I think people are lazy, people go, oh I won't buy plastic and then they'll say actually, it's just convenient, it's only one thing. (W3, FG10)

> Ireland is a very small place, it's a very old school place, there's a lot of fear of change. (M1, FG9)

> The problem is we listen more to the criticism than we do to the positivity of things and that's the danger. (M2, FG7)

The second most prevalent theme, "Maintaining the Status Quo", articulates participants' feelings about elite actors and institutions, primarily describing them as the main barrier to change in Ireland. Typically, participants commented:

> We talk about climate action, positive action, but we don't really highlight enough the kind of action that governments in general, engage in that hugely impact on climate change. (W1, FG7)

> I think it just boils down to money… The no. 1 element of our economy is agriculture, so these are the problems in Ireland. That is why there is no action taken, because they are huge contributors to our bottom line. (M1, FG6)

> I think they're too preoccupied with Brexit and the housing and health. I suppose they're huge things as well, but at the end of the day, if we don't, if things aren't sustainable, the whole thing will collapse. (W2, FG5)

> I verge on the despondent and sceptical. Em, certainly at the higher level, on the government level at the political level, because I think there's huge lobbying, huge special interests which are very powerful. (W1, FG5)

As can be seen, this theme expresses a critique of elites and, for some, dismay that government prioritises economic concerns over environmental challenges. Perceptions of elite actors are significant according to Becker and Sparks (2018) because, if the perceived social norm of powerful large-scale actors is for them to prioritise profit over climate change action, it could influence public views of societal commitment towards change and beliefs about their own effectiveness to achieve change.

However, several participants challenged the focus on government and business-led action (i.e. top-down) responsibility. The theme "Everyone's Responsibility" highlights that everyone has a normative responsibility to reduce emissions. It expresses participants' frustration with powerful actors and therefore the need for bottom-up, individual and collective responses to make governments and businesses accountable to public concern about climate change. This theme was typically associated with female participants, as these quotations show:

> We have the responsibility, boycott… We need to plant the seed, even if we don't get it done in our generation, we have to plant the seed. (W1, FG7)

> ... the people have spoken and the government are now going to have to act upon that. Because, that is obviously very important to the people. So I think it's the individuals working together as a group and then the government pays attention. (W2, FG7)

> Work for me, employment, business, industry, has to have a huge role in this. Driven by people power, whether that's unions or community councils or whatever. (M3, FG7)

The analysis also identified some tensions within themes, indicating areas of contestation with the potential to create polarisation around climate action. The "Othering and Being Othered" theme is a case in point and indicates an important challenge for communications initiatives to address. The concept of Othering as outlined by Said (1985) argues that western identity and culture are rooted in an othering logic (i.e. one that dehumanises and subordinates other people). The central feature, that of denying the other their own voice and an opportunity to speak for themselves describes the "Being Othered" theme, while the corollary, that of devaluing others' cultural identities, opinion and views, characterises the "Othering" theme. Participants typically drew on themes of "Being Othered" to describe feeling vilified or demonised by others. For example, energy sector union representatives narrated examples of peat industry colleagues being blamed and shamed for what they do by younger generations and being denied a voice, as seen in the following accounts:

> … his own kids were saying: you're the problem here. Bord na Móna's the problem, and he's trying to convince them. I've been

> bringing a wage into this house for the last 30 something years, that's all based on Bord na Móna, you've been educated on the strength of that. And it's just, people like, whose lives are on a daily basis impacted by Bord na Móna and what we do and actually don't even realise it. (M2, FG8)

> That's the way it's gone now though a little bit? It's who can we blame. Are we blaming the government for them not doing it? The teenagers are blaming the generation before them for not. (W3, FG2)

The more prevalent "Othering" theme questioned the authenticity of growing public concern about the environment, with several participants describing this trend negatively as "this year's fad". For example:

> A lot of people are just jumping on the bandwagon, they're not recycling at home like they should, or in school. It's a kind of buzzword because of this one little girl who got the media attention. (W1, FG3)

> So, the current whim is plastic, next year it will be something different. (W1, FG5)

A second aspect of the "Othering" theme reflects on young people and describes doubts about the extent of their climate citizenship:

> She wants me to make changes but she can't see how she can make changes ... I say, but look at what you've got in your hand? So, it's all about you're to blame mum, it's your generation, you've done this wrongly, you've done … and I'm trying to make lots of changes in our household … But I just kind of think, they don't, they can't marry all the bits up to see exactly how, looking at themselves, they think they're perfect. (W4, FG2)

These views underscore the need to foreground cultural transition and cultural sustainability in the development of communications initiatives. In particular, engagement exercises should make space for open discussion of fears about the social transformations associated with climate action.

In contrast to the above, the "Social Impacts" theme, which includes references to A Just Transition and Climate Justice, provides important new starting points for communications aimed at engaging citizens. This theme shifts the conversation to focus on the social reality rather than the science facts, which is crucial for affective engagement with climate action. For example, Hulme (2007, p. 244) points out that "Science and especially Earth system science, cannot simply speak truth to power and all will be well … It is wrong to suppose that predictive science can provide the basis for individual or collective action. It is not enough for people to know about climate change; they need to care about it and be motivated and able to change behaviour". These researchers argue that the care and motivation to engage must come from something beyond science, such as ethics, a sense of justice or a moral framework.

The low prevalence of the "Social Impacts" theme (used by 4/10 groups) is therefore noteworthy. This theme describes two social impacts of climate change: (1) at the international level and (2) at the national level. References to the international level focused on climate justice and the human tragedy of climate change as this comment about future extreme weather impacts shows:

> I'm thinking, OK, if I live in Venice and I'm a grandparent and I've got 17 grandchildren where are they going to live? Because there won't be a Venice, Venice will be under water, I don't know how many years' time, but it will be. (M3, FG7)

However, the climate justice aspect was rarely discussed; the majority of references were to the national level and focused on "A Just Transition". This aspect expressed concern about disruptions in employment related to decarbonisation of the energy and agricultural sectors. For example:

> We want mitigation measures put in place to support the people and support the communities … Who's going to replace the jobs that we've lost, who's going to replace the hundred plus millions coming into the midlands? (M2, FG8)

> … it's easy for us in Dublin we have all the surroundings, but if you live in a place where

> you depend on one industry and if that goes, what do you do? So, there either has to be something else put there, or else they should be paid. (W3, FG1)

These conversations are crucial as Bord na Móna and the wider energy sector represent a test case for how workers and communities will be treated in the transition to a low-carbon society. This theme introduces an opportunity for citizens to talk about their concerns and fears around change processes and for open discussion about enacting meaningful social transformations in Ireland.

Conversations about desirable futures represent another productive starting point for public discourse and citizen dialogues. While the urgent need to tackle climate change and enact wide-ranging responses in the present is essential, to be successful, climate action will also require systemic and structural transformation. Futures thinking or speculative discussions about where we are going and how we design a low-carbon society have the potential to reinvigorate climate communications initiatives. Researchers point out that these discussions help motivate and mobilise citizen engagement in the face of the large-scale social, financial and technological transformations associated with the development of transition pathways (Hajer and Versteeg, 2018). Participants' views of a post-carbon society generated five themes about "Future Visions"[3] (in order of prevalence): "Sustainable Community"; "No Change"; "Romanticising Nature", "Back to the Future" and "Sustainable Economy" (see Table 4.6).

Overall, participants' visions of a post-carbon society were cast in environmental sustainability framings, apart from the "No Change" theme, which described transformation through crisis. The "No Change" theme was most often articulated by male experts and it described their expectations of an apocalyptic outcome due to lack of sufficient action now. These participants expressed the following degrees of negativity:

> Some change? Nearly no difference. Sea levels have risen by a metre and a half… Yeah, sea levels have risen, it doesn't matter what we do now, sea levels… are going to rise by over a metre… That's happened, it's how much further do you want it to go. (M1, FG10)

> Either they'll find a new technology which will allow us to produce endless and infinite amounts of carbon, I think that will be the solution and everything continue the way it is. Or, we have some kind of dystopian Mad Max-esque future kind of thing ... (M1, FG9)

> No, I don't see us solving the problem in my lifetime. I think we might be on our way to solving it, perhaps, but I think it's going to get worse before it's going to get better. (M3, FG8)

More typically, participants described a future landscape that was green, clean, quiet and normal:

> How clean our towns and cities will be. Can you just imagine? (M2, FG8)

> Return to normal weather… We could decipher what season we're in… May is… October is like summer sometimes, you know. (W2, FG7)

> I'm thinking about fresh air and less litter, just cleaner environment. (W1, FG5)

It is worth noting that "Romanticising Nature", which primarily focused on a utopian vision of future society–nature relations, is synonymous with the dominant images and storylines provided by advertising for environmental products. In other words, it could be argued that articulations in this theme draw on creative industry visions about future consumption. It is also true, however, that for many older participants, descriptions of a greener, cleaner landscape may also be part of their life experience. Participants' descriptions of a post-carbon future are also interesting in terms of what they leave out. For example, the five themes do not include descriptions or visions of technological change. This is highly significant given the need for substantial infrastructural changes with respect to transport and energy.

3 This discussion arose in focus group 5 and was included in the remaining five focus groups as it offered a means to encourage participants to imagine alternatives to existing ways of life.

On the positive side, several participants referenced the sustainability-related themes "Sustainable Community" and "Sustainable Economy". These themes describe desirable futures as involving changed interpersonal relations, or a sense of community, belonging and well-being, as well as alternative views of "the good life" (i.e. expectations about a consumer culture). For example:

> Sustainable communities where people live for the need and not for their want, you know? We always want more, more, more. (W3, FG5)

> Nature isn't somewhere you visit, if you're having a bad day. You don't go to nature to visit it, you see yourself as being part of it, so living in harmony, using resources sensibly and not putting ourselves on a pedestal. (W2, FG7)

> Less consumerism. (W3, FG7)

4.3 Broadening Everyday Engagement with Climate Actions

Analyses of citizen engagement as a concept involving cognitive, affective and behavioural–political dimensions are crucial for tackling climate change. The research shows that, while necessary, facts alone do not change behaviour. This has led to an interest in affective engagement to motivate mass mobilisation around climate change. Furthermore, the transformations required to achieve a post-carbon society involve actions at both the individual and the societal levels. In other words, it requires private sphere actions in the home and lifestyle changes, as well as the involvement of citizens in public sphere actions. Ireland's Citizen Assembly on Climate Leadership and the global school strikes movement exemplify the value of involving citizens in public sphere actions. Significantly, these two examples of citizens' political engagement have reinvigorated public debate about and awareness of climate action. However, the findings of this exploratory study indicate that there is more to be achieved in terms of encouraging affective engagement and increasing citizens' public sphere involvement.

In terms of cognitive engagement, the analysis found that, although participants talked about climate impacts, risks and general pro-environmental behaviour, there was less awareness of the causes of climate change as well as the technological and social justice aspects of climate action. This indicates a need for social learning about carbon reduction activity in daily life and "A Just Transition".

The findings on behavioural–political engagement highlight participant involvement with lifestyle and consumer changes but minimal levels of collective and civic engagement in the public sphere.

Analysis of affective engagement showed that few participants drew on themes found in international research. While this reflects the contextual nature of the study and recent social developments such as the global school strikes, it also indicates a specific Irish inflection to citizens' emotional and experiential connection to climate action. For example, prevalent themes expressed frustration with the limits of individual consumer engagement in terms of addressing the scale and urgency of the climate emergency. Many participants were also frustrated with the perceived lack of meaningful government and business response. This indicates the presence of a new challenge for communications practitioners, namely "response scepticism", which describes public doubts about the effectiveness of proposed responses (Capstick and Pidgeon, 2014). Thus, in addition to awareness-raising and efforts to encourage behavioural change, citizen engagement initiatives should address the possibility for response scepticism. Likewise, the prevalence of themes describing critiques of market and economic interests, concern about structural inequality and penalising citizens (coded as "Maintaining Status Quo", "Institutional Legacy Issues and Inertia", "The Cost" and "It's Unfair") highlights important issues for citizen dialogues to work through.

Future engagement initiatives should therefore acknowledge the cultural barriers to change and address potential mind-set challenges and legacy trust issues. Furthermore, given participants' frustration with private sphere and consumer engagement, climate action dialogues should balance information about individual (behaviour) change with discussions about opportunities for collective and community action and public sphere engagement as well as alternative visions of a low-carbon future.

5 Engaging Citizens with Climate Action in Everyday Life

5.1 Overview

As the physical impacts of climate change become increasingly urgent, a greater understanding of the social response to the climate emergency will be needed. In addition to ambitious climate governance and technological innovation, citizen engagement is widely accepted as crucial to building the necessary societal response. However, while there is consensus about the need to engage citizens with climate action, there are different assumptions about how to engage citizens, as well as views on the purpose and aims of engagement initiatives. In addition, insights on citizens' existing knowledge and everyday engagement with mediated messages about tackling climate change are under-researched.

This study investigated citizens' views on tackling climate change in Ireland with a focus on identifying what citizens *know, experience and do* as part of their everyday responses to climate and energy transition. Given that most people gain information about climate mitigation actions via the contemporary media ecosystem, the study also examined the sources of citizens' views on climate action through a survey of participants' current media use and trusted sources on tackling climate change. The findings therefore establish a baseline of citizens' views and highlight opportunities and challenges for engaging citizens with CAPs in the course of daily life.

The study draws on two contemporary assumptions about engaging citizens with climate action. First, climate action as a multi-dimensional challenge requires widespread societal involvement and radical social transformations involving the need for "A Just Transition". Therefore, this study focused on engaging citizens with climate mitigation and energy transition. As a result, it adds to knowledge on climate change communication, which traditionally focuses on developing insights about risk communication and engaging citizens with climate impacts and causes or improving climate science communication.

The second assumption is that digital and social media are central to daily life and, therefore, media consumption shapes everyday engagement with climate action. In other words, the various deliberative approaches and face-to-face communication initiatives for involving citizens and galvanising public support for policy and lifestyle change do not reflect the full spectrum of influences on citizens' perceptions, expectations and actions. In the contemporary media landscape, citizens engage with an increasing range of messages, influencers, distribution platforms and social networks. These new media conduits represent the everyday spaces of engagement. Therefore, knowledge of citizens' media uses and information-seeking about climate action is crucial to understanding the opportunities for and barriers to engaging citizens in the course of daily life.

The study produced original empirical data on participants':

- media use and information-seeking and -sharing on climate action;
- trusted sources on climate action;
- current perceptions of, involvement in and experiences of climate action.

While the findings are not generalisable, they offer granular insights that can be used by a range of stakeholders, such as the NDCA, as well as the CARO, to help tailor and target communications campaigns for climate action.

5.1.1 Unexpected findings

The study highlighted two unexpected findings related to participants' awareness of the Citizens' Assembly on Climate Leadership and the EPA. While there was significant news media coverage of the Citizens' Assembly on Climate Leadership, only one group (the energy union representatives) reported that they were aware of the event or its recommendations on climate action and the follow-up all-party reports. Significantly, many more participants had heard of the Citizens' Assembly in relation to other issues. This highlights the unique characteristics of public debates and participation with science and environmental issues and the need for specialised communications research. In addition, very few participants had heard

of the EPA or the NDCA. This underlines the difficulty of communicating messages in the contemporary media landscape, where the proliferation of media channels and platforms encourages audience fragmentation, requiring nuanced communications strategies to reach targeted audiences.

5.2 Recommendations for Stakeholders and Policy Communications

The following recommendations for advancing communications and citizen engagement with CAPs are based on the challenges and opportunities identified by this study.

5.2.1 Informational content and media uses

Debate and decision-making about climate mitigation actions and energy transition involve discussion of techno-managerial issues (i.e. communication of different types of knowledge and between experts and lay publics). Therefore, communication of climate policy should consider citizens' information needs and media preferences by:

- **Providing a socially meaningful road map of CAPs in Ireland.** This should highlight who, when, where and what citizens can do to make a difference and link these to the objectives and goals in the CAP. In other words, policy communication should focus on how government policy helps people to engage in meaningful social transformations with different levels of climate action. Crucially, communication should highlight how specific policies relate to things people care about protecting.
- **Focusing on multi-media information with storytelling as a mode of communication** (i.e. YouTube, Instagram and documentaries with trusted sources). Survey responses indicated a preference for film/documentary formats and social media for information about climate action. It also highlighted the value of popular culture as a vehicle for engaging citizens in public dialogues. For example, the BBC's *The Blue Planet* was by far the most talked about media content discussed by all the groups.
- **Addressing climate action information gaps.** Participants indicated that they wanted more in-depth information about climate action policy and that they were least informed about the science and technologies associated with moving to a different energy regime. There is an opportunity for communications around the CAP to meet this informational need through online participatory meetings or mini Citizens' Assemblies, for example on a county-by-county basis or as part of future NDCA or CARO engagement activities. These virtual participatory initiatives could employ lessons from the Citizens' Assembly on Climate Leadership.

Journalism and news media also have an important role in socialising environmental challenges and related techno-scientific innovations. Media coverage (including news media, business and lifestyle reports) is needed to raise public awareness, provide social and political context and act as a platform for public debate and to keep the issue on the public agenda. While participants turned to news media for information and trust print and broadcast media over social media sources, they also reported concern about media framing and the limited range of voices in climate action reports. These concerns also highlight opportunities for future news media coverage, for example by:

- **providing more critical analysis** of technology such as the environmental impacts of green technology and reporting on alternatives to high-carbon lifestyles as well as increasing the range of voices on climate actions.

5.2.2 Citizen engagement initiatives

The focus group discussions identified potential barriers to and opportunities for future engagement initiatives. The following suggestions address challenges noted for each of the dimensions of citizen engagement.

Cognitive engagement

- Participants had high levels of awareness of the environmental and economic aspects of climate action but were less well informed about the social, political and technological dimensions of energy transition.

This requires social learning about carbon reduction activity and how everyday activities contribute to

greenhouse gas emissions in addition to the social impacts of climate action. For example, much of the scholarly literature and discussion of inequality in energy transitions focuses on energy affordability for consumers. However, citizen awareness of burden-sharing around climate action could also go beyond consumer concerns and include discussion of the impacts on workers and communities affected by transition pathways such as job losses in the energy sector and the need to change work practices in agriculture.

- Initiatives need to broaden public awareness of climate action beyond a narrow engagement with general pro-environmental concerns (i.e. focus on litter and recycling).

While these are important issues, public discussion should also address societal decarbonisation and over-consumption. Engagement initiatives should therefore balance information about climate risks and environmental impacts with discussion of the moral and technological dimensions of climate mitigation actions as well as the social and cultural aspects of A Just Transition.

Behavioural–political engagement

- Initiatives should build on the existing interest in lifestyle and consumer change by developing opportunities for climate citizenship and encouraging more public sphere activity as well as facilitating collective and community initiatives.

High-profile sustainability campaigns, from banning single-use plastic and carrying reusable coffee cups or water bottles, were among the top climate actions currently undertaken. This suggests that citizen involvement with climate action is synonymous with individual pro-environmental actions and consumer engagement. However, the emphasis on individual behaviour change, especially green consumer engagement with washing products, plastic bottles, EVs and house retrofitting, is only a start. As other researchers have found, individual behaviour change, and small acts around the home, have limited impacts and may even circumscribe potential for wider forms of engagement (Davies *et al.*, 2014). Significantly, many participants expressed frustration and described feelings of helplessness with respect to these private sphere actions.

- Future conversations about enacting consumer citizenship should promote alternative approaches to consumption.

For example, promoting the idea of "Plenitude", Schlor (2010) advocates the idea of working and spending less, and creating and connecting more. Thus, rather than a paradigm of sacrifice, this idea involves a way of life that will yield more well-being than sticking to business as usual. Others argue that communication needs to challenge norms that presume that "the good life" depends on consumption and that making lifestyle sacrifices is necessarily a gloomy proposition (Vanderheiden, 2010). This line of thinking reframes the notion that living green does not mean living well and can be achieved by "emphasising that reducing competitive consumption and eating sustainable food can increase leisure time, the quality of personal relationships and pleasure people find in food" (Vanderheiden, 2010, pp. 14–17). In addition to developing more constructive framings by linking climate action to community goals and the challenge of overcoming the odds or ideas of change for a greater good, the literature on celebrities and climate change communications highlights the value of identifying and collaborating with Low Carbon Ambassadors, such as sports icons (as was seen at the 2016 Rio Olympics).

5.2.4 Affective engagement

- Communication campaigns need to address the high level of negative sentiment around climate action and the potential for wider frustration and helplessness with respect to consumer engagement.

Increased awareness that facts and evidence have yet to motivate large numbers to mobilise around climate change has focused attention on the need for affective engagement (i.e. creating emotional and/or experiential involvement with climate action). However, the focus group discussions revealed high levels of negative sentiment about climate action, which indicates the potential for response scepticism (i.e. doubt about our ability to tackle climate change).

In addition to encouraging climate citizenship by promoting collective and community responses, there is a need to engage citizens with a social vision of tackling climate change (see section 5.2.1). Therefore, communication and engagement around CAPs

needs to do more than show that policy is necessary, efficient and effective; it also needs to facilitate socially meaningful discussions of the social transformations involved in climate and energy transitions.

5.2.5 Future research: climate action, COVID-19 and crisis communication

- Given that climate change is officially recognised as an emergency, an analysis of citizen reception and engagement with COVID-19 crisis communication in Ireland to understand the efficacy of messages focused on communal values and public good versus individualistic incentives (which is the dominant, behavioural change approach) may provide fruitful insights on tailoring communication about CAPs.

The link between public health and climate change is well established in the literature, and prominent researchers advocate the efficacy of framing climate change as a health issue to broaden public engagement. In light of the ongoing need to address COVID-19 with impacts on social life, norms and behaviour in the short to medium term, this public health concern therefore represents an important area for future research on climate action communication in Ireland. In general, research exploring how the new external environment influences citizen engagement with climate action is crucial, for example in terms of the influence on and implications for resource use, especially single-use plastics and water, both of which have substantially changed as a result of personal hygiene measures.

It is also worth noting, however, that citizens may not want to engage with climate change, as after a traumatic event there may also be behavioural fatigue and people have a right to a period of recovery. Navigating these competing possibilities will require nuance and tact and this report highlights that there is unlikely to be a one-size-fits-all message on tackling climate change.

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Abbreviations

BBC	British Broadcasting Corporation
CAP	Climate Action Plan
CARO	Climate Action Regional Offices
EPA	Environmental Protection Agency
EV	Electric vehicle
FOEI	Friends of the Earth Ireland
NDCA	National Dialogue on Climate Action
SASSY	Six America's Super Short Survey (Yale Climate Communication)
TA	Thematic analysis
WoS	Web of Science
WWF	World Wide Fund for Nature

Appendix 1 Survey of Media Use and Trusted Sources

Citizens' Views on Climate Action in Ireland

Investigating media use and information-seeking about tackling climate change

The issue of how to respond to climate change is a growing topic of public discussion and it requires widespread public awareness of the different action plans to reduce carbon emissions. This questionnaire explores whether and how you access information about how we respond to climate change (e.g. whether it is through news media, friends or social media). It also examines your views on how the media and other trusted sources present information about what specific climate action plans should be adopted in Ireland.

1. Participant details
   (a) What is your gender? (*Tick relevant box*)
      (i) Male
      (ii) Female
      (iii) Other
   (b) What is your age? (*Tick relevant box*)
      (i) 18–24
      (ii) 25–44
      (iii) 45–64
      (iv) 65 and over
   (c) Where do you live in Ireland? Please identify the county.
   (d) What is your highest level of education?
   (e) How much do you know about climate actions (i.e. different ways of tackling climate change)?
      (i) I am very knowledgeable
      (ii) I am reasonably knowledgeable
      (iii) I have very little knowledge
      (iv) I've heard the term, but don't know what it means
2. Your views on the risks and impacts of climate change
   (a) How important is the issue of climate change to you personally? (*Tick ONE box*)
      (i) Extremely important
      (ii) Very important
      (iii) Somewhat important
      (iv) Not too important
      (v) Not at all important
   (b) How worried are you about climate change risks and impacts? (*Tick ONE box*)
      (i) Very worried
      (ii) Somewhat worried
      (iii) Not very worried
      (iv) Not at all worried
   (c) How much do you think climate change will harm you personally? (*Tick ONE* box)
      (i) A great deal
      (ii) A moderate amount
      (iii) Only a little
      (iv) Not at all
      (v) Don't know
   (d) How much do you think climate change will harm future generations of people? (*Tick ONE box*)
      (i) A great deal
      (ii) A moderate amount
      (iii) Only a little
      (iv) Not at all
      (v) Don't know

(e) What type of problem is climate change in your view? (*Tick boxes you consider MOST relevant*)

(i) An environmental problem

(ii) An economic problem

(iii) A behaviour change problem

(iv) A technological problem

(v) A moral problem

(vi) A collective action/community problem

(vii) A government action problem

(viii) A problem of over-consumption

(ix) Other

3. Your media choices and information-seeking about climate actions

Climate actions (i.e. options for tackling climate change) are the different ways of reducing carbon emissions by business, individuals, communities and the state. This may include actions such as increasing carbon taxes, changing lifestyle/ consumer behaviour and moving to renewable energy among other options.

(a) Have you ever actively looked for information about different ways to tackle climate change? For example on TV/radio reports, social media pages, internet/web searches, gone to a public talk/event.

(i) Yes

(ii) No

(b) If you answered Yes, why do you actively seek out information about climate actions?

(c) If you answered No, why is that?

(d) In the past 30 days, how often have you come across information about how to tackle climate change?

(i) More than once a week (if so, how many times/what source?)

(ii) Once a week

(iii) Once a fortnight

(iv) Once a month

(v) Never

(e) How do you (or would you) prefer to learn about actions to tackle climate change? (*Answer all relevant*)

(i) Television (if so, which programme and station?)

(ii) Radio (if so, which programme and station?)

(iii) Print or digital newspaper/magazine (if so, which publication?)

(iv) The internet (if so, name the website/blog/ search engine?)

(v) Social media (if so, which platform and pages/account?)

(vi) Digital device (if so, which: smartphone/ watch, laptop, tablet, computer?)

(vii) Other (e.g. public events; news aggregators/messaging apps, if so which apps?)

(f) How would you describe the amount of media coverage and public information available on different levels of climate action? (*Tick ONE box*)

(i) There is too much information

(ii) There is not enough information

(iii) There is about the right amount of information

(iv) Don't know

(g) What type of information do you (or would you) most prefer to find out about climate actions? (*Tick a maximum of three boxes*)

(i) Text-based news articles (either print or digital)

(ii) Radio discussion

(iii) Infographics/visual images

(iv) Films/documentaries/videos

(v) List of actions

(vi) Other

(h) What is the most memorable information about actions to tackle climate change in Ireland that you have come across?

(i) If you have actively searched for information about climate actions, on a scale of 1–5 (where 1 = not very well informed and 5 = very well informed) how well informed do you feel about:

(i) The reasons why we need to tackle climate change in Ireland *(Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(ii) The science of, or technologies for, reducing carbon emissions *(Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(iii) The policy and economic benefits of tackling climate change (*Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(j) What do you do with media/information about different actions to tackle climate change?

(i) Discuss with friends and/or family

(ii) Discuss it on social media

(iii) Discuss it on the internet (e.g. blogs, forums)

(iv) Nothing

(v) Other (e.g. public meetings; messaging apps)

(k) If you discuss media/information about climate actions with family/friends, how often do you do so?

(i) Often

(ii) Sometimes

(iii) Rarely

(l) If you discuss it on social media, which platform and what site do you use? (*Answer all relevant*)

(i) Facebook (if so, which pages?)

(ii) Twitter (if so, which accounts?)

(iii) Instagram (if so, which accounts?)

(iv) Other (e.g. messaging apps – which ones?)

(m) If you discuss it on the internet, which blog(s) or forums do you use?

4. Trusted sources on climate change and actions to reduce emissions

(a) Who are your most trusted sources of information on climate action (i.e. if in doubt about tackling climate change in Ireland, who would you trust the most)? (*Tick THREE most trusted sources*)

(i) National government

(ii) Journalist

(iii) Scientist

(iv) Economist

(v) Environmental protection associations (e.g. EPA, WWF, FOEI)

(vi) Local authority

(vii) Consumer associations

(viii) Teachers at university/school

(ix) Doctor/health professional

(x) Pro-environmental political parties

(xi) Other (e.g. agricultural advisor, celebrity, conversation with friends/family/ colleagues)

(b) What is the main reason you trust this source(s) on climate action?

(c) On a scale of 1–5 how much do you trust the following sources when it comes to providing reliable information about climate actions plans in Ireland?

(1 = DO NOT trust at all, 5 = trust completely)

(i) Politicians (*Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(ii) Journalist (*Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(iii) Scientist (*Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(iv) Environmental organisations (*Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(v) Local authority (*Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(vi) Companies (*Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(vii) European Union (*Tick ONE box*)

1. ____ 2. ____ 3. ____ 4. ____ 5. ____

(d) From the following list, which channels of information do you trust the most when it comes to providing reliable information about tackling climate change? (*Tick a maximum of three boxes*)

(i) Radio

(ii) Television

(iii) The press/written media

(iv) The internet: blogs, search engines, forums

(v) Public talks/meetings

(vi) Facebook

(vii) Twitter

(viii) YouTube

(ix) Books, pamphlets, information sheets

(x) Other (e.g. messaging apps; aggregated news services)

5. Having answered a range of questions about the media coverage, communication and public information on climate action plans in Ireland, is there anything else you would like to say about this topic?

Appendix 2 Focus Group Interview Schedule

Introduction

Ask each participant: What comes to mind when you hear the words “climate action”?

Media Coverage

To encourage discussion after the survey, the opening question asked participants to sum up their views on media coverage of climate change or climate action.

Climate Change

Why do you think we should act on climate change?

Who should lead on climate action in Ireland?

Climate Action

Have you heard of the Citizens’ Assembly or any of the recent reports on responses to climate action in Ireland?

Have you heard of the term “A Just Transition” and, if so, what does it mean to you?

Roles and Responsibility

What are you doing or do you intend doing about climate change in your daily life or as part of your work?

What do you think should be done by others, for example government, business?

Barriers

What are some of the barriers or challenges to acting on climate change in Ireland?

Expectations (after the fourth focus group, this question was added to the interview script)

What does a climate changed future look like? What is your vision of a post-carbon society?

Presentation on the Recommendations of the Citizens’ Assembly on Climate Leadership in Ireland

The researcher ended each focus group session with a short (circa 15 minute) presentation summarising the 13 key recommendations arising from the Citizens’ Assembly.

Appendix 3 Web of Science Search Protocol

The terms listed below were used to search for titles on WoS (WoS Core Collection). The search covered the timeframe 2010–2019 and was conducted in April 2019. Although WoS is a wide-ranging database and has been used for other climate communications reviews (Moser, 2016) it does not include highly relevant "grey" literature. In addition, the search was refined to include English language articles only. Therefore, not all potentially relevant journals might be indexed and non-English articles are not included.

To address this limitation and avoid overlooking strands of research, following Schäfer and Schlichting (2014) among others, a supplementary search of four key texts was also conducted, namely of the following literature reviews encompassing the multi-dimensional focus of this study: Schäfer and Schlicting, 2014; Moser, 2016; Cozen *et al.*, 2018; Pearce *et al.*, 2018. The search identified studies of media representations and audience consumption of media texts on climate mitigation actions.

Search terms for "climate mitigation actions": Climat* change near/5 mitigation; Energy near/5 climat*; Decarbon* near/5 climat*; Carbon* near/5 climat*; Carbon Capture and Storage near/5 climat*

Following Schäfer and Schlichting (2014), synonyms for "media" included Media, press, news, TV, radio, internet, web and social media.

Inclusion and Exclusion Criteria

Articles included chart developments in media studies of climate mitigation actions and shed light on citizen, public(s) or individual engagement with different levels of climate mitigation actions. The article selection process distinguished between public engagement and the related concept of participation, by defining engagement with climate mitigation as "a personal state of connection with the issue of climate change, in contrast to engagement solely as a process of public participation in policy-making" (Wolf and Moser, 2011, p. 550). Building on this, the review included articles on how media texts act as sites for engaging publics with climate mitigation actions. Articles that did not specifically focus on climate mitigation actions were excluded.

AN GHNÍOMHAIREACHT UM CHAOMHNÚ COMHSHAOIL
Tá an Ghníomhaireacht um Chaomhnú Comhshaoil (GCC) freagrach as an gcomhshaol a chaomhnú agus a fheabhsú mar shócmhainn luachmhar do mhuintir na hÉireann. Táimid tiomanta do dhaoine agus don chomhshaol a chosaint ó éifeachtaí díobhálacha na radaíochta agus an truaillithe.

Is féidir obair na Gníomhaireachta a roinnt ina trí phríomhréimse:

Rialú: *Déanaimid córais éifeachtacha rialaithe agus comhlíonta comhshaoil a chur i bhfeidhm chun torthaí maithe comhshaoil a sholáthar agus chun díriú orthu siúd nach gcloíonn leis na córais sin.*

Eolas: *Soláthraímid sonraí, faisnéis agus measúnú comhshaoil atá ar ardchaighdeán, spriocdhírithe agus tráthúil chun bonn eolais a chur faoin gcinnteoireacht ar gach leibhéal.*

Tacaíocht: *Bímid ag saothrú i gcomhar le grúpaí eile chun tacú le comhshaol atá glan, táirgiúil agus cosanta go maith, agus le hiompar a chuirfidh le comhshaol inbhuanaithe.*

Ár bhFreagrachtaí

Ceadúnú
Déanaimid na gníomhaíochtaí seo a leanas a rialú ionas nach ndéanann siad dochar do shláinte an phobail ná don chomhshaol:
- saoráidí dramhaíola *(m.sh. láithreáin líonta talún, loisceoirí, stáisiúin aistrithe dramhaíola)*;
- gníomhaíochtaí tionsclaíocha ar scála mór *(m.sh. déantúsaíocht cógaisíochta, déantúsaíocht stroighne, stáisiúin chumhachta)*;
- an diantalmhaíocht *(m.sh. muca, éanlaith)*;
- úsáid shrianta agus scaoileadh rialaithe Orgánach Géinmhodhnaithe *(OGM)*;
- foinsí radaíochta ianúcháin *(m.sh. trealamh x-gha agus radaiteiripe, foinsí tionsclaíocha)*;
- áiseanna móra stórála peitril;
- scardadh dramhuisce;
- gníomhaíochtaí dumpála ar farraige.

Forfheidhmiú Náisiúnta i leith Cúrsaí Comhshaoil
- Clár náisiúnta iniúchtaí agus cigireachtaí a dhéanamh gach bliain ar shaoráidí a bhfuil ceadúnas ón nGníomhaireacht acu.
- Maoirseacht a dhéanamh ar fhreagrachtaí cosanta comhshaoil na n-údarás áitiúil.
- Caighdeán an uisce óil, arna sholáthar ag soláthraithe uisce phoiblí, a mhaoirsiú.
- Obair le húdaráis áitiúla agus le gníomhaireachtaí eile chun dul i ngleic le coireanna comhshaoil trí chomhordú a dhéanamh ar líonra forfheidhmiúcháin náisiúnta, trí dhíriú ar chiontóirí, agus trí mhaoirsiú a dhéanamh ar leasúchán.
- Cur i bhfeidhm rialachán ar nós na Rialachán um Dhramhthrealamh Leictreach agus Leictreonach (DTLL), um Shrian ar Shubstaintí Guaiseacha agus na Rialachán um rialú ar shubstaintí a ídíonn an ciseal ózóin.
- An dlí a chur orthu siúd a bhriseann dlí an chomhshaoil agus a dhéanann dochar don chomhshaol.

Bainistíocht Uisce
- Monatóireacht agus tuairisciú a dhéanamh ar cháilíocht aibhneacha, lochanna, uiscí idirchriosacha agus cósta na hÉireann, agus screamhuiscí; leibhéil uisce agus sruthanna aibhneacha a thomhas.
- Comhordú náisiúnta agus maoirsiú a dhéanamh ar an gCreat-Treoir Uisce.
- Monatóireacht agus tuairisciú a dhéanamh ar Cháilíocht an Uisce Snámha.

Monatóireacht, Anailís agus Tuairisciú ar an gComhshaol
- Monatóireacht a dhéanamh ar cháilíocht an aeir agus Treoir an AE maidir le hAer Glan don Eoraip (CAFÉ) a chur chun feidhme.
- Tuairisciú neamhspleách le cabhrú le cinnteoireacht an rialtais náisiúnta agus na n-údarás áitiúil *(m.sh. tuairisciú tréimhsiúil ar staid Chomhshaol na hÉireann agus Tuarascálacha ar Tháscairí)*.

Rialú Astaíochtaí na nGás Ceaptha Teasa in Éirinn
- Fardail agus réamh-mheastacháin na hÉireann maidir le gáis cheaptha teasa a ullmhú.
- An Treoir maidir le Trádáil Astaíochtaí a chur chun feidhme i gcomhair breis agus 100 de na táirgeoirí dé-ocsaíde carbóin is mó in Éirinn.

Taighde agus Forbairt Comhshaoil
- Taighde comhshaoil a chistiú chun brúnna a shainaithint, bonn eolais a chur faoi bheartais, agus réitigh a sholáthar i réimsí na haeráide, an uisce agus na hinbhuanaitheachta.

Measúnacht Straitéiseach Timpeallachta
- Measúnacht a dhéanamh ar thionchar pleananna agus clár beartaithe ar an gcomhshaol in Éirinn *(m.sh. mórphleananna forbartha)*.

Cosaint Raideolaíoch
- Monatóireacht a dhéanamh ar leibhéil radaíochta, measúnacht a dhéanamh ar nochtadh mhuintir na hÉireann don radaíocht ianúcháin.
- Cabhrú le pleananna náisiúnta a fhorbairt le haghaidh éigeandálaí ag eascairt as taismí núicléacha.
- Monatóireacht a dhéanamh ar fhorbairtí thar lear a bhaineann le saoráidí núicléacha agus leis an tsábháilteacht raideolaíochta.
- Sainseirbhísí cosanta ar an radaíocht a sholáthar, nó maoirsiú a dhéanamh ar sholáthar na seirbhísí sin.

Treoir, Faisnéis Inrochtana agus Oideachas
- Comhairle agus treoir a chur ar fáil d'earnáil na tionsclaíochta agus don phobal maidir le hábhair a bhaineann le caomhnú an chomhshaoil agus leis an gcosaint raideolaíoch.
- Faisnéis thráthúil ar an gcomhshaol ar a bhfuil fáil éasca a chur ar fáil chun rannpháirtíocht an phobail a spreagadh sa chinnteoireacht i ndáil leis an gcomhshaol *(m.sh. Timpeall an Tí, léarscáileanna radóin)*.
- Comhairle a chur ar fáil don Rialtas maidir le hábhair a bhaineann leis an tsábháilteacht raideolaíoch agus le cúrsaí práinnfhreagartha.
- Plean Náisiúnta Bainistíochta Dramhaíola Guaisí a fhorbairt chun dramhaíl ghuaiseach a chosc agus a bhainistiú.

Múscailt Feasachta agus Athrú Iompraíochta
- Feasacht chomhshaoil níos fearr a ghiniúint agus dul i bhfeidhm ar athrú iompraíochta dearfach trí thacú le gnóthais, le pobail agus le teaghlaigh a bheith níos éifeachtúla ar acmhainní.
- Tástáil le haghaidh radóin a chur chun cinn i dtithe agus in ionaid oibre, agus gníomhartha leasúcháin a spreagadh nuair is gá.

Bainistíocht agus struchtúr na Gníomhaireachta um Chaomhnú Comhshaoil
Tá an ghníomhaíocht á bainistiú ag Bord lánaimseartha, ar a bhfuil Ard-Stiúrthóir agus cúigear Stiúrthóirí. Déantar an obair ar fud cúig cinn d'Oifigí:
- An Oifig um Inmharthanacht Comhshaoil
- An Oifig Forfheidhmithe i leith cúrsaí Comhshaoil
- An Oifig um Fianaise is Measúnú
- Oifig um Chosaint Radaíochta agus Monatóireachta Comhshaoil
- An Oifig Cumarsáide agus Seirbhísí Corparáideacha

Tá Coiste Comhairleach ag an nGníomhaireacht le cabhrú léi. Tá dáréag comhaltaí air agus tagann siad le chéile go rialta le plé a dhéanamh ar ábhair imní agus le comhairle a chur ar an mBord.

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Citizens' Views of Climate Action in Ireland: Insights on Media Use, Trusted Sources and Perceptions

Author: Brenda McNally

While there is consensus about the need to communicate with citizens about climate change and to increase public engagement with climate action, this requires greater understanding of citizens' communication needs and media preferences. Therefore, research as to what citizens currently know about tackling climate change and their information-seeking about this challenge is urgently required. This project addresses that gap by investigating citizens' views of and media consumption about climate actions in Ireland. In doing so, the report supports environmental policymaking by providing data to tailor communication about climate action and to broaden citizen engagement with climate change.

Identifying Pressures

Public engagement is widely accepted as both an urgent and a necessary communications strategy for mobilising citizen concern about, support for and involvement with climate action. However, there are several conceptualisations and processes for enacting public engagement, ranging from persuasive techniques to harness behavioural change, to citizen-led grassroots initiatives and forms of participation in policymaking, such as the Citizens' Assembly. Significantly, they all involve public dialogue (i.e. talking *and* listening). Thus, greater knowledge of what citizens in Ireland currently say about tackling climate change and insights on their views about climate action represent an important starting point for advancing public dialogue about climate change. Furthermore, given that most people gain information about climate change actions via a proliferating range of media channels and platforms, it is also important to understand citizens' media choices, information-seeking and trusted sources on climate actions. Therefore, this study sheds light on the contemporary communicative context in which citizens engage with climate action and highlights the opportunities for and barriers to progressive dialogue and broadening citizen engagement in Ireland posed by this new communication landscape.

Informing Policy

The study undertook focus group discussions at which participants completed a survey of their media consumption around climate action in Ireland. The group discussions identified public views about different levels of climate actions and the survey responses highlighted citizens' preferred media and trusted sources on climate change.

By analysing citizens' current understandings of, everyday responses to and expectations of climate actions, as well as their media choices, the findings shed light on what additional or new communications messages may be needed to increase awareness of, support for and involvement with the societal responses to climate change. The study seeks to inform policy about potential gaps and opportunities for innovating communication about climate actions and to provide new starting points for citizen dialogues such as the National Dialogue on Climate Change.

Developing Solutions

The survey findings showed that participants were very concerned about conflicts of interest on climate action and that scientists were viewed as reliable sources because they were perceived as objective conveyors of facts. These findings draw attention to the role of trust and transparency when engaging citizens with climate action and the need to build trust in communications initiatives. The focus group discussions revealed a unique Irish inflection to citizens' engagement with climate change; participant discussions were dominated by negative sentiments relating to doubts about meaningful government and business responses to climate change. Consistent with recent consumer surveys in Ireland, there was a focus on individual consumer engagement but a notable lack of awareness about different levels of mitigation processes and the idea of "A Just Transition". This indicates the need for social learning about carbon-reduction activities and for communications initiatives promoting collective and community engagement, as well as more discussion of the social, ethical and technological dimensions of climate action in Ireland.

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