

Using Worldviews to Inspire and Scale Climate Action – *A Literature Review*



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Executive summary

“Using Worldviews to Inspire and Scale Climate Action” (UWISCA) is a three-year research project funded by the Environmental Protection Agency (EPA) as part of its 2021-2030 research programme. The project’s overall theme is to apply a worldview lens to climate communications to assist with the design of messages to resonate with and amplify the psychological and emotional drivers that influence people’s motivation to engage and take action on climate change. It builds on the EPA’s own ongoing research on public attitudes and behaviour relating to climate change in Ireland as part of its *Climate Change in the Irish Mind* (CCIM) project (EPA, 2021-2024).

Research demonstrates that traditional reliance on information-based climate communications has been insufficient for changing behaviour or boosting engagement on climate change and that inner dimensions such as worldviews, values and beliefs can significantly influence approaches to climate change risk assessment, mitigation and adaptation (Burch et al., 2014; Suldovsky et al. 2017; Pender, 2023). This literature review draws together over 400 sources of key research literature on the role that these inner dimensions play in human understanding and action in relation to climate change and how this can be applied to the design of climate communications. The individual sources are available via the project website at www.climateworldviews.com and have been compiled under the following five headings:

1. The challenge of communicating climate change
2. Climate communication in the Irish context
3. Worldview theory and climate communication
4. Cultural and social values in climate communication
5. Best practice for worldviews-informed climate communication.

The challenge of communicating climate change

The theory and practice of climate change communication has progressed from a focus up to the early 2000s on information provision to a more recent recognition of the need to understand the different ways in which people comprehend and respond to the issue and the deeper reasons for these differences. This has been accompanied by the development and use of tools such as narratives and framing, along with growing expertise in addressing trust, scepticism and denial issues. However, communicating climate change still faces key challenges, most notably in relation to designing communications that can close the gap between awareness and action and generate greater agency and engagement among different groups and audiences.

Climate communication in the Irish context

While data on public awareness, support and engagement relating to climate change in Ireland has historically been inconsistent, recently there has been a positive trend towards increasing support for action, and more reliable data is likely to be available through EPA’s Climate Change in the Irish Mind (CCIM) initiative. In Ireland, while awareness of climate change is currently high among the public (EPA, 2024a,b), this has not necessarily translated into individual climate action (Government of Ireland, 2022) – i.e., there is a ‘say-do’ gap. The potential to design more effective climate engagement communications and build on the

regular insights provided by initiatives such as the EPA's Climate In the Irish Mind is promising; however, given the persistence of the awareness-action gap, indications are that a 'one-size-fits-all' approach to climate communications may be insufficient, and require more tailored messages designed to appeal to different audiences.

Worldview theory and climate communication

Various models and frameworks have sought to explain differences in people's understanding and behaviour in relation to environmental issues. The concept of worldviews can provide insight on the ways that we understand climate change and why and how we respond to it – for example, whether our responses are shaped by a short or longer-term perspective and what values and rationales may be driving our choices. The UWISCA project employs a model of worldview typologies known as the Integrative Worldview Framework (De Witt et al., 2016), which distinguishes four major categories of worldviews present in contemporary Western populations: Traditional, Modern, Postmodern and Integrative. Initial research to date has found significantly more concern about climate change and more political support for addressing it, as well as more sustainable behaviours, among postmodern and integrative worldviews, compared with modern and traditional worldviews. In the Irish context, there is some suggestion of this in relation to the "Four Irelands" identified as part of the EPA's CCIM initiative, where the categories of "Alarmed", "Concerned", "Cautious" and "Doubtful" show differing levels of support for climate change policy and action. However, there is also scope to 'translate' key climate messages in a way that will resonate with the values prioritised by each worldview and help to address resistance to climate action.

Social and cultural values in climate communication

People use values to help them assess the potential implications of policies, behaviour changes or other actions on their lives and choices and tend to filter information according to whether it fits their values or not. Research indicates the importance of identifying the key values of specific audiences for climate change messages and the need to ensure that message content connects with these values to enhance their effectiveness. This aligns with other research indicating that communications which are perceived by an audience to be more personally relevant are more likely to be persuasive, as one's motivation to engage with the message is increased – for example, research has shown that reframing climate change and conservation messages as reflecting values of patriotism, obedience to authority, etc., increased support among more conservative groups. In addition, people's attachment to place and aspects of their local / national identity can both constrain and enable support for pro-environmental communications.

Best practice for worldviews-informed climate communication

Selected examples of best practice insights from the research literature on climate communications relating to worldviews were highlighted in this review, including: Sippel et al.'s (2022) ten key principles on how to communicate climate change for effective public engagement; Morgan and Fischhoff's (2023) five-step 'mental models' approach to developing climate adaptation and risk communications; Markowitz and Sweetland's (2018) guidance on the 'side door' approach to overcoming polarisation and echo chambers in climate communications; Moser's (2014) guidance on communicating climate adaptation; various

values-based research guidance, including the *Sustain Wales* sustainability communications initiative; and research on how to deal with emotions and the 'climate shadow' for more effective engagement. Selected examples of climate-change and environmental advertisements and other communications were also identified in which elements of worldviews and values could be discerned. These give some insight on how the UWISCA project's research might be utilised in the design of communications that will resonate with different audiences by linking the message to the particular values of each worldview.

Effectively communicating the need for people to engage in climate action is essential to successfully close the 'attitude-action' gap. As outlined in this report, relying solely on the provision of evidence and information about the issue of climate change is insufficient to generate such engagement. Critically, we need to recognise the different ways in which people understand and respond to climate change and the different assumptions and beliefs they bring to these perspectives. In this regard, this literature review provides a novel compilation of research linking climate communications and worldviews, both in the Irish context and more widely. It should provide a useful starting point for those interested in improving the design of climate communications for public engagement and also serve as a basis for further research in the area.

1. Introduction

This report reviews key sources of research on the topic of climate communication from the perspective of the worldviews concept. Worldviews can be understood as the fundamental 'lenses' through which we see and filter reality (De Witt et al., 2016), shaping both our understanding of and response to issues such as climate change. Increasing attention is now being paid to the role of worldviews and other psychological and emotional dimensions of climate change, in particular how they influence the effectiveness of communications designed to generate engagement and action on the issue among different groups.

This report provides the first comprehensive compilation and review of existing research on worldviews and climate communications and situates this in the Irish context. It brings together sources from a range of research disciplines, as well as practical guidance and analysis from organisations whose work on climate communications draws on worldviews and related topics. In this regard, this report is a valuable foundation for those wishing to learn more about the concept and application of worldviews in climate communication, as well as providing a useful reference source for those already working with the concept. The report also includes a selection of real-world examples of climate change-related advertisements and other communications to illustrate how the concept of worldviews can be used in practice.

1.1 Project background

"Using Worldviews to Inspire and Scale Climate Action" (UWISCA) is a three-year research project funded by the Environmental Protection Agency (EPA) as part of its 2021-2030 research programme. The project's overall theme is to apply a worldview lens to climate communications to assist with the design of messages to resonate with and amplify the psychological and emotional drivers that influence people's motivation to engage and take action on climate change. It builds on the EPA's own ongoing research on public attitudes and behaviour relating to climate change in Ireland as part of its *Climate Change in the Irish Mind* project (EPA, 2021, 2022, 2024a, 2024b). More information on the UWISCA project and its outputs is available on at www.climateworldviews.com

The UWISCA project includes three literature review-related elements detailed in this report. Firstly, a comprehensive search was carried out to identify key relevant sources in the academic and grey literature relating to worldviews and climate communications. This included both general theory and practice literature as well as specific material relating to Ireland. Secondly, the identified literature was reviewed to provide an informed overview of the current state-of-play and key challenges / issues in relation to climate communications and worldviews. The results presented in this report were used to inform work on the other elements of the UWISCA project. Thirdly, the identified literature was used to develop an online 'living' literature review database to facilitate the evolution of research on Irish climate communications and engagement beyond the lifetime of the UWISCA project.

1.2 Climate communication and worldviews

Climate change is one of the most pressing global challenges of our time, impacting both the natural world and human society (IPCC, 2023). To address this challenge, a growing body of literature has called for interdisciplinary research that brings together expertise from fields such as environmental science, social science and policy (e.g. Schneider and Shiffrin, 1977; Rickards, 2018; Schipper et al., 2021), particularly in the design of effective communications to generate climate action. Research demonstrates that traditional reliance on information-based communications has been insufficient for changing behaviour or boosting engagement and that effective communication and engagement requires an understanding of specific groups of people – what they value, what they identify with, who they are – along with the language that resonates with them (Burch et al., 2014; World Bank, 2015; Suldovsky et al. 2017). Furthermore, there is now recognition that inner dimensions such as worldviews, values and beliefs significantly influence approaches to climate change risk assessment, mitigation and adaptation (Burch et al., 2014; Pender, 2023). In Ireland, while awareness of climate change is high among the public (EPA, 2024a, 2024b), this does not necessarily translate into climate action (Government of Ireland, 2022) – i.e., there is a ‘say-do’ gap).

In this context, there is value in exploring the role that inner dimensions such as worldviews play in human understanding and action in relation to climate change and how this can be applied to the design of climate communications. This literature review draws together key research literature in this regard. Section 2 provides a summary of the methodology used to identify key sources of literature and to develop the living literature database. Section 3 presents these sources under five themes, followed by a short conclusion in Section 4. Section 5 provides a full list of all references cited in the report and includes a link to the living literature database, which contains a full list of all literature sources identified for the project. This literature review will also be made available on the UWISCA project website.

2. Methodology

The concept of worldviews can be understood in several ways. The definition used in this project draws on adult development theory, which contends that cognitive, emotional, and psychological development occurs sequentially throughout the human lifespan and that each stage of this process is associated with a particular way of understanding and interacting with the world, i.e. a worldview. Each successive worldview enfolds and builds on earlier ones, broadening and deepening our capacity to understand and engage with the world around us (Pender, 2023). This is explained in more detail in Section 3.3.

To guide the identification of relevant sources of published literature and development of the living literature database, a set of key themes corresponding to the main elements of the UWISA project were agreed for which literature searches would be conducted. These were:

1. The challenge of communicating climate change
2. Climate communication in the Irish context
3. Worldview theory and climate communication
4. Cultural and social values in climate communication
5. Best practice for worldviews-informed climate communication.

To identify relevant literature under these themes a Google Scholar search was conducted, using key search terms (climate change, worldviews, communication(s), adult development, values, culture, climate communication and engagement) relevant to the themes above. The results generated were then refined to exclude those not directly applicable to the themes. The remaining sources were further examined to identify key articles (e.g., those whose topics most closely fit the theme or which had the highest number of citations, etc.). Their bibliographies were reviewed to see if any additional relevant sources could be identified, including grey literature. This approach draws on the ‘snowball’ method developed by Lecy and Beatty (2012), which has been utilised in previous EPA-funded research (McMullin & Price, 2020). Overall, **409** relevant literature sources were identified and compiled under the five key themes, as presented in Table 2.1 and Figure 2.1.

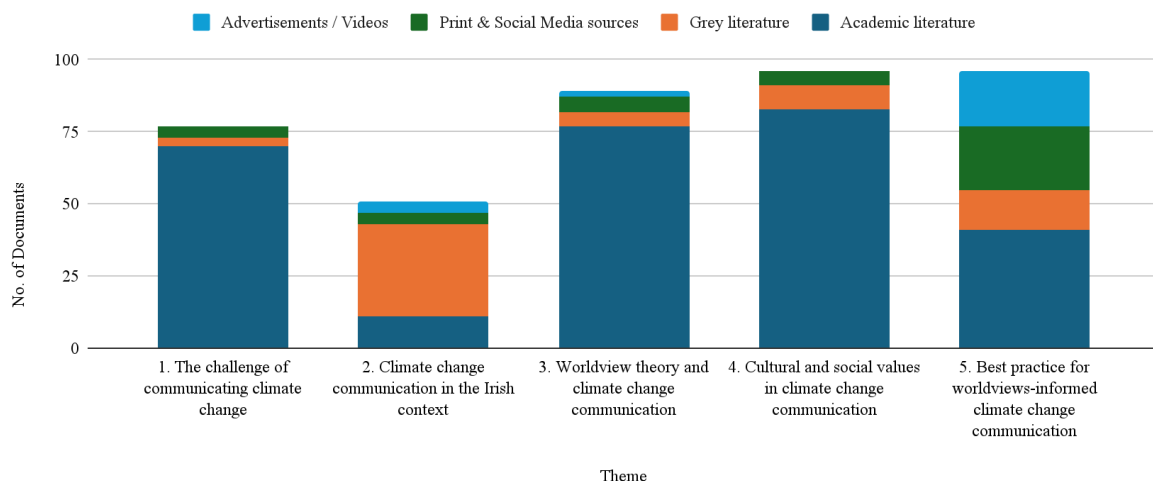


Figure 2.1. Climate communications literature review sources by theme and type of documents.

Table 2.1: Key sources of climate communications and worldviews literature as identified in the UWISCA literature review

Theme	Academic literature	Grey literature	Print & Social Media sources	Advertisements / Videos	Sources
1. The challenge of communicating climate change	70	3	4	0	77
2. Climate change communication in the Irish context	11	32	4	4	51
3. Worldview theory and climate change communication	77	5	5	2	89
4. Cultural and social values in climate change communication	83	8	5	0	96
5. Best practice for worldviews-informed climate change communication	41	14	22	19	96
Totals	282	62	40	25	409

The living literature database containing summary information on the identified sources was developed as follows: The collected data have been stored and organised on the Zotero platform (https://www.zotero.org/groups/5577877/climate_worldviews) as a free-to-use tool for creating publicly-accessible databases that can be edited, updated and expanded on an ongoing basis. Entries in the database can be organised by themes and sub-themes to facilitate organisation at various detail levels. The platform also offers plugins that facilitate citing, reference lists and even quantitative analysis for literature review (McMullin & Price, 2020).

Following the methodology above, this literature review report was produced summarising the identified literature under the key themes. This review focuses on the publications considered to be key sources for each theme. The material on best practice presented in Section 3.5 also includes examples of relevant advertisements and videos from Ireland and elsewhere.

3. Review of key climate communications and worldviews literature

As outlined in Section 2, the relevant literature has been categorised under five key themes that are the basis of the review below.

3.1 The challenge of communicating climate change

This section discusses the challenge of communicating about climate change under the following headings:

1. The need for climate communications
2. Development of the field of climate communications
3. Key approaches to climate communications to date
4. Critique of the field

3.1.1 The need for climate communications

Effectively communicating climate change in a way that will motivate people to take action on the issue has long been recognised as a serious challenge. As Moser (2010) has pointed out, we are faced with *“how to communicate a global problem that involves less certainty and immediacy than most other, more familiar problems, yet which also has the potential for far graver implications than previous challenges.”* This is compounded by the complex, ‘wicked’ nature of the issue, with its multiple causes, impacts and potential solutions as well as incomplete and differing perspectives both of what the problem actually is and what the responses should be (Levin et al., 2012; Pender, 2023).

A further complicating factor is that many of those who are in a position to take action do not experience the impacts and implications of climate change as a tangible part of their daily lives or do not regard the issue as relevant to their lives (Climate Outreach and Information Network, 2015; Hochachka, 2019). As has been said, *“Most people have not yet heard a story about energy and climate change that sounds like it was written ‘for them’”* (Climate Outreach and Information Network, 2015, p.9). Furthermore, even when there is some recognition of or concern about climate change, this does not necessarily lead to action being taken to address it. Thus, a key challenge for climate communications is how to effectively resolve what has been termed the “value-action gap” (Blake, 1999) – also referred to as the “attitude-action gap” (Kollmuss & Agyeman 2002), “attitude-behaviour gap” (Wyss et al., 2022). or “awareness-action inconsistency” (Rishi 2022). All these terms describe the tendency to act in a way that differs from our stated intentions or beliefs about a particular issue (Barr, 2004; Bushell et al., 2017) – in this case, why we do not engage in actions to address climate change in our daily lives, despite expressing concern about the issue.

3.1.2 Development of the field of climate communications

The field of climate communications has grown significantly in recent years, drawing on research in both the sciences and humanities to provide insights on factors such as public understanding of climate science, risk perceptions, framing and media coverage (Comfort & Park, 2018; Eise et al., 2020; Augustenborg et al., 2022). Research by Agin and Karlsson (2021) to map this growth worldwide showed a particular increase in climate communications since 2014, as seen in Figure 3.1. The authors attribute this to the publication in that year by Schäfer

and Schlichting (2014) of the first large-scale systematic review of media reporting of climate change.

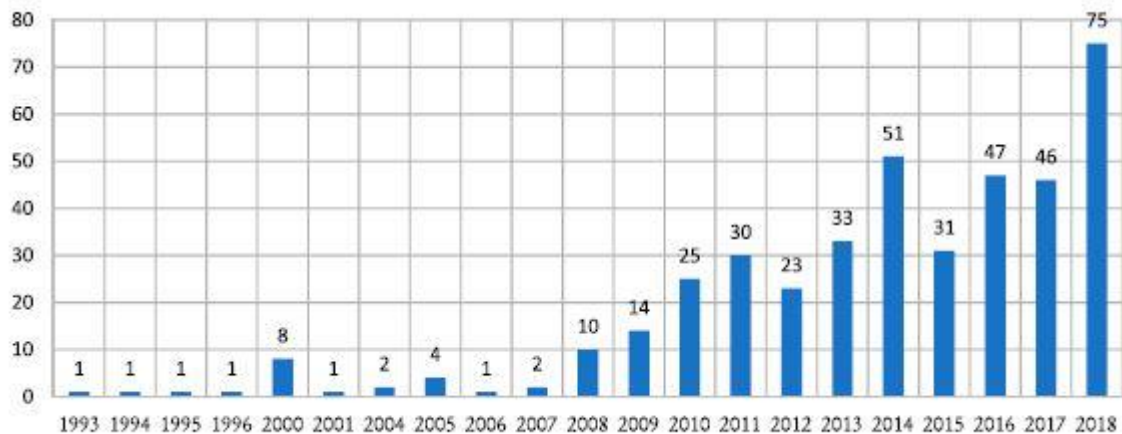


Figure 3.1: Timeline of publication of climate communications articles globally (1993-2018)

Data reproduced from Agin & Karlsson (2021).

Initially, there was a strong focus on information provision-type communications about the different aspects of climate change such as scientific evidence, predicted impacts, risks, need for adaptation, etc. This drew on the “information deficit” model of communications, which assumes that being provided with information on the risks of climate change will be sufficient to motivate individuals to act to address it (Moser & Dilling, 2011). However, over time, there has been a recognition that, while necessary, such a focus is by itself insufficient for engaging people in action to address climate change (Whitmarsh et al., 2013) and this has led to a broadening of climate communications to include cultural and psychological factors, such as ‘cultural cognition’ (Kahan et al., 2011), the role of intrinsic vs extrinsic motivation (as well as the role of media reporting (Painter & Gavin, 2015). In addition, there has also been a gradual realisation that such a focus has failed to account for the influential role played by inner dimensions such as worldviews, values, beliefs and mindsets in both the behaviour that has generated human-induced climate change and the transformative responses required to successfully address it (O’Brien, 2010; Bosomworth, 2018; Hochachka, 2020; Shrivastava et al., 2020).

For example, there is now more attention on how emotions, attachment to place, beliefs and morals can shape our engagement on climate change (Heffernan, 2016; Chadwick, 2017), as well as the value of adopting a systems perspective on climate communications (Lee et al., 2024). As a result, research on climate communications now tends to focus on understanding factors influencing a) public knowledge of and engagement on climate change and b) individual and collective beliefs in climate change and how to address this (Eise et al., 2020). Regarding the latter, as Shrivastava et al. (2020) point out, “*intrinsic motivation is critical to sustainable behavior within rapidly changing systems.*”

Research demonstrates that people tend to acquire their information on climate change and its impacts through a combination of a) formal and informal communications (media, peers, education, etc.) and b) personal experience (Moser, 2014). How this information is

understood, interpreted and acted on (or not) is, in turn, influenced by factors such as the wider cultural, social and historical perspectives and contexts on the issue (e.g., Whitmarsh, 2011). As Hahn et al. (2015, p.192) argue, *“Beliefs about communicators are in many ways inseparable from an assessment of the evidence itself, and other, prior, beliefs are rationally relevant to both.”* This is where worldviews come in, given that many of the strategies and responses developed to communicate or address climate change are often based on the assumptions and values of one particular perspective or worldview only (Pender, 2023). For example, many climate communications have focused on the opportunities and benefits of addressing national or international dimensions of the issue through approaches such as technological development or market-based initiatives; however, this ignores the greater motivation others find to act because of a moral responsibility to protect nature or their local community (Lynam, 2012). As a result, we may be overlooking a valuable opportunity for harnessing the potential of different worldviews and sets of values to create messages and responses everyone can engage with and find meaning in (De Witt, 2018).

3.1.3 Key approaches to climate communications to date

Designing more effective climate communications requires clarity not only on ‘what’ message or information is to be communicated but also ‘how’ it will be communicated and understood, as well as ‘why’ it is being done (e.g. what are the intended outcomes). As discussed above, providing factual information or mandating certain behaviour changes on different aspects of climate change is a necessary element of such communications – for example, it has been shown that communicating to the public about the high level of consensus among the scientific community on the reality and seriousness of climate change does increase acceptance of the issue (Goldberg et al., 2022). However, on its own, these types of communications have been shown to be insufficient for generating the required levels of engagement and action (Bushell et al., 2017; Krug, 2021). As Roosen et al. (2017, p.12-13) point out, *“Most interventions are based on distributing general information, providing personal feedback, or forcing people to make changes through policies, rules, and regulations... [but] inspiration seems to be lacking in most interventions aiming to promote pro-environmental behaviour.”*

Climate communications which are predominantly information-based can also run into difficulties when they conflict with pre-existing knowledge, beliefs or misconceptions that people hold (Morgan & Fischhoff, 2023). As a result, there has been increased interest in how to harness the power of concepts and tools including emotional connections, narratives / storytelling, framing, agency and - in the context of this report - worldviews as a means to boost action by the public and different interest groups. Some key elements of this are now explored under the following headings:

- Use of narratives as a communication tool
- Use of framing
- Dealing with trust, denial and scepticism
- Generating agency.

Use of narratives as a communication tool

The use of narrative form – more commonly known as storytelling – can enable any communication to be structured in a way that is more likely to make sense to and resonate

with selected audiences. As defined by Jerneck (2014, p.15), a narrative is “an unfolding story with the potential to serve as a theoretical thinking tool and as an empirical guide to promote practical action”. Narratives and stories can involve the reader and, where they involve personal elements, can prove more credible, accessible and motivation (Roosen et al., 2017). In the specific context of climate change, Bushell et al. (2017, p.41) show how narratives “seek to explain why climate change is important to different audiences, why they should seek to act and change their business-as-usual carbon intensive activities to make the transition to a carbon constrained world; this would help close the gap between climate policy and action” (Table 3.1). They outline five common narratives used in this regard but which, in their view, have failed to leverage the necessary motivation for action. These include the “Gore narrative”, named after the former U.S. Vice President Al Gore, which focuses on the scientific evidence for climate change and the “End of the world and alarmism” narrative. Similarly, Westerhoff and Robinson (2013, p.204) argue that narratives of “‘dangerous climate change’, ‘common but differentiated responsibility’ and ‘market as solution’” have also been ineffective and, in some cases led to unjust solutions, as well as causing cognitive and emotional distress (Veland et al., 2018).

Table 3.1. List of common narratives used to motivate climate action

Source: Bushell et al., 2017

Narrative	Explanation	Assessment of Effectiveness and Reasons
Gore	This is a narrative of scientific discovery which climaxes on the certainty that climate change is unequivocally caused by humans.	<ul style="list-style-type: none"> • Differing interpretations of uncertainty by audiences and use of selective information. • Reliance on the information deficit model. • Inappropriate messengers conveying the narrative. • Substantive cognitive dissonance around the scale of the stated problem and the simplistic nature of the proposed solutions.
End of the world	Past and present human action (or inaction) risks a catastrophic future climatic event unless people change their behaviour to mitigate climate change.	<ul style="list-style-type: none"> • Use of alarmist language leading to disengagement amongst audiences. • Cognitive dissonance around scale of problem and lack of actions being undertaken by national actors.
Every little helps	Individuals are the protagonists of stories that propose solutions to climate change. E.g. Act on CO2 campaign.	<ul style="list-style-type: none"> • Complexity and all-encompassing nature of the problem makes audiences feel helpless resulting in disengagement. • Lack of coherent messaging confuses audiences. • An agency problem in that a lack of trust in actors requesting change disengages audiences from acting themselves. • The public good nature of climate change and inclination to ‘free-ride’ off the actions of others.
Polar bear	Polar bears are the helpless victims of this narrative, who are seeing their habitat destroyed by the actions of villainous humans e.g. Greenpeace	<ul style="list-style-type: none"> • Cognitive dissonance around the effect of the problem and the role that audiences had in causing it. • This form of dissonance results in ‘Distancing’ where audiences distance themselves from overwhelming problems.
Green living	This narrative presents a society which has transitioned to a sustainable ‘green’ way of life e.g. Centre for Alternative Technology.	<ul style="list-style-type: none"> • Seeking a ‘beyond societal norm’ shift in audiences behaviours in an uncomfortable time frame resulting in disengagement. • Conflict of interest between individuals and their desire to maintain their status within their cultural group.

As a result of such ineffective narratives, there is growing interest in finding alternative climate narratives to address existing shortcomings. These include Hulme's (2009) emphasis on the use of deeper myth-based narratives - i.e. those stories and imaginings which enable us to make sense of climate change - and Veland et al.'s (2018) call for narratives resonating with people's sense of agency, belonging, morality and connection with nature, which could be a more effective approach to address people's climate scepticism rather than trying to educate or persuade them. Veland et al. also highlight the importance of being clear about the kinds of futures we are presenting, either explicitly or implicitly, in the information and messages we communicate, warning that "*A poverty of stories risks trapping us in surreptitious human-natural system dynamics*" (*ibid*, p.45). In addition, Bushell et al. (2017) are of the view that climate change narratives need to be more strategic, making a conscious and explicit effort to clearly identify and incorporate clear, specific aims, outcomes and means of achieving them. Overall, there is a need for a diversity of climate narrative forms (science-based, fictional, non-fiction, scenario-based, etc.) (Veland et al., 2018), as well as attention to the language used (Bruine de Bruin et al., 2021) and the choice of messenger to deliver the communications (Roosen et al., 2017). The timing of the communication delivery is also important, since more urgent demands and concerns can often crowd out issues like climate change, which can be perceived as more psychologically distant (Weber, 2010).

Use of Framing

Linked to the concept of narratives is that of framing, a process of 'sense-making' where particular aspects of an issue can be emphasised or de-emphasised by different individuals, depending on their values, beliefs, pre-existing knowledge, political affiliation, etc. and which leads to different understanding and interpretations as a result (McEvoy et al., 2013). In other words, we tend not to approach issues like climate change from a fully objective perspective and thus "*the same information, when presented by a different messenger or when linked to a particular theme or idea, can be perceived very differently by members of the public*" (Climate Outreach and Information Network, 2015, p.12). This can lead to certain 'frames' or understandings of the issue becoming dominant among different groups in society. For example, Schafer & O'Neill (2017) highlight how frames such as "*settled science*" versus "*uncertain science*" are common in many countries, while frames such as climate change as a politically-charged concept or badge of political affiliation have become powerful in the US (McIntosh et al., 2013).

In contrast, other frames, such as those portraying climate change in terms of its health impacts are less common, even though research shows that framing climate change as a health problem can boost public support for action, even among those for whom climate change is not normally an issue of concern (Campbell et al., 2023; Perga et al., 2023). Thus, "*understanding how climate change risks are framed is critically important*" (McEvoy et al., 2013, p.290). In addition, there is a need to consider the degree to which audiences being open- or closed-minded may impact on their willingness to engage with framings that communicate the need for changes to the status quo as part of addressing climate change (Nisbet et al., 2013). Overall, dominant frames not only shape people's understandings of climate change but can also influence policy decisions, research funding and even the type of scientific tools used to assess climate change (Fünfgeld & McEvoy, 2010). As McEvoy et al. (2013, p.283) point out, "*public discourse often frames climate change issues by actively drawing on particular*

values and beliefs” and thus, *“understanding how climate change risks are framed is critically important”*.

Dealing with trust and denial scepticism

Other factors that influence the effectiveness of climate communications include trust and climate scepticism / denial. There is evidence to suggest that trusted messengers can enable climate communications to be taken more seriously than media sources and politicians (Webb & Hayhoe, 2017; Motta et al., 2021; Sauer et al., 2021; Sawas et al., 2023); for example, weather forecasts are more likely to be acted on when they come from trusted local weather forecasters (Bloodhart et al., 2015). A key problem in this regard is that a significant amount of climate communications comes from governments and public bodies, as well as scientists; but trust levels among these can vary (Roth et al., 2011; Hahn et al., 2015; Fage-Butler et al., 2022), depending on factors such as institutions’ accountability and transparency and individuals’ own worldviews, ideologies and socioeconomic position. The public’s trust in government can be further impacted if they perceive a lack of genuine political leadership and action on climate change (Climate Outreach and Information Network, 2015; Arnold et al., 2016). In addition, social media outlets which serve a narrow audience base can further erode trust levels and enable the spread of climate misinformation (Goodwin & Dahlstrom, 2013). It can also be more difficult to reach such groups if they already hold strong views on the issue (Moser, 2010).

Linked to trust are issues around climate change scepticism and / or denial, which can take various forms. For example, there can be scepticism or denial that climate change as a problem actually exists or, if it does, that it is not serious or that humans are not the primary cause (Capstick & Pidgeon, 2013; Roosen et al., 2017). Resistance to climate change can also arise where people perceive action to address it as a threat to existing systems or the ‘status quo’, which they would prefer to maintain (Jost et al., 2010). There are various emotional and psychological barriers involved in climate scepticism and denial, such as denying personal responsibility, using government inaction or other countries’ inaction as an excuse for not acting and believing that technology will solve the problem (Lorenzoni et al., 2007; Haltinner & Srathchandra, 2018; Hochachka, 2024). It can also be linked to particular values and ideologies (Corner et al., 2014). The roots of scepticism and denial can often be unconscious and Hochachka (2024, p.4) discusses this in relation to the concept of “climate shadow”, which is *“an ego-defence mechanism to safeguard the self against negative emotions about climate impacts (or about climate action itself) that are too difficult for the self to manage”*. All of these factors can impact the effectiveness of climate communications but also provide insight on how to better design messages that target these barriers to climate engagement and action.

Generating agency

Another important factor to consider in climate communications design is that of agency, both in terms of inspiring audiences to believe they have the power to act in a meaningful way (Ansari et al., 2023) and also in relation to greater stakeholder involvement in creating the communications themselves (Connors et al., 2022). For example, Veland et al. (2018) highlight the need to engage with specific actors, places and timelines to generate “situated agency”. Similarly, Westerhoff and Robinson (2013) argue for a shift away from the “right”

narrative to develop more localised and diverse understandings of how to respond to climate change. In addition, Roosen et al. (2017) point to the power of inspirational messages that empower audiences and enable them to believe they can make a meaningful contribution through action. As they say, *“merely becoming aware that there are alternatives, and that there is something one can personally do to contribute to a solution, can be empowering”*.

3.1.4 Critique of the field

The field of climate communications has been the subject of critique in recent years. For example, Gammelgaard Ballantyne (2016) notes the presence of *“diverging and incompatible understandings of communication as a theoretical construct”* and the ‘ad hoc’ selection of theories to inform climate communication research studies. She also highlights the need to shift away from a top-down approach, where predetermined theories are only ‘transmitted’, towards more collaborative ‘interaction’ instead, something which has also been recognised in other research (e.g., Diener et al., 2022). This requires a commitment to trust-building, as well as addressing underlying power relations in the creation and communication of climate change knowledge and information (Ansari et al., 2023). Eise et al. (2020) also highlight a disproportionate focus on Europe and North America in climate communications research, which can limit a comprehensive understanding of how climate change is experienced in different parts of the world and also restrict the development and implementation of communication initiatives for those areas and communities most affected by it.

More recently, Lee et al. (2024) outlined five key limitations of climate communications to date, which link to issues discussed earlier in this chapter: a) the use of overly-complex terms such as ‘net zero’ and an over-reliance on factual content; b) a lack of acknowledgement of audience values, emotions and other cultural factors c) limited focus on key dimensions of climate change such as human health impacts; d) a lack of investment in climate communication; and e) the need for more large-scale and engagement-based climate communications campaigns. In light of this, they argue for a more complex and dynamic systems-based approach to climate communication, which would focus not only on the message or information sent but also on the nature, needs and diversity of the intended recipients (i.e., the ‘information-users’), in addition to the actual process of communication itself.

Implementing such an approach raises several practical challenges. For example, developing more tailored and multifaceted messaging for different groups means getting to grips with the growing amount of research on the different ways people understand and respond to climate change (Regniez & Custard, 2021; Pender, 2023). For those outside of academia, this is not necessarily an easy task, particularly where responses may be needed within short time frames (Gammelgaard Ballantyne, 2016; Körfgen et al., 2019). As Hochachka (2024, p.2) argues, *“Practical yet comprehensive models that support actors in climate communications, engagement, and policy-design are hard to find, and governments and policymakers can struggle to know what is most important to address in fostering greater support for climate action”*.

In addition, there is a need for designing such communications in a more participatory way, especially given how social contexts and habits shape the context in which communications are received but where many of these communications are targeted at individuals (Climate

Outreach & Information Network, 2015). While such deliberative processes can enhance the ultimate effectiveness of the communications, they can be costly and time-consuming to put in place, as can the training required for organisational personnel charged with implementing climate communications campaigns, as Moser (2016) points out. Looking ahead, she also identifies key overarching challenges for climate communications, especially in relation to *“superficial public understanding of climate change, transitioning from awareness and concern to action, communicating in deeply politicized and polarized environments, and dealing with the growing sense of overwhelm and hopelessness.”*

Overall, the theory and practice of climate change communication is increasingly recognising the importance of understanding the different ways in which people understand and respond to the issue and the deeper reasons for these differences. This has been accompanied by the development and use of tools such as narratives and framing, along with growing expertise in addressing trust, scepticism and denial issues. However, climate communication still faces challenges, most notably in relation to designing communications that can close the gap between awareness and action and generate greater agency and engagement among different groups and audiences.

3.2 Climate communication in the Irish context

3.2.1 Trends in attitudes to and engagement with climate change in Ireland

Data available from the 1990s to date show that Irish attitudes to environmental issues in general, and climate change in particular, have shifted over time. Figure 3.2 presents a timeline of key studies in this regard. As the studies comprise a variety of one-off and repeated surveys and focus on different audiences both within Ireland and across Europe, it is not feasible to compare them directly with one another; nevertheless, some indicative trends can be discerned.

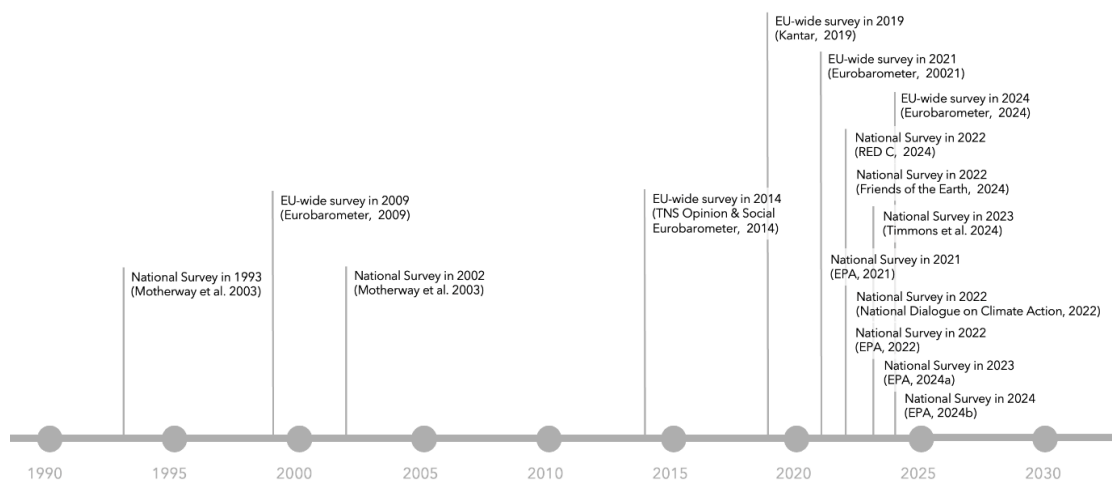


Figure 3.2. Timeline of climate communication-related surveys conducted in Ireland between 1993 and 2024.

Between 1993 and 2007, research demonstrated that there was a trend of greater trust in science among people in Ireland as a basis for the public’s decision-making and a move away from the view that economic growth should take priority over environmental protection (Motherway et al., 2003; Kelly et al., 2007). However, other research indicated a relatively low level of pro-environmental behaviour, with Ireland being the fifth-least concerned about environmental issues among EU Member States in 2003 (European Opinion Research Group, 2003). Subsequent research by Eurobarometer indicated a shift in this situation, showing an increase to 67% in the percentage of people in Ireland who felt well informed about climate change and were personally taking action by 2009 (Eurobarometer, 2009). While these results were not attributed to any particular cause, this period coincided with an increase in media coverage on climate (Fox & Rau, 2016) and the launch of the Government of Ireland’s “Power of One” energy-efficiency campaign in 2006, which aimed to increase awareness of energy efficiency and change behaviour in relation to energy consumption; however, research on the campaign’s effectiveness did not find any positive effect on energy-saving behaviour by participants (Diffney et al., 2009) and it was criticised for failing to turn short-term responses into long-term behavioural change (Boland, 2022).

These gains appear to have subsequently been lost, however, with a notable 16-point decline between 2011 to 2013 identified from Eurobarometer research in the numbers of people in

Ireland taking action on climate change (TNS Opinion, 2014), possibly as a result of cumulative impacts of the economic recession from 2009 onwards. The recession has also been cited as a possible contributory factor to the steep decline in Irish print media coverage of climate change in 2009-2010 (Fox & Rau, 2016). This is also reflected in other Eurobarometer research from 2019, which indicated that climate change and environmental issues were not a major concern for people in Ireland at that time (Kantar, 2019). However, the situation appears to have shifted again in recent years, with a rise in concern indicated since the post-2017 period. By 2021, Eurobarometer data indicated that nearly 31% of respondents in Ireland considered climate change the most serious global problem, well above the EU average of 18% and that 72% of respondents had taken action on climate in the previous six months, surpassing the EU average of 64% (Eurobarometer, 2021). However, the same Eurobarometer data also indicated that people in Ireland often did not make the link between pro-environmental actions they were already taking and how these related to addressing climate change.

During the same period, data collected from participants in the 2022 national Climate Conversations initiative (National Dialogue on Climate Action, 2022) showed that over 90% were very or somewhat worried about climate change (68% and 23%, respectively) but ranked individuals last in terms of their importance in delivering on climate action, behind the Irish government, the EU, business and industry, local authorities and others. These respondents expressed a higher level of concern than one would expect from the general public and is likely related to the fact that they chose to participate in the initiative and so presumably had a pre-existing interest in the issue. A nationally representative version of this survey is expected early in 2025. This period also saw the start of the Environmental Protection Agency's series of regular national surveys on climate change awareness and engagement as part of its "Climate Change in the Irish Mind" (CCIM) project (discussed in more detail in Section 3.2.2 below). Two 'waves' of surveys have been carried out to date on public climate change attitudes, beliefs and behaviours, in 2021-2022 and 2023-2024. The latest results (EPA, 2024a) indicate that:

- a national average of 82% of people in Ireland are worried about climate change (with the lowest percentage being 74% in Donegal, Sligo, Leitrim, Cavan, Monaghan and Louth and the highest being 83% in Kerry and Cork, and 85% in Dublin);
- 88% agree that climate change is already affecting weather in Ireland;
- 86% agree that citizens should do more about climate change;
- 74% agree that climate action will improve Ireland's quality of life.

The CCIM project also produces more detailed segmentation reports which have identified four distinct categories among people in Ireland in relation to views and action on climate change: "Alarmed", "Concerned", "Cautious" and "Doubtful". A majority of people in Ireland fall into the "Alarmed" (34%) and "Concerned" (48%) categories, with the remainder being "Cautious" (14%) or "Doubtful" (4%) (EPA, 2024b) and no differences are evident between urban and rural dwellers. Over time, data from the CCIM project should provide good insights on continued trends in Irish attitudes and engagement on climate and, when paired with ongoing Eurobarometer research, will enable Irish performance to be measured against populations in other European Member States.

Various other recent surveys and research studies offer a mixed picture of public understanding and action in relation to climate change. In terms of the numbers worried about climate change, a survey commissioned by Friends of the Earth Ireland in April 2024 (Friends of the Earth Ireland, 2024) found that 56% were more worried about climate change than two years previously, which is significantly smaller than the 82% national average from the most recent EPA survey. The biggest shift in concern was among older people, 65% of whom were more worried in 2024 than they were two years ago, including 30% who were a lot more worried. The same survey also indicated that 47% of people believe the government is not doing enough to tackle climate change. This chimes with another survey from March 2024 which found that only 13% agreed that Ireland was on pace to meet its 2030 emissions targets, with over-65s and those living in rural areas especially sceptical (RED C, 2024).

More worrying is the indication of a disconnect between such apparent public support and people's perception of climate change in their daily lives. The RED C 2024 indicated that less than half the public believed that environmental issues had a direct effect on their lives, declining from 65% in 2019 to 45% in 2024 (RED C, 2024). This was especially notable in rural populations where there was an 11% drop between 2023 and 2024 alone. This has implications for public engagement in climate action, since there is research to show that direct personal experience of climate change can influence people's level of concern about the issue and their willingness to take action (Myers et al., 2012; Asplund, 2016). However, the extent to which this action occurs can depend on whether individuals make a causal connection between their lived experience and climate change, something which may be influenced by prior beliefs they hold (Weber, 2010). It should be noted that the Red C figure of 45% who believed climate change directly impacted their daily lives does differ considerably from the 74% who were found to hold the same belief in a 2024 Eurobarometer study (Eurobarometer, 2024). This latter figure corresponds more closely to the cross-European average of 78% cited by Eurobarometer.

There appears to be a similar disconnect in relation to transport-related aspects of climate change. For example, the RED C 2024 poll found that people in Ireland are notably more likely to support investment in public transport and renewable energy, a figure that rises to 53% in the Friends of the Earth Ireland survey, which also found 43% supported the introduction of congestion charges in cities (Friends of the Earth, 2024). These figures reflect similar results from Timmons et al. (2024) which found that 47% were open to actions to reduce their transport emissions, including using public transport, active travel and switching to an electric vehicle (EV). However, when it came to implementing such actions, the Friends of the Earth Ireland survey found that only 14% of respondents supported measures to reduce car dependency, such as reducing the number of parking spaces in cities and towns, with 48% opposing such a move overall (Friends of the Earth, 2024). This may reflect findings by Timmons et al. (2024) regarding barriers to transport modal shift such as the availability and reliability of public transport, as well as the cost of alternative options such as EVs. Such reluctance is also evident in the 2023 Climate Conversations report, which highlighted the public's struggles to use public transport more and reduce their flying and meat consumption (Department of the Environment, Climate and Communications, 2024).

While the data on public awareness, support and engagement in Ireland relating to climate change has been inconsistent over the years, there is a general positive trend towards increasing support for action, and more reliable data is likely to be available from now on with the initiation of the EPA's CCIM regular surveys. However, the persistence of a gap between indicative public support and actual behaviour changes on climate points to the need for more effective climate communications, ideally ones which will align and resonate with different audiences.

3.2.2 National efforts in relation to climate communications

Research on climate communications in Ireland to date is limited, tending to focus mainly on quantitative analysis of print media coverage at the expense of more qualitative exploration (Fox & Rau, 2016). However, in recent years, deeper understanding of the psychological and cultural factors underpinning the Irish public's attitudes and behaviour in relation to climate change has begun in the context of increasing engagement on the issue. A key initiative in this regard is the previously mentioned *Climate Change in the Irish Mind* (CCIM) study by the Environmental Protection Agency in conjunction with the Yale Program on climate communication, (EPA, 2021, 2022, 2024a, 2024b). The CCIM project is providing valuable information on what people in Ireland think and do about climate change. For example, its most recent report (EPA, 2024b) indicated that while 95% believed climate change was happening, the amount of people engaging in action to address climate change was lower - for example, 58% of the 'Alarmed' category often or occasionally avoided eating meat for environmental reasons, while only 33% of the 'Concerned' category and 10% of the 'Cautious' category did so. In addition, 39% mistakenly believe that climate change is due equally to human activities and natural changes.

Moreover, there are signs that other economic and political issues are reducing support for certain climate actions such as taxing or banning fossil fuels (EPA, 2024b). However, there is acknowledgement of the need to better understand "*how beliefs, attitudes, and perceptions relate to the public's willingness to support climate action policy, or to take action on climate change themselves... [and] how the motivations of the Irish population change over time*" (*ibid*, p.12). There is also a recognition that for communication and engagement to be effective, "*will require a diversity of messages, messengers, and methods, each tailored to meet the needs of different target audiences*" (*ibid*, p.12). This is in line with the research reviewed in this report, which highlights how a focus on worldviews and values in particular has the potential to provide a useful basis for such tailoring of messages, messengers and content.

The importance of effective communication and engagement on climate change in Ireland has also been highlighted elsewhere in Ireland, such as in the national Climate Action Plan 2023 (Government of Ireland, 2022). The Plan recognises that individuals and communities will be at the heart of the low-carbon transition and outlines specific actions to increase citizen engagement. In addition, the recommendations made in the report by members of the 2018 Citizens Assembly on making Ireland a leader in climate action indicated that they - and by implication, the wider public they represent - were open to taking serious action to address climate change, once they are supported to do so (Citizens Assembly, 2018). The need to

meaningfully connect people with climate change and increase engagement in climate action can also be seen in initiatives such as the National Dialogue on Climate Action (Department of the Environment, Climate and Communications, 2024) and the recognition in the *Redesigning Ireland's Transport for Net Zero* report of the potential to create alternative social narratives to support more sustainable public behaviour (OECD, 2022). In addition, there is government support for initiatives such as the Creative Climate Action Fund, whose Creative Climate Action projects are showing the importance of generating emotional responses such as hope and empathy in people as a basis for behaviour change and taking action, rather than relying solely on the traditional approach of information-led communications for behaviour change based on the 'information-deficit' model (see Nyhan et al., 2023).

The importance of highlighting how government policies on climate change relate to things people care about protecting was one of the findings of EPA Research Report No. 344 on *Citizens' Views of Climate Action in Ireland* (McNally, 2020). For example, the Creative Climate Action Project (Nyhan et al., 2023) found that key motivations for more sustainable behaviours included care for the natural environment (28%), financial benefits (21%), making a personal difference (19%) and personal, family or community benefits (17%). However, cost issues can be barriers for those who are open to taking climate action (Timmons et al., 2024). Therefore, supporting mechanisms such as subsidies, grants and non-regressive carbon taxes may be required. This echoes findings from the Climate Change in the Irish Mind's research, showing that audiences in general prefer policies that are framed as redistributive and protective of those in lower socioeconomic groups and also that there is falling support for outright bans on the use of fossil fuels such as peat, coal and home heating oil (EPA, 2024b)

In contrast, many climate communications to date have tended to emphasise the global nature of the climate change problem and the scientific evidence for taking action, instead of emphasising the local dimensions which are more likely to resonate with the *traditional* worldview. For example, in the Irish context, initiatives such as *Creating our Future* (2022a, b) focus more on identifying the public's views on future action and research needed to support engagement on climate change, rather than exploring either the kinds of actions people are currently taking or the reasons why they are engaging or not on climate change. As a result, there is a need to better design tailored communications to enhance engagement and action on climate change amongst people in Ireland. The need for deeper forms of public engagement in Ireland based on genuine dialogue and co-creation has also been highlighted in recent research on public engagement in societal transitions (Revez et al., 2022). Such deeper components are not captured by segmentation studies such as the "Climate in the Irish Mind" initiative which, while valuable, tend to largely focus on current trends in attitudes and values but not necessarily on the deeper guiding worldviews shaping these which, if identified, could help inform the use of particular language and arguments to create more resonant and compelling communications to close the 'say-do' gap.

Overall, while there does appear to be a steady trend of increasing support among people in Ireland for climate action, closing the gap between this support and the level of actual engagement from the public remains a challenge. The potential to design more effective communications and build on the regular insights provided by initiatives such as the EPA's Climate In the Irish Mind is promising; however, it is clear that a 'one-size-fits-all' approach to

climate communications is no longer sufficient and there is a need for more tailored messages designed to appeal to different audiences.

3.3 Worldview theory and climate communication

This section introduces the concept of worldviews and how they can be applied to climate communication, under the following headings:

1. The inner dimensions of climate communication
2. The role of worldviews
3. Using a worldview lens on climate communications

3.3.1 The inner dimensions of climate communication

There has been a growing realisation that approaches to date on climate communications and engagement have failed to account for the influential role played by inner dimensions such as paradigms, worldviews, values and beliefs in both the behaviour that has generated human-induced climate change and the transformative action required to address it (O'Brien, 2010; Bosomworth, 2018; Hochachka, 2020; Shrivastava et al., 2020). As Hochachka (2024, p.1182) explains, "*climate-relevant behaviors can be enmeshed with mindsets, emotions and culture, and seldom does policy design account sufficiently for the social complexity surrounding the sought-after behaviour-and systems-change.*"

Simultaneously, a body of research is emerging on how to incorporate such inner dimensions into sustainability and climate policy and practice, particularly in the area of public engagement (Ives et al., 2020; Wamsler & Bristow, 2022; Bristow et al., 2024). As defined by Wamsler and Bristow (2022), these 'inner dimensions' comprise "*the internal lens through which people see and navigate life. They include individual and collective values, beliefs, worldviews and associated inner (cognitive, emotional and relational) qualities/capacities*". The research includes a diverse range of academic fields, such as systems theory (Meadows, 1999; Abson et al., 2017; Davelaar, 2021), transformations theory (O'Brien & Sygna, 2013; Ziervogel et al., 2016) and psychology (Hochachka, 2019, 2021). The role of inner dimensions is particularly relevant for complex, 'wicked' issues such as climate change, where there are often incomplete and differing perspectives of what the problem actually is and what the responses should be (Levin et al., 2012). In addition, inner dimensions and capacities have been identified as key leverage points for achieving system transformation (Meadows, 1999).

Various models and frameworks have sought to explain differences in people's understanding and behaviour in relation to environmental issues. These include cultural identity theory, moral development theory and risk perception, as well as the segmentation profiles approach used in studies such as *Global Warming's Six Americas* (Goldberg et al., 2022) and *Climate Change's Four Irelands* (EPA 2021, 2022, 2024a, 2024b). These and other approaches offer valuable insights on *what* different people and groups believe about issues like climate change and the variety of environmental behaviours that such beliefs shape. However, as Hochachka (2019, 2020, 2021) contends, there is also a need to understand *how* and *why* people hold such different beliefs and assumptions in relation to climate change, so that we can develop more effective communications to generate the necessary action to address it. As she points out (Hochachka, 2024, p.8), many of the segmentation studies, – such as the *Climate Change's Four Irelands* work - which underpin climate communications strategies, tend to "*reflect*

surface features in a given moment rather than the perspective-taking mechanisms occurring at a deeper level to coordinate meaning”.

3.3.2 Worldviews and climate change

One approach that seeks to provide some insight on these deeper dimensions of people’s understanding of climate change utilises the concept of worldviews.

3.3.2a What are worldviews?

In essence, worldviews comprise the assumptions, beliefs and values which shape our mental and emotional engagement with the world, as well as our behaviour and decision-making. According to adult development theory, a central function of worldviews is to enable us to make meaning and sense of the world around us, which is an important component of wellbeing (De Witt et al., In Press). As explained by De Witt et al. (2024, p.2):

“Worldviews are the big stories through which humans make sense of their experience and world. These big stories give humans somewhat coherent answers to existential life questions, including questions about the nature of reality (ontology), how to acquire valid knowledge (epistemology), what a good life entails both morally and aesthetically (axiology), the role and nature of humanity (anthropology), and how to organize society (social imaginary) ...In this way, worldviews provide us with the sense that life is meaningful, manageable, and stable – and this meaning-making satisfaction is often considered to be their central function. Though a worldview does not need to be a thought-through philosophy of life, and is in practice often unconscious and habitual, the general understanding is that it tends to guide and direct human behavior and action to a great degree.”

The UWISCA project’s approach to worldviews draws on fields such as environmental and developmental psychology and social science. The former holds that there is a distinct structure and evolving sequence to the way we as humans come to understand and make meaning of the world around us and our place in it (Cook-Greuter, 2013; O’Fallon, 2020). The particular stage and worldview we operate from at a point in time influences what we notice and, thus, what we believe we can influence and change - essentially, ‘how’ we look determines ‘what’ we see and thus how we act. While worldviews can provide the background and motivation for our judgements and actions, they usually remain outside our conscious awareness (Taylor, 1989; De Witt et al., 2016).

As a result, the concept of worldviews can provide insight on the differing ways in which we understand issues in the world such as climate change and why and how we respond to it – for example, whether our responses are shaped by a short or longer-term perspective and what values and rationales may be driving our choices. Worldviews also influence what phenomena we actually pay attention to and which we consciously or subconsciously choose to ignore or deny (Weber, 2010). As Beddoe et al. (2009, p.2484) highlight:

“a specific worldview or set of worldviews will drive the institutions and technologies we develop by providing boundary conditions. For example, if our goal is to improve quality of life, we will develop institutions and technologies that promote that goal,

whereas if our goal is endless economic growth, we will develop a different set of institutions and technologies.”

Our differing worldviews can also feed into conflict and culture clashes over climate change and hamper efforts to resolve such conflicts (Walsh, 2008). As we have seen in countries such as the USA, this can lead to a politicisation of the issue and a withdrawal of support for action both domestically and internationally (McIntosh et al., 2013). However, it is also important to acknowledge that how we think and act is also shaped by external systemic factors, which may enable or constrain the actions we can take individually or collectively to address climate change (Pender, 2023; De Witt et al., In Press).

3.3.2b The Integrative Worldview Framework

The UWISCA project employs a model of worldview typologies known as the Integrative Worldview Framework, developed by De Witt et al. (2016). This draws on research from fields such as history, societal development, values, cultural theory, developmental psychology and others to distinguish four major categories of worldviews present in contemporary Western populations: Traditional, Modern, Postmodern and Integrative. This framework has been tested on population samples in the Netherlands and the USA in relation to support for sustainability and climate change action (De Witt et al., 2016) and is currently being used in research in Canada (Hochachka, 2024) and in relation to sustainable lifestyles (De Witt et al., In Press).

The four categories in the Integrative Worldview Framework share characteristics with elements of other developmental psychology models, such as the Conformist, Expert/Achiever, Pluralist and Strategist categories of O’Fallon’s STAGES model (Murray & O’Fallon, 2020; O’Fallon, 2020; O’Fallon et al., 2020); the Diplomat, Expert / Achiever, Redefining and Transforming categories of Torbert et al.’s ‘Action Logics’ (2004) and the Eco-Manager, Eco-Strategist, Eco-Radical and Eco-Holist categories of Esbjörn Hargens & Zimmerman’s (2009) ‘Ecological Selves’ model. Work by Pender (2023) has described key worldviews in relation to their understanding of and response to environmental issues such as climate change, which is summarised in Table 3.2 in relation to the four categories of the Integrative Worldviews Framework.

Table 3.2: Integrative Worldviews Framework – key categories

Integrative Worldview Framework category	Corresponding stages in other developmental models	Perspective on the world and environmental issues
Traditional	Eco-Manager ¹ ; Conformist ^{2,3} ; Diplomat ³ ; Socialised / Traditional ⁴	Ethno-centric focus on one’s culture or group, with a stewardship approach to nature; high value on local and rule-based responses to environmental issues ^{5,6,7}

Integrative Worldview Framework category	Corresponding stages in other developmental models	Perspective on the world and environmental issues
Modern	Eco-Strategist ¹ ; Expert ^{2,3,4} ; Self-authoring / Modern ⁸ .	Early world-centric: focus on all humans, but prioritises success of own group; favours practical, efficiency-based and measurable responses to environmental issues, often via market forces or technological means. ^{1,5,9,10,11}
Postmodern	Eco-Radical ¹ ; Pluralist ^{2,12} ; Self-transforming ⁴ ; Individualist ³ ;	Late world-/planet-centric focus that includes all sentient beings and a subjective connection to 'Nature'; favours responsibility- and rights-based responses to environmental issues that recognise social-justice dimensions ^{1,5}
Integrative	Eco-Holist ¹ ; Strategist ^{2,12} ; Transforming ⁸ ; Evolutionary ¹⁰ .	Late world-/planet-centric focus that includes all sentient beings and a holistic connection to 'Nature'; favours transformative responses to achieve multi-level change of both self and systems ^{1,5}

Sources: 1. Esbjörn-Hargens and Zimmerman (2009); 2. Cook-Greuter (2013); 3. Rooke and Torbert (2005); 4. Kegan (1994); 5. Lynam and Oliva Hennelly (2020); 6. Lynam (2012); 7. Hochachka (2019); 8. Torbert (2020); 9. Hochachka, 2019; 10. Laloux (2014); 11. Boiral et al. (2009); 12. O'Fallon (2020).

The Integrative Worldview Framework employs the concept of worldviews as “*ideal*” types to aid research and analysis but in reality, these categories are less clear-cut, with most people likely to hold a combination of two dominant worldviews, rather than fit neatly into just one category (De Witt, 2016). For example, a study of sustainability transitions among French dairy farmers by Cayre et al. (2018) showed how different worldviews can co-exist at individual and collective scales, with farmers moving between modern and postmodern approaches to their farming activities.

There is research to indicate that worldview categories tend to follow a developmental trajectory, with subsequent ones embedding and transcending preceding ones (Cook-Greuter, 2013; O'Fallon, 2020; De Witt et al., forthcoming). However, no one worldview is inherently 'better' than the other, with each having its own unique strengths, weaknesses, and blind spots (Lynam, 2019). As the philosopher Ken Wilber describes it, each “*brings not only new capacities but the possibility of new disasters*” (Wilber, p.2001, p.22). Furthermore, we can be vulnerable to 'falling back' into less complex or strategic ways of engaging in the world when triggered by stress or other pressures (Livesay, 2015). In this regard, Beddoe et al. (2009, p. 2,484) argue that periods of crisis can exert sufficient pressure on the existing dominant “*worldviews, institutions and technologies (WIT)*” that shape a society to the extent that these are forced to undergo change until a more sustainable and stable state / level of societal functioning is eventually reached. As they emphasise,

“A regime shift is not merely technological or programmatic in nature. It will do no good to set up new institutions to monitor pollution if we continue to develop technologies that create pollution, or if we continue to believe that ecosystems can be increasingly degraded without any repercussions. A regime shift cannot occur

without changing worldviews, institutions, and technologies together, as an integrated system."

3.3.3 Using a worldview lens on climate communications

Overall, worldview development as a process has the potential to strengthen our capacity to perceive and manage complexity with greater insight and compassion (Pender, 2023). This is important, since the wider and deeper transformations required to address the underlying root causes of complex and interconnected problems such as climate change involves shifting perspectives from a focus on isolated challenges to being able to see the patterns and relationships across multiple issues and through diverse worldviews (O'Brien et al., 2022). Of specific relevance to this project is the use of worldviews in research to inform the following areas of research: overcoming climate change awareness-action gaps (Hochachka, 2024), climate communications (De Witt & Hedlund, 2017), meaning-making and cultural polarisation around climate change (O'Brien, 2009; De Witt et al., 2016; Hochachka, 2019, 2020), sustainability communications and education (Brown & Riedy, 2006; Lynam, 2012, 2019; Riedy, 2016), climate change adaptation (O'Brien & Hochachka, 2010), urban transport and mobility (Hochachka et al., 2022) and environmental leadership (Boiral et al., 2014).

In terms of identifying how different worldviews respond to climate change, an application of the Integrative Worldviews framework to population samples in the Netherlands and the USA found significantly more concern about climate change and more political support for addressing it, as well as more sustainable behaviours, among *postmodern* and *integrative* worldviews, compared with *modern* and *traditional* worldviews (De Witt et al., 2016). In addition, each of these four worldviews can also prioritise different climate response and adaptation strategies. More widely, *traditional* worldviews may favour climate action which has a positive impact on their local community and responses that support traditional sectors and livelihoods and preserve strong connections to nature; *modern* worldviews may prioritise rational, scientifically based technological adaptations and responses that promote freedom and achievement, as well as those which make business sense, particularly market-based strategies; *postmodern* worldviews, meanwhile, may favour responses and adaptations which promote well-being, equity and justice for all species, now and in the future, with *integrative* worldviews seeking to incorporate all of these to develop integrated responses (O'Brien, 2009; Lynam, 2012).

3.3.3a 'Transformation' versus 'Translation' in climate communication

Linked to the use of worldviews for communicating climate change are the two 'transformative' and 'translative' approaches to communications (Brown & Riedy, 2006). The former involves an attempt to change – or 'transform' - the way someone sees the world so that they will then choose different actions based on their new understanding. In relation to climate change, for example, this could include urging people to care about the wider, global impacts of climate change and the need to support international action. However, as O'Brien (2009) outlines, adopting this 'big picture' perspective tends to require a world-centric perspective, something which, as Table 3.2 presents, usually emerges from the Modern worldview onwards. In addition, from an adult development perspective, shifts in worldviews can take several years (Kegan, 1983) and it is also morally questionable to impose developmental challenges on an individual or group (Riedy, 2010). Therefore, communications which only focus on such 'transformation' - but do not also seek to build developmental

capacity for such worldview shifts to occur - stand less chance of success, particularly in the short-term.

In contrast, 'translative' communications seek to align their core message with a person's existing worldview, so that motivation for change is driven by a resonance with values and priorities the person already possesses (as outlined in Section 3.3.2b above). As Brown and Riedy (2006, p.666) explain, translation is the act of designing or tailoring messages to *'connect with people just as they are, motivating and informing them in a way that is in alignment with how they already see the world. These communications resonate with a person's existing worldview, without requiring them to be a different person in order to take action'*. By 'meeting people where they are', there is a greater chance these more tailored messages will 'stick' and better foster the desired behaviour, helping to close the "Say-Do" gap. In contrast, messages which clash with people's dominant worldview can inhibit the desired action. For example, many of the values underpinning the views of more conservative and political right groups tend to reflect those associated with the Traditional worldview and also some which are characteristic of the Modern worldview, such as a preference for market-based policy solutions over legislative ones (Lynam, 2012; Laloux, 2014).

This is illustrated in research by Gromet et al. (2013), which shows how those on the political right in the United States are less likely to purchase more expensive energy-efficient appliances when the accompanying message is one of acting to protect the environment or reduce carbon emissions, since they can perceive such action as a threat to the status quo and traditional ways of living. Corner et al. (2018) also discuss how the same group may reject science-based communications on the need for emissions reductions because of a fear of increased regulation, which they perceive as a threat to their values. Similarly, support from Republicans in the United States for a CO² emission reduction fee on airline flights dropped from 65% when it was communicated as a carbon offset to 27% when it was communicated as a carbon tax (Hardisty et al., 2010).

A key advantage of the worldview concept and that of 'translative' communications is that they can be applied across different disciplines and in different sectors to inform strategy and communications designed to increase engagement and generate behaviour change. For example, Bennett and DeKay (2020) used worldviews as a basis for translating messages on the need for climate action in the building and construction sector for different audiences in the USA, Australia, Scotland, and Lebanon. Another example can be seen in Figure 3.3 (taken from De Witt and Hedlund, 2017), where the benefits of renewable energy are 'translated' to resonate with key values of each worldview.

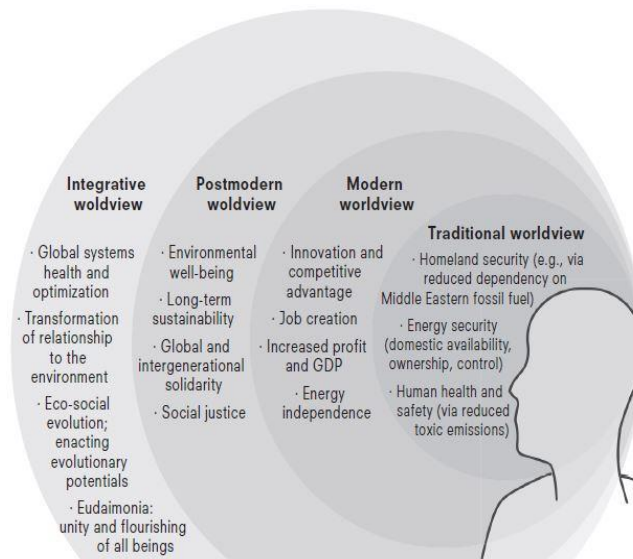


Figure 3.3: Integrative Worldviews Framework – key categories

Source: De Witt & Hedlund, 2017.

Similarly, Hochachka (2024) draws on worldviews and narratives as part of her analysis of the climate awareness-action gap in relation to opposition to the ‘15-minute city’ planning tool in Canada. Among her findings is the perception among certain groups that the concept would restrict their freedom, and so threaten values of importance to them, such as independence. In contrast, Hochachka and Merida (2023) found that open communication, greater stakeholder involvement and acknowledgement of issues around equity and perceived threats to autonomy increased the public acceptability of transport pricing policies in eight Canadian cities. However, it is important to note that, on their own, translation-based communications may not be sufficient to leverage the deeper, more systemic transformation required to successfully address climate change over the longer term (Riedy, 2010).

3.3.3b Worldview-based climate communications in the Irish context

The UWISCA project seeks to deepen and expand the knowledge base on the understandings people in Ireland hold in relation to climate change in order to support more effective communication on the need for engagement and action on the issue. Pending the analysis of results from a public survey of worldviews in the Irish population which forms part of the project, some preliminary hypotheses can be made, regarding which worldviews may be present in the population.

For example, the “Cautious” and “Doubtful” audience groups identified in the EPA’s Climate Change’s Four Irelands report share characteristics such as a significant proportion of older males, those with low to moderate levels of education, and higher unemployment levels, who tend to rely on national and local media, trust community leaders and scientists as source of climate change information; are most concerned about environmental impacts in their local area; and have a preference for financial support for climate actions, rather than taxation. Such characteristics can be indicative of a Traditional worldview, which has been shown to respond to communications which emphasise the benefits of action for one’s family, local

environments and national self-sufficiency, amongst others (Brown, 2006). However, the extent to which this and other worldviews may be present in the Irish population and the implications for climate communications design will become clearer as the UWISCA project progresses.

Applying a worldview lens to climate communications has the potential to generate a deeper understanding of the underlying differences in why and how people respond to and engage in climate action. These insights can then be used as the basis for climate communications that may resonate more deeply with different groups and provide a greater motivation for them to support climate policy and act to make a difference in their own lives.

3.4 Social and cultural values in climate communications

This section discusses the role of values in climate communications under the following headings:

- The role of values in climate communication
- Attachment to place and identity values.

3.4.1 The role of values in climate communication

Values can be defined as those key concepts which individuals and society consider to be desirable, such as 'security', 'equality', 'freedom', 'tradition', 'community', etc. and they are often cherished by communities and passed on through generations (O'Brien, 2009). Research has shown that values can shape people's views on issues like climate change in powerful ways (Corner et al., 2014, 2018) and act as guides for decision-making and action (Rokeach, 2000).

People use values to help them assess the potential implications of policies, behaviour changes or other action on their lives and choices and, in this way, they *'filter' the information they receive - on climate change and other topics - according to whether it fits their values*" (Corner et al, 2018, p.11). This process is often rapid but can have long-lasting implications (Corner et al., 2014): for example, research by Wolf et al. (2013) in Canadian subarctic communities found that values such as freedom, tradition and safety not only influenced interpretations of climate impacts but also the choice of adaptation responses. In certain contexts, particularly that of political polarisation, values can outweigh scientific evidence in terms of influencing people's views on climate change (McCright & Dunlap, 2011; Corner et al., 2014).

Research shows that values are intrinsically linked to the way people view the world (Rohan, 2000) and certain sets of values have been shown to correlated with particular worldviews, as summarised by O'Brien (2009, p.168-169):

"Traditional worldviews may, for example, place a greater emphasis on the set of values associated with conservation, which include tradition, conformity and security. Modern worldviews may place emphasis on values associated with self-enhancement, such as power, achievement and hedonism. Values linked to openness to change, such as stimulation and self-direction, may bridge both modern and postmodern worldviews. Finally, a postmodern worldview may emphasise values that focus on self-transcendence, such as universalism and benevolence."

As discussed in relation to worldviews in Section 3.3.2a, the values of one group may not be prioritised by and may even clash with those of another (Walsh, 2008; O'Brien, 2009), which can have implications for climate communications. For example, research by Wolsko (2017) found that conservative audiences' rejection of pro-environmental action messages resulted more from their perception that taking such action would conflict with key conservative values of group / community loyalty, individual freedom, etc. and not because they were against pro-environmental action. However, related research found that reframing climate change and conservation messages as reflecting values of patriotism, obedience to authority and free-

market solutions increased support among conservatives (Wolsko et al., 2017; Dixon et al., 2017). Similar effects were found among Conservative party voters in the United Kingdom (UK), when low-carbon transport communications were designed to reflect conservative values such as the beauty and value of local landscapes (Corner et al., 2014). Other research has shown that, depending on the issue in question, there may be core values that are common across several worldviews – for example, research on the design of future energy systems in the UK identified core values across the general public, such as fairness and respect, efficiency, wellbeing contribution and protection of nature, that they agreed should be prioritised (Parkhill et al., 2013).

3.4.2 Attachment to place and identity values in climate communication

Two linked sets of values that can both constrain and enable support for pro-environmental communications relate to 1) people's attachment to place and 2) their local / national identity. Attachment to place is usually understood as the emotional or cognitive bond which people form with places, usually those where they live or grew up (Hernández et al., 2020). It correlates strongly with engagement in pro-environmental behaviour and support for climate change adaptation (Devine-Wright, 2009; Scannell & Gifford, 2011; Daryanto & Song, 2021). Increasingly, it is recognised as an important factor in designing effective communications on issues such as climate change (Moser, 2014). For example, in their study of local climate change 'champions' in the Canadian Provincial North, Gislason et al. (2021), found that their success was underpinned by communication messages that were place-based and focused on local 'objects of care' such as valued places, and landmarks, as well as cherished community practices and beliefs. In relation to climate change in particular, there is a view that place-specific weather and climate are themselves a part of cultural heritage, and highlighting how they are threatened by climate change may increase engagement in climate action (Adamson & Rapson, 2023). This connects to the power of what Casey (1996, p.30) calls "*communication through places*", where what we say is rooted in where people are. However, place attachment may reduce public engagement on issues like climate change where, for example, people feel that cherished local places are threatened by proposed actions. This has been identified, for example, in relation to wind farm and powerline opposition in both the UK, (Devine-Wright & Howes, 2010; Gifford, 2011; Devine-Wright, 2013) and among Sámi reindeer herders' opposition to windfarms in Norway (Hochachka, 2024).

Secondly, the emotional attachment people form to their local community or country can also influence their willingness to take action on environmental issues and research has found evidence of this in countries such as China and the USA (Wang et al., 2023). More specifically, patriotism – which can be defined as the "*love, devotion, and a strong differential concern for one's own locality, state, region, or country, shown both in thought and action*" (Cafaro, 2010, p.186) – correlates positively with pro-environmental behaviour and beliefs in several countries, including Turkey, China and the USA (Aydin et al., 2022; Hamada et al., 2021; Feygina et al., 2010). In Ireland, research points to the significance of the natural environment in Irish identity, for example, and how historical places predating British rule may be a significant positive aspect of Irish national identity (Devine Wright & Lyons, 1997). However, other research shows that both place attachment and identity can inhibit transformative adaptation to climate change impacts among Irish coastal communities (Clarke et al., 2016).

There is also some evidence to suggest that taking action on environmental issues can be perceived by some Irish people as an “elite” or “British” activity, being associated with Ireland’s historical experience as a British colony and related experiences of land dispossession (Murphy, 2009).

Overall, research highlights the importance of identifying the key values of specific audiences for climate change messages and ensuring that message content connects with these values to enhance their effectiveness (Corner et al., 2014; Westerhoff & Robinson, 2013). This aligns with other research indicating that communications which are perceived by an audience to be more personally relevant are likely to be more persuasive, as one’s motivation to engage with the message is increased (Maio & Haddock, 2007; Lakhan, 2024).

In this regard, it may be beneficial to frame climate change in terms of its potential local consequences, as well as the local benefits from addressing it (Scannell & Gifford, 2011). For example, in their research to design and test communications on energy system transformation in the UK, the Climate Outreach and Information Network (2015) found that committed support was more likely where communication narratives matched the particular values underlying the public’s views and, as a result, such support was not confined to those who were already concerned about climate and energy issues. This is borne out in other research showing that ensuring alignment between message and audience values has the potential to boost acceptance (Roosen et al., 2017). As Corner et al. (2018, p.11) explains, *“The facts and figures of a scientific message should be grounded on a platform of shared values wherever possible: in short, try to find common ground with your audience”*. Specific best practice in the use of values and culture in the context of worldviews for climate communications is discussed in more detail in Section 3.5 below.

3.5 Best practice for worldviews-informed climate communications

In this section, an overview of best practice guidance on using worldviews and related concepts to design targeted climate communications is presented. First, key findings drawn from relevant research are summarised followed by examples of climate communications campaigns from various organisations which utilise aspects of worldviews and values in particular.

3.5.1 Research findings on climate communications best practice

As demonstrated in this report, effective communication on climate change is influenced by a variety of factors, including narratives and frames as well as the pre-existing worldviews, beliefs and assumptions of the intended audiences (Pidcock et al., 2021). With climate change increasingly becoming a politicised and polarising issue, this task has become even more challenging (Lucas, 2018; Falkenberg et al., 2022), especially with signs of a growing ‘greenlash’ in many countries (Sengupta, 2024). The task has also become more urgent, given the climate impacts already being experienced around the world, including in Ireland (EPA, 2024c). Selected examples of best practice insights from the research literature are presented below.

In terms of overarching guidance, Sippel et al. (2022) outline ten key principles on how to communicate climate change for effective public engagement. These are grouped into three categories of “*How to open the door*”, “*How to reach people’s hearts and minds*”, and “*How to turn concern into action*”, with the overall aim of connecting with people at the level of values and emotions. They discuss each principle in turn and provide guidance and relevant examples of how to put each into practice.

A more collaborative approach is advocated by Morgan and Fischhoff’s (2023) in their five-step ‘mental models’ approach to developing climate adaptation and risk communications, which may also be of value for climate engagement messages. The steps are:

1. Identify the key information required by decision-makers, in conjunction with both scientists and the intended audience;
2. Pool the information to develop an ‘influence’ diagram (or ‘expert mental model’), showing the factors likely to influence outcomes;
3. Identify the audience’s ‘mental models’ by interviewing a sample group about what they know and think about the expert mental model issues, especially the frames and language they use;
4. Compare the expert and audience mental models and address any gaps by bringing in additional scientific expertise and developing content that will link the science to the audience’s mental models;
5. Test the communications before issuing them to ensure that they a) reinforce the audience’s existing knowledge, b) fill any gaps in that knowledge and c) correct any misinterpretations.

Markowitz and Sweetland (2018) highlight four elements of what they call the ‘side door’ approach to climate communications to move away from polarisation and echo chambers:

1. Look for informal and non-contentious opportunities for climate communication in community and cultural institutions (e.g., zoos) that are outside the usual 'echo chambers';
2. Identify trusted messengers, especially diverse voices not usually associated with climate issues;
3. Connect climate change messages to local, day-to-day issues that audiences are already dealing with to provide alternative entry points for engagement;
4. Provide positive alternatives to the common 'crisis' narrative, which can be emotionally overwhelming and focus instead on 'solutions' narratives which show the benefits of public engagement and action.

One example of this is work by Daugaard et al. (2024) on how an 'optimism' frame can increase support among investment professionals for fossil fuel divestment. Emphasising the greater potential long-term growth for low-carbon investment assets had a greater impact than framing divestment as an increasing social norm, warning of the risks of continuing with fossil fuel investment or using an industry expert as a trusted messenger. One possible reason for this could be the potential prevalence of values such as achievement, independence and risk-taking in the financial sector (which tend to be associated with a Modern worldview), with which a profit-making frame could resonate more. In contrast, a social norm message may appeal more to the Traditional worldview, which places a higher value on group acceptance and conformity.

The work of Moser (2014, p.349-350) on communicating climate adaptation may also be useful here. She suggests three key dimensions to consider, outlining a number of actions under each:

1. Link science with experience to enable people appraise both the risks they face and the actions they can take in response;
2. Use language that make concepts tangible and taps into audience values such as responsibility, precaution, fairness, etc.;
3. Communicate choices by drawing on relevant past experience, frame costs and benefits in monetary and other terms and support collaborative processes for all affected parties for agreeing on common goals and options to achieve them.

In terms of values-based climate communications, research findings point to the importance of identifying audience values and ensuring that messaging resonates with these. For example, Groves (2019) points out the need to recognise how loss and damage from climate impacts a range of public values, while Shaw and Wang (2021) and Wang et al. (2020) highlight the need to stress the co-benefits of climate action (e.g., health, security, etc.) and to recognise people's economic circumstances and daily challenges. Pidgeon et al. (2014) also note the value of message framing which emphasises other benefits such as increased energy security as a way to generate engagement from audiences who may otherwise perceive climate change as a politically contentious issue. In addition, Goldberg et al. (2021; 2022) emphasise the important role played by trusted messengers whom audiences see as representing their own values, as do Sawas et al. (2023). One example of this is the Sustain Wales (2012) work which examined Welsh culture, history, mythology and relationship to the

environment to identify key values as a basis for sustainability communications. Attachment to landscape and place was the strongest value category identified, cutting across the Welsh / English language divide, followed by language, which is a key symbol of Welsh identity. Key cultural and historical values included endurance, resilience, care for locality and a sense of belonging, while 'Bodlon', a term meaning embracing tradition, community and a slower way of life was a fourth key value category identified, with strong links to wellbeing.

Another useful example of values-based work focuses on traditionally disengaged audiences such as the centre right, among whom levels of climate scepticism and denial can be high (Rossen et al., 2015) Corner (2013) emphasised the importance of linking sustainability-related values with those underpinning political conservatism, such as intergenerational duty and community well-being. Key narratives and language to increase the engagement of this group with climate action include messages that target key values such as integrity and authenticity, a sense of responsibility, the need for security and keeping things in balance (Corner et al., 2016). Particular narratives that were well-received by this audience include linking the saving of energy to frugality and avoiding waste, as well as an emphasis on local democracy and agency (e.g. a "Great British Energy" message) (Whitmarsh & Corner, 2017). These messages were also positively received by audiences on other parts of the political spectrum, pointing to their usefulness for a multi-audience approach. This may have relevance for designing communications to reach the "Cautious" and "Doubtful" audiences identified in the Climate Change's Four Irelands work in particular, as discussed in Section 3.3.3b.

A concept linked to values-based research is the 'Gateway Belief' model (van der Linden, 2021), which proposes that highlighting the degree of scientific consensus on anthropogenic climate change can act as a 'gateway' to shifting other beliefs people may hold about climate change. Goldberg et al. (2022) found evidence of this among a variety of audiences, in particular those who were initially doubtful or dismissive of climate change. The importance of repeating key messages to these audiences was also highlighted, given that the messaging effects can decline over time, as was the need to consider what other messages may be competing for an audience's attention.

Also important to bear in mind for conservative audiences and those who hold sceptical or denialist views of climate change is that their views are usually based as much on emotions and feelings as they are on evidence and arguments (Hochachka, 2024). One related example of this in the Irish context, for example, is where Rodriguez-Sanchez et al. (2018) found that anger was the main emotion driving opposition to the introduction of domestic water charges in 2015. More positively, Hine et al. (2013) found that using strong emotional content with a focus on loss prevention and action-based advice elicited favourable responses from Australians who were uncommitted to or dismissive of climate change. Similarly, there is evidence to suggest that genuinely inclusive and participatory processes where people can air their concerns and emotions can result in greater engagement on climate change issues (Nightingale, 2015; Kalla & Broockman, 2020). In addition, Bain et al. (2012) found that emphasising shared values that resonate with conservative audiences may help to engage climate change deniers. This may be particularly relevant for the Four Irelands' 'Doubtful' category.

Hochachka’s concept of “climate shadow” is also relevant to values-based research, relating to the strong feelings which climate change can elicit in people, such as insecurity, anxiety and threat to self, identity and society. It posits that people “*tend to push such unmanageable feelings and painful information out of the conscious mind as ‘shadow’*” (Hochachka, 2024, p.5) as a coping strategy. However, this repression can increase their vulnerability to misinformation and lead to climate change denial. While this is a new concept, she suggests that it could be a factor in the growing backlash to climate policies in Canada, for example, and recommends that the climate shadow concept be taken into account when designing and implementing climate communications and engagement, so people feel their opinions and preferences are treated with respect and taken seriously. Hochachka outlines one such approach in relation to urban climate action regarding the 15-minute city planning tool, including “*drafting communications to avoid triggers and support more resonant meaning-making frames, and connecting with citizen’s ‘objects of care’ that motivates people in connecting climate concern with action*” (ibid, p.10).

3.5.2 Selected examples of climate-related communications

In this section, we present a selection of climate-change and environmental communications in which elements of worldviews and values can be discerned. The selection is by no means comprehensive but aims to give some insight on how the research might be utilised in the design of communications that will resonate with different audiences by linking the message to the particular values of each worldview. The examples are categorised on the basis of which worldview they are likely to appeal to, given the themes, values, etc., displayed in the content and imagery.

3.5.2a Traditional worldview-related examples

The Traditional worldview tends to prioritise care for one’s family, community and country and related values such as conformity and solidarity, as well as a ‘stewardship’ approach to nature.

Table 3.3: Examples of Traditional worldview-related messages

Example	Theme(s) and worldview / values	Source
Suncorp Insurance: “If Your Home Could Talk”.	This short film about community retrofitting for climate adaptation highlights themes of community, neighbourhood, local resilience that tend to work well with Traditional / worldviews. The references to the scientific evidence and testing of the technology could also appeal to the Modern worldview.	https://www.adforum.com/creative-work/ad/player/34676395/if-your-home-could-talk/suncorp-insurance
The Climate Coalition 2024: “Show the Love”	Themes of children, homes, communities, personal agency and local real voices	https://www.youtube.com/watch?v=TwgFZJqj04s
The Climate Coalition 2016: “I wish for you”	Theme of children, family, connection, care, etc.	https://www.youtube.com/watch?v=-qzS4L5BiTM
UNICEF climate change and children’s rights advert 2023	Themes of family, children, connection, etc.	https://www.youtube.com/watch?v=1JHBpUYXWNY

Example	Theme(s) and worldview / values	Source
AIB GAA Club Championships advertising campaign	Emphasis on local community, community and national identity (e.g. (“These are our people... It’s in our blood”), perseverance and commitment, shared experience, mutual support and heritage (e.g. including use of the Irish language). Likely to appeal particularly to Traditional worldviews but also potentially to others.	Men’s championships advert: https://www.youtube.com/watch?v=k89K-wKEbC8 ; Women’s championships advert: https://www.youtube.com/watch?v=R413IR6PaB4&t=2s
The “Morris Model” of urban sustainability in the town of Tiny Morris, Minnesota.	A conservative, pro-Trump town has successfully implemented a series of environmental and climate-related initiatives, linking them to values such as self-sufficiency, value for money, practicality and community which are likely to resonate with the Traditional worldview.	https://morrismodel.org/ ; Humes (2024).

3.5.2b Modern worldview-related examples

The Modern worldview supports scientific, innovative and technology-driven approaches to environmental and other issues, along with values of achievement, status and freedom and an expanded frame of concern extending internationally and globally.

Table 3.4: Examples of Modern worldview-related messages

Example	Theme(s) and worldview / values	Source
The Climate Coalition x James Norton: Climate change and the next great human achievement.	Draws on the positive aspects of the Modern worldview with references to achievement, progress, technology, etc., as well as personal mastery.	https://www.youtube.com/watch?v=fAyhRD4JPxg&list=PLENzCwNIMCWn_P9f1uIlW9WxLEcLeTWBT
The Climate Coalition x Annie Lennox: Letters to Tomorrow	Draws on facts, science, power of technology, and ‘celebrity’ voice (aspirational) and so is likely to appeal more to a Modern worldviews perspective.	https://www.youtube.com/watch?v=-qaFWz7xhPc

3.5.2c Postmodern worldview-related examples

The Postmodern worldview embraces a planet-centric scale of concern, prioritising solutions to environmental issues that also support social justice, inclusion and equality, for both human and more-than-human populations.

Table 3.5: Examples of Postmodern worldview-related messages

Example	Theme(s) and worldview / values	Source
United Nations Environment Programme 2016: “Seven billion dreams. One Planet. Consume with Care”.	Themes of negative human impacts on nature on a global scale and the importance of cooperation for sustainability may resonate more with Postmodern worldviews.	https://www.youtube.com/watch?v=JyL58vlbvgw
The Climate Coalition x Ridley Scott: “A Love Song”	Elements of connection with nature as well as an abstract artistic style and the use of poetry and soaring music is likely to appeal to a Postmodern perspective.	https://www.youtube.com/watch?v=zD3YxrZdyzo

3.5.2d Examples that combine elements of multiple worldviews

Since each worldview retains key elements of those which precede it, there is potential to draw on these to design communications which will resonate with multiple worldviews.

Table 3.6: Examples of combined worldview-related messages

Example	Theme(s) and worldview / values	Source
The National Trust 2022: "We all want quiet"	Themes of benefits of nature for our mental and physical health; need for respite, belonging. These are likely to resonate with all audiences and worldviews.	https://www.youtube.com/watch?v=zcsLWq00RL0
The Climate Coalition x Chris Packham 2022: "The fight that unites"	Theme of generating action by tying climate change impacts to real places and people: <ul style="list-style-type: none"> • <i>Traditional worldview elements</i>: real local places, people, communities and families • <i>Modern worldview elements</i>: references to strong economies, job security, knowledge. • <i>Postmodern worldview elements</i>: power of collective action, justice and equality • Overall positive vision of what is possible if we act, sense that local action can make a difference. 	https://www.youtube.com/watch?v=UUTID_c-QLw
Penny: The Kids, Germany	The themes of rights, representation and inclusion is likely to appeal to <i>Postmodern</i> perspectives in particular, but may also resonate with other worldviews who are parents, or have strong childhood memories of some of the issues portrayed.	https://www.adforum.com/creative-work/ad/player/34688068/the-kids/penny

In addition to the above, one recent non-climate-related example of successful communication for public engagement is the #BanDisposableVapes campaign in the UK. In little over a year, the campaigners generated sufficient support from the public for a ban on disposable vapes, which the UK Government has agreed to implement in early 2025 (Skillen, 2024). Key factors in the campaign's success included its focus on the social, economic and health impacts of vapes in addition to environmental ones, so that several 'stories' could be told. In particular, its focus on public health impacts – especially for children - was found to be persuasive across many groups, as people found these personally meaningful. Similarly, the announcement in September 2024 that a similar ban on disposable vapes will also be introduced in the Republic of Ireland highlighted both environmental and public health impacts, as well as the particular impacts on young people (Department of Health, 2024). This echoes what is known about the power of tapping into what people care about as a way to engage them on issues such as climate change and the value of using a 'translation' approach, as discussed in Section 3.3.3a. Shaw (2023), for example, gives some examples of this in relation to engaging people with nature and mental health issues in Ireland.

4. Conclusion

Effectively communicating the need for people to engage in climate action is essential to successfully close the 'attitude-action' gap. As outlined in this report, relying solely on the provision of evidence and information about the issue of climate change is insufficient to generate such engagement. Critically, we need to recognise the different ways in which people understand and respond to climate change and the different assumptions and beliefs they bring to these perspectives.

Utilising the concept of worldviews and the values associated with them is one way to better understand the often unconscious inner dimensions of how we engage with climate change. Worldviews can help us to design messages that have the potential to resonate more strongly with different audiences and enable them to recognise the role they can play in addressing the issue. This literature review provides a novel compilation of research linking climate communications and worldviews, both in the Irish context and more widely. It should provide a useful starting point for those interested in improving the design of climate communications for public engagement and also serve as a basis for further research in the area.

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