# KNOCA
## Knowledge Network on Climate Assemblies

## HOW DOES THE FRAMING OF CLIMATE CHANGE AFFECT THE CONCLUSIONS REACHED IN CLIMATE ASSEMBLIES?

Dr Chris Shaw, Research Programme Lead, Climate Outreach

Dr Susie Wang, Researcher, Climate Outreach

Briony Latter, PhD researcher, Centre for Climate Change and Social Transformations, Cardiff University.

**November 2021**

*KNOCA is a European network that aims to provide resources and inspire those who commission, design, advocate and scrutinise climate assemblies to ensure the highest standards of practice. The network hosts events and produces a range of practical resources, alongside other knowledge development activities. We welcome individuals and organisations with experience or interest in either commissioning, running or analysing these processes and their outputs in Europe. Please reach out to us at info@knoca.eu to share, discuss and inform best practice and new developments in climate assembly design, delivery and analysis.*

## 1. Key insights

- There is no neutral way of framing climate change. The way climate change is framed in climate assemblies shapes how the problems and policy options are understood and responded to.

- Framing takes many forms. The form of the mandate, the time given to discussing different policy options, the formats of presentations, the very surroundings in which the assembly is held, along with other elements, will all communicate assumptions and perspectives on the issues and how they can be addressed.

- The way the interaction of these different forms of framing influences the outcomes of citizen assemblies is complex and not yet well understood.

- The framing of climate assembly remits has focused almost exclusively on mitigation. There is an unmet need to use the climate assembly format to deliberate on how societies can best adapt to climate change.

- Most assemblies have had to break into smaller workstreams to work on specific aspects of the climate agenda. It is not clear if framing is consistent across these workstreams, and what the implications are for outcomes.

- Values are as important (if not more important) than technical knowledge in making judgments about climate change. It is not clear the extent to which the way climate change is framed in assemblies recognises and is responsive to the values of participants.

- People learn in different ways. Presentation styles in climate assemblies tend to rely on standard presentation techniques such as PowerPoint that privilege particular participants.

- A tighter more prescriptive framing can help participants come up with distinct proposals, but may not fully account for the range of issues that participants would ideally like to see considered


## 2. Recommendations

- Assemblies should also be designed to inform climate action for adaptation, not just mitigation.

- Rather than a single assembly dealing with extensive agendas, commissioners should consider parallel or sequenced assemblies on more specific aspects of the climate crisis to enable richer proposals from citizens, guided by a consistent approach to the framing of the issue under discussion.

- The move to online assemblies opens up new ways of presenting and digesting information. Commissioners and designers need to explore how best to combine the best of face-to-face and online environments as countries deal with fluctuating Covid-19 restrictions.

- Information about how issues were framed and the impact of that framing on the proposals developed should be shared across climate assemblies to ensure best practice guidance on framing is considered in the next wave of assemblies.

- Research and evaluation of assemblies should focus on how climate change is framed within assemblies, how this is experienced by participants, and how this supports the decision-making process of commissioners and other political actors.

## 3. Why framing matters

This paper draws on the experience of Climate Outreach in helping organisations communicate climate change effectively to their audiences. It engages with social psychology and the extensive evidence showing that values, worldviews, identity, and political ideology are much more fundamental in shaping the public's views about climate change than knowledge of policies or technical matters (Bouman et al., 2021; Corner and Clarke, 2017; Hornsey, 2021).

All information is 'framed.' Framing means conveying an idea in a particular way, or in a certain light (Nisbet, 2009). This means there are no "neutral" way of communicating about climate change (Capstick et al., 2020). In a climate assembly, meaning can be framed through the remit of the assembly, topics chosen for consideration, the priority given to the different subjects, the people chosen to communicate the information, the location of the assembly, the amount of time given to the process, the methods employed for deliberation, the mechanisms by which recommendations are chosen and communicated, and the commitment given by policy makers to act on the recommendations that emerge (Calouste Gulbenkian Foundation, 2021). Design choices have implications for how members engage with the topics, and ultimately the decisions they make. For example, framing climate change in ways that foreground issues that are difficult to engage with, such as complexity and uncertainty, risks overwhelming citizens and increasing feelings of hopelessness and helplessness (Chapman et al., 2016; O'Neill et al., 2013).

The framing of climate change in assemblies needs to be alert to this point because framing communicates values about what aspects of climate policy are important. If it is true that most of the citizens who participate in climate assemblies (hereafter referred to as 'members') have only 'minimal prior understanding' of climate change (Cherry, Capstick and Demski et al 2021), then members will be susceptible to having their understanding of the issues set by the initial framings or boundaries, lacking any significant alternative knowledge to draw upon.

The interplay between the different frames present in a climate assembly (CA) pose challenges for researchers seeking to understand how framing shapes the recommendations generated by citizens. To date we lack a systematic comparison of CA design, remits, and outcomes that investigate whether and how these frames interact to affect the recommendations reached. Much of the literature on climate change framing comes from unidirectional communications, where information is transferred from the source to the recipient (Badullovich, Grant and Colvin, 2020), while citizens' assemblies, as well as wider society, involve two-way, or multi-dimensional forms of communication from a multitude of actors. By starting from a point of *deliberation* rather than *persuasion*, the different ways in which climate change is framed and the meanings associated with

them can be scrutinised (Romsdahl, 2020). This paper opens up some of the research areas that need to be developed in order to improve our understanding of how framing influences the proposals emerging from CAs.

## 4. Framing the remits of national level climate assemblies

The breadth of CA remits varies. The remit "*How should Scotland change to tackle the climate emergency in an effective and fair way?*" is broad because it leaves open what it means to tackle the climate emergency. A net zero remit (e.g. "*How can the UK reduce greenhouse gas emissions to net zero by 2050?*") is narrower because it already defines the policy objectives.

Too broad a framing of the overall remit for a CA may create obstacles to members' abilities to come up with distinct proposals and to deal with all the complexities that a broader approach throws up. Citizens' assemblies, in general, are designed to provide specific practical proposals that can be implemented by governments (Capstick et al. 2020). Research indicates that deliberation processes are most successful when there are distinct policy questions, and the questions are specific enough to allow for in-depth conversation around tangible implications and processes (Devaney et al., 2020).

Yves Dejaeghere, Director of the Foundation for Innovation in Democracy in Europe (FIDE) explains the challenge as follows:

> "*You can size up remits to almost global scale if you want, but ....  a very large framing of the remit will lead to a possibly banal output. Give people a weekend to discuss the future of Europe ... and you will get what I call "koala bear" recommendations...they are nice and cuddly ("the EU must be inclusive" "the EU must show solidarity" "the EU must tackle inequality", "the EU must do more on the Climate"). Everything nice and all, but nothing specific enough so it's actually controllable afterwards...*" (Yves Dejaeghere, email, 17th March 2021).

Ultimately, it is important to make a judgement call in the design of CA remits on whether to focus on narrower framings which can produce clear and more specific recommendations, but which may exclude wider related issues, or choose a broader framing that allows for more topics and perspectives but may be slower and lead to less tangible recommendations (Bryant and Stone, 2020). The broad remit chosen for the Scottish CA produced 86 recommendations, and the French equivalent generated 149 recommendations. Whilst such a large number of recommendations is an appropriate response to such a broad remit, it is a challenge for policy makers to deliver on them all, and they are likely to be selective in their uptake.

CA remits can, in theory at least, be framed in terms of mitigation, adaptation or both. It is notable that, to date, national-level CAs have tended to focus on mitigation issues. One possible exception is the Scottish Assembly, which with its broader remit (see above) opened the space for discussion of adaptation. The assembly included a climate adaptation specialist as a speaker and recommendations include adaptive measures, such as retrofitting buildings to cope with extreme weather. The final report included relatively few adaptation recommendations which may indicate that it is more challenging to communicate than mitigation.

In the Irish Assembly "submissions were invited across the full spectrum of issues in relation to climate change but in particular we sought views on Ireland's energy, transport and agriculture sectors" (Third Report and Recommendations of the Citizens' Assembly, 2018, p4.). The absence of fairness as a theme or frame for consideration in the mandate is reflected in the recommendations made by the members. The word fairness does not appear once in the 13 recommendations. This suggests the framing of the remit does shape the way in which topics are chosen and deliberated, which in turn may shape the recommendations offered.

The absence of fairness as a frame in the Irish CA is notable, when one considers that fairness is a key consideration in public support for climate policies (Sovacool et al., 2017; Moberg et al., 2018; Demski et al. 2015). A number of other CAs have made efforts to frame remits using themes such as fairness, justice, and balancing multiple interests, for instance, that climate change action is realised in a "an effective and fair way" (Scotland), "a spirit of social justice" (France) and in a manner that is "good for us, good for our environment and good for our country" (Germany). From a climate mitigation and adaptation perspective there is a large literature on the differing understandings of fairness and justice in energy transitions which may be difficult for lay audiences to engage with in the time allowed within an assembly (for discussions of these complexities see Jenkins et al., 2016; McCauley, Heffron and Jenkins, 2013; Sovacool and Dworkin, 2015; McCauley and Heffron, 2018; Walker, 2012; Caney, 2016). The extent to which deploying a fairness frame within a CA provides the basis for developing a policy agenda for a just climate response is worthy of further research. To date, fairness has tended to be considered only within the borders of the country concerned, with little or no space for more cosmopolitan and decolonial perspectives on justice that recognise the impacts of climate change will fall disproportionately on the world's poorest (IPCC, 2001).

Both Scotland and the UK had specific expert input on questions of fairness, developing principles to guide their deliberations and development of recommendations. In the CAUK, members were asked to complete this sentence "The UK's path to net zero by 2050 should be underpinned by the principles of...." The second highest priority principle was "Fairness within the UK, including for the most vulnerable (affordability, jobs, UK regions, incentives and rewards) in actions, not just words". In Scotland members developed 22 propositions of fairness which they went on to prioritize (Scotland's Climate Assembly, 2021). The top priority was "Take into account the needs of different communities across Scotland, recognising that there is not a 'one size fits all' solution". This approach suggests that with the proper guidance members can productively engage with the issue of fairness in climate policies.

A common division in the framing of climate change is between its causes and impacts, and actions to address it (often termed 'solutions'). Climate assemblies are solution-focused by design. Focusing on solutions can enable greater consensus - and foster support for policies because they often address multiple benefits, not just to the climate (e.g., transit-centered development for health and quality of life, as well as reduced carbon emissions; Kahan and Carpenter, 2017; Bain et al., 2016; Myers et al., 2012). When "solutions" are highlighted, citizens can envision a positive future and work towards a concrete goal, building a sense of collective and individual efficacy (Roser-Renouf et al., 2014).

Evidence also suggests greater interest in solutions among the public. The Irish citizens' assembly included a period of public submissions from a wider audience than those who participated directly in deliberations, and thus was able to gauge public interest in various topics (Devaney et al., 2020). The most common topics submitted were about national policy, emissions reduction, renewable energy and community engagement - notably all remedies and actions to address climate change, rather than impacts or causes

## 5. The communication of climate change in assemblies

### 5.1 Who communicates

Climate assemblies use a range of messengers to communicate information to members including academics, activists and campaigners, and other stakeholders. If members are to engage productively with the information being provided it is important to identify and use messengers who are going to be trusted by the participants (Markowitz and Guckian, 2018). This requires communicators to be perceived as expert and authentic, whether they are presenting scientific or normative positions. There are often differences between countries, for example, a high proportion of the British population trust professors and scientists to tell the truth (83% and 82% respectively) compared to 60% for civil servants and only 16% for government ministers (Ipsos MORI, 2020). However, people in Germany and Norway trust institutional actors to transform the energy sector more than they do in the UK and France (Steentjes et al., 2017).

Scientists are generally well trusted communicators on climate change (National Academy of Sciences, 2017). The challenge is not to bombard people with science as they will find it difficult to engage with the material on this basis. Trust is also driven by the extent to which a communicator speaks authentically, drawing on their own experiences and perspective (ibid).

Organisers of climate assemblies will involve climate experts in different ways – whether as co-designers of the process (e.g. in CAUK), or as advisors, providing recommendations on content and potential speakers, and working with members within the assembly itself to craft recommendations, as happened in France. Experts will also sometimes be present in the form of advocates for a particular viewpoint on policy action. Danish practice is of interest here as organisers provided participants with a list of potential expert witnesses, leaving it up to participants to decide who is most relevant to their interests and giving them space to request specific expert input. While most speakers for the Convention Citoyenne pour le Climat were selected by the governance committee, members of the assembly were also able to suggest speakers (Eymard, 2020). Allowing participants to have a say in who presents may help to ensure that trusted messengers are represented and lend greater legitimacy to the process.

The four Expert Leads of the CAUK process ensured that content was "balanced, accurate and comprehensive" throughout all stages of the process and that the assembly focused on how to achieve net zero emissions by 2050. They were supported by advisory and academic panels. In France, advocates were closely involved in the shaping of proposals. Advocates worked with members in three ways: 1) an expert support group "groupe d'appui" assisted citizens in developing their recommendations; 2) the "Comité légistique" advised citizens on the legal nature of their

measures to ensure their compliance with the rule of law; and 3) fact checkers answered citizens' technical questions in real time (via WhatsApp). In Denmark and Germany, a group of experts had a role in reviewing draft proposals and providing commentary for the members to consider.

It is important that the voice given to presenters does not detract from space for deliberation. CAs can vary greatly in the time given for expert input compared to deliberation. For example, a review of the Irish Citizens' Assembly (ICA) described deliberation in the ICA:

> *"The ICA's chair, the Hon. Ms. Justice Mary Laffoy, in conformity with her habitus of Supreme Court judge, led the debates with an assertive approach, leaving little space for contestation to arise among participants, which can be a problem from an 'agonistic perspective of democracy'… Her use of time tended to favor expert lectures, which often ran over their allocated time, over the small groups and plenary session deliberation time… Jack Blaney in British Columbia adopted a 'liberal approach,' letting "members talk as much as they wished even if this meant going over time." (Courant, 2021)*

## 5.2 How climate change is communicated

Deliberative processes need to be attuned to the substantial body of research showing how people's perspectives are sensitive to the way in which climate change is communicated. This covers both the discursive and visual imagery used to illustrate and communicate climate change (Hart and Feldman, 2016). CA reports do not offer extensive detail on the types and formats of evidence provision.

Mendonça et al. (2020) critique the idea of deliberative democracy as being "talk-centric" and originating from a Western logocentric culture, which revolves around words, either spoken or written, while in reality, "deliberation also has visual, sonic and physical dimensions, which are crucial for enabling reason-giving, inclusion and reflection" (Mendonça et al, 2020, p.15). In other fields, such as pedagogy, the use of multiple modes of information can foster greater inclusiveness of marginalised participants, whose cultural, linguistic and personal backgrounds may prevent them from participating as equals in a space that privileges verbal expression (Mendonça et al, 2020; Pajnik, 2006).

Citizens' assemblies may benefit from using a range of presentation methods (Breckon, Hopkins and Rickey, 2019), both physical and digital. While standard presentations and Q&A sessions are typical, activities incorporating physical materials such as flip charts and Post-it notes vary the type of engagement. In one (sub-national) example, the use of Powerpoint presentations was actively discouraged in favour of more engaging formats (The Leeds Climate Change Citizens' Jury, 2019). Methods that could be more systematically applied include: visioning (imagining what a future scenario might look like) – in the Scottish CA four hypothetical futures were presented from techno-optimism, to collaborative communities; participatory mapping (working on a map in a group to address local issues); immersive learning experiences (e.g. activities and visits outside of the assembly), scenarios (used in UK and Scotland CAs); and various art forms (Bryant and Stone, 2020). Multi-modal analyses of climate change frames suggest that visuals and language co-construct narratives of climate change, and interact to convey a multi-dimensional message (Di

Francesco and Young, 2011). Where they complement words, visuals can act as cognitive shortcuts that compress complexity into a more accessible and easily comprehensible form (Hannigan 1995).

While some forms of creative public engagement with climate change such as art and improvisation have usually been used for raising awareness rather than deliberation, these are still considered useful and innovative methods of communicating climate change with people (climateXchange, 2020). Science animations are particularly suitable "for conveying complex and abstract facts" (Boy, Bucher and Christ, 2020, p.14), and therefore may be well-suited for climate change communication. Narrative explanatory films – videos which address a scientific question mainly through moving images and storytelling as well as providing information – are important presentation format as they hold the viewers' attention and help them to acquire a higher level of knowledge (ibid.). Research has also shown that decision-makers respond well to interactive, non-technical approaches to presenting climate change information such as photographs, case studies and direct personal experience of issues (Reis and Ballinger, 2020). Research on climate change imagery outlines several principles for effective visual communication of climate change, including showing humans, the scale of climate change causes and emotionally powerful impacts, including local impacts, and emphasising the need to understand the target audience and show new stories (Climate Visuals, n.d.; Chapman et al., 2016).

Emotions can play an important role in climate change communication. For example, although climate change can cause anxiety (Cunsolo et al., 2020), fear can be effective if used alongside efficacy or hope (Kleres and Wettergren, 2017; Nabi, Gustafson and Jensen, 2018). It has been argued that climate assemblies should foster emotionally intelligent participation where people's hopes and fears can be addressed and they can engage emotionally with climate change (Mellier and Wilson, 2020). This claim is aligned with the point stressed in this briefing paper, that people make sense of climate change from the position of their values. The framing of climate information in the assembly should attend to this fact.

Finally, in the pandemic context, citizens' assemblies need to adapt to online formats and alter how climate change information is communicated. The Climate Assembly UK and one meeting of the Convention Citoyenne pour le Climat were among the first citizens' assemblies to be conducted online. Subsequent assemblies (e.g., in Scotland, Denmark and Germany) have been fully online. From these examples, it is clear that many key elements of citizens' assemblies can operate with relatively little modification, such as listening to and questioning speakers, small group discussions and voting. Adjustments may also be required for people with visual impairments or other needs which could impact their engagement in an online assembly (climateXchange, 2020). With these considerations in mind, online citizens' assemblies may also offer a range of benefits, such as greater inclusivity and accessibility for participants and experts from dispersed or remote locations, a wide range of digital technologies supporting different forms of learning, deliberation, and decision-making, and a lower carbon footprint and overall cost of operation (Sandover, Moseley and Devine-Wright, 2020).

*5.3 What is communicated*

Most CAs, with the exception of the Irish and Finnish initiatives, have separated participants into a number of sub-topics. For example, in France this was: transport; food; consumption; work and production; and housing. Scotland broke into four workstreams: diet and lifestyle; homes and communities; work; and travel. We have little understanding of whether the way in which each policy issue is framed (e.g., as a technical problem or a social justice issue) has been consistent across all sub-topics within a CA, or consistent across different CAs. Additionally, the amount of time given to discussing each topic may vary. Differences in times allotted to each topic impacts on how much and what types of information can be brought into the discussion, the amount of deliberation, and perceived importance of the topic. All these issues should be taken into account in the design of CAs

The exact balance of directed focus and flexibility in the process design will in many cases depend on the wishes of the policy actors commissioning the CA. The Danish CA is an example of how policy agendas shape the issues chosen for deliberation:

> *"The format was designed to fit the Danish situation and the specific fact that Denmark has a law based yearly process on climate action plan decision-making. It is not an "overview" of the problem and its solutions Denmark needs – it is a qualified discussion of the single elements of the transition, their mutual connections/interdependencies."* (*Email communication, Danish Board of Technology, 21st May 2021*)

Engaging citizens too late in the process of policy development – when fundamental elements can no longer be changed and where there is little space for assembly participants to make a difference – is disingenuous and can erode trust (Devaney et al., 2020). Structural differences in the autonomy afforded participants can be seen by comparing Scotland's Climate Assembly, where three weekends were allocated to participants to review and refine recommendations they had crafted themselves, and CAUK where participants made decisions over one weekend primarily on policy options that had been pre-prepared by organisers.

Addressing the question of who gets to decide what areas of climate policy are brought to the table for consideration, Cherry et al note, "while top-down approaches are suited to answering practical policy questions, they nevertheless limit the ability of citizens themselves to direct proceedings, or to allow participants to build their own vision of a future society, and risk losing the wider context in which citizens' views – and ultimately the assembly's recommendations – need to be understood (2021, p. 16).

This framing of the process in a way that is tightly aligned with existing policy agendas (for instance through the provision of "pertinent evidence" (Elstub et al. 2021)) does have the advantage of increasing the chance that the recommendations arrived at by the members will be salient to the priorities of political actors.

Deciding how much information to provide and how to structure the assembly to give participants time to address the issues remains an unresolved challenge:

> *"For Climate assemblies, how much can citizens 'chew' in a few weekends and get valuable recommendations out? In some instances from the evaluations of the French Convention, some*

*citizens seem to have found it a bit a daunting task…The less time you give for a larger subject, the more experts will be in the driver seat as citizens do not have an amazing amount of time to work themselves into all the subtleties of all the sub questions of everything that comes with climate policy" (Yves Dejaeghere, email, 17th March 2021)*

## 6. Future network activities

The findings of the Briefing suggest the following avenues for further network activity in relation to framing:

- Though the influence of framing in how information is understood and received is well established, there is less evidence about how framing of climate change shapes the deliberation and recommendations generated within CAs. More comparative work between different CAs in Europe can improve knowledge of the effects of framing on the proposals generated in CAs.

- Design and pilot different approaches to framing, structure and remits in order to clarify for policymakers and delivery bodies the variety of options available and how these can support learning and deliberation within assemblies.

- Research how to align the framing of climate communication within the assembly space with the way climate change is communicated and encountered by the public outside the assembly process, so that a common language and set of objectives can be identified and used by key stakeholders and influencers.

- Improve our knowledge of how mitigation and adaptation frames shape the work of members, and whether mitigation and adaptation policy agendas should be combined within one process or treated separately.

## 7. Research methods

A rapid desk review of the peer reviewed literature was conducted for this research brief to provide an overview of current knowledge and understanding on different aspects of the practice of climate assemblies and climate communication. This was supplemented with reviews of reports, as well as informal interviews and emails exchanges with researchers and practitioners from across Europe. This allowed the authors to gain additional insights on aspects of climate assemblies, including how the task was framed to participants, facilitation and recommendations. The authors are indebted to Yves Dejaeghere, Federation for Innovation in Democracy (FIDE), for his valuable insights and guidance during the writing of this paper and Professor Graham Smith for his support and guidance in the writing of this brief.

# 8. Bibliography

Badullovich, N., Grant, W. and Colvin, R. (2020). 'Framing climate change for effective communication: a systematic map', *Environmental Research Letters*, 15(123002). Doi: 10.1088/1748-9326/aba4c7

Bain, P. G., Milfont, T. L., Kashima, Y., Bilewicz, M., Doron, G., Garðarsdóttir, R. B., . . . Corral-Verdugo, V. (2016). 'Co-benefits of addressing climate change can motivate action around the world', *Nature Climate Change*, 6(2), 154157. Doi: 10.1038/nclimate2814

Bouman, T., van der Werff, E., Perlaviciute, G. and Steg, L. (2021). 'Environmental values and identities at the personal and group level', *Current Opinion in Behavioral Sciences*, 42, pp.47-53. Doi: 10.1016/j.cobeha.2021.02.022

Boy, B., Bucher, H. and Christ, K., (2020). 'Audiovisual Science Communication on TV and YouTube. How Recipients Understand and Evaluate Science Videos', *Frontiers in Communication*, 5(608620). Doi: 10.3389/fcomm.2020.608620

Breckon, J., Hopkins, A. and Rickey, B. (2019). *Evidence vs Democracy: How 'mini-publics' can traverse the gap between citizens, experts, and evidence*. [online] The Alliance for Useful Evidence. Available at: <https://media.nesta.org.uk/documents/Evidence_vs_Democracy_Report_Final.pdf> [Accessed 14 April 2021].

Bryant, P. and Stone, L., (2020). *Climate Assemblies and Juries: A people powered response to the climate emergency*. [online] Shared Future. Available at: <https://pcancities.org.uk/sites/default/files/Shared-Future-PCAN-Climate-Assemblies-and-Juries-web.pdf> [Accessed 14 April 2021].

Calouste Gulbenkian Foundation (2021). *Public Engagement for Net-Zero: A Literature review. Centre for public impact*. [online] Calouste Gulbenkian Foundation. Available at: <https://gulbenkian.pt/uk-branch/publication/public-engagement-for-climate-change-a-literature-review/> [Accessed 24 May 2021].

Caney, S. (2016). 'The Struggle for Climate Justice in a Non-Ideal World', *Midwest Studies in Philosophy* 40(1), pp. 9-26. Doi: 10.1111/misp.12044

Capstick, S., Demski, C., Cherry, C., Verfuerth, C. and Steentjes, K. (2020). *Climate Change Citizens' Assemblies*. CAST Briefing Paper 03.

Chapman, D. A., Corner, A., Webster, R., & Markowitz, E. M. (2016). 'Climate visuals: A mixed methods investigation of public perceptions of climate images in three countries', *Global Environmental Change*, 41, pp. 172-182.

Climate Visuals. n.d. *Climate Visuals*. [online] Available at: <https://climatevisuals.org> [Accessed 21 April 2021].

climateXchange, 2020. *Understanding and engaging the public on climate change*. [online] Edinburgh: Ipsos MORI. Available at: <https://era.ed.ac.uk/handle/1842/37207> [Accessed 20 April 2021].

Corner, A. and Clarke, J. (2017). Talking Climate: From Research to Practice in Public Engagement. Basingstoke: Palgrave Macmillan.

Corner, A., Lewandowsky, S., Phillips, M. and Roberts, O. (2015). The Uncertainty Handbook. Bristol: University of Bristol. https://climateoutreach.org/resources/uncertainty-handbook/

Courant, D. (2021). Citizens' Assemblies for Referendums and Constitutional Reforms: 'Is There an "Irish Model" for Deliberative Democracy?', *Frontiers in Political Science*. 2 (591983). Doi: 10.3389/fpos.2020.591983

Cunsolo, A., Harper, S., Minor, K., Hayes, K., Williams, K. and Howard, C. (2020). 'Ecological grief and anxiety: the start of a healthy response to climate change?', *The Lancet: Planetary Health*, 4(7). Doi: 10.1016/S2542-5196(20)30144-3

Davis, S.J. and Caldeira, K. (2010). 'Consumption-based accounting of CO2 emissions', *PNAS*, 107(12), 5687-5692. doi: 10.1073/pnas.0906974107

Demski, C., Catherine Butler, C., Parkhill, K., Spence, A and Pidgeon, N. (2015)

Public values for energy system change, Global Environmental Change, Volume 34, Pg 59-69

Devaney, L., Brereton, P., Torney, D. et al. (2020). 'Environmental literacy and deliberative democracy: a content analysis of written submissions to the Irish Citizens' Assembly on climate change', *Climatic Change*, 162, pp. 1965–1984. Doi: 10.1007/s10584-020-02707-4

DiFrancesco, D. A., & Young, N. (2011). Seeing climate change: The visual construction of global warming in Canadian national print media. Cultural Geographies, 18, 517–536. doi:10.1177/1474474010382072

Elstub, S., Farrell, D., Carrick, J., and Capstick, S. (2021). Evaluation of Climate Assembly UK. Retrieved from https://www.climateassembly.uk/detail/evaluation/evaluation-of-climate-assembly-uk.pdf

Fabrino Mendonça, R., Ercan, S.A., and Asenbaum, H. (2020). More than Words: A Multidimensional Approach to Deliberative Democracy. Political Studies, Sept. 2020. doi:10.1177/0032321720950561

Gerwin, M., (2018). *Citizens' Assemblies: Guide to democracy that works*. [online] Kraków: Open Plan Foundation. Available at: <https://citizensassemblies.org/wp-content/uploads/2018/10/Citizens-Assemblies_EN_web> Accessed 25 May 2021].

Hannigan, J. (1995). Environmental sociology: A social constructionist perspective. New York, NY: Routledge.

Hart, P.S. and Feldman, L. (2016). 'The Impact of Climate Change–Related Imagery and Text on Public Opinion and Behavior Change', *Science Communication*, 38(4), pp. 415-441. Doi: 10.1177/1075547016655357

Hornsey, M., (2021). 'The role of worldviews in shaping how people appraise climate change', *Current Opinion in Behavioral Sciences*, 42, pp.36-41. Doi: 10.1016/j.cobeha.2021.02.021

IPCC. (2001). Climate Change 2001: A synthesis Report. A contribution of Working Groups I, II and III to the Third Assessment Report of the IPCC, ed R.T. Watson and The Core Writing Team. New York: Cambridge University Press: 12.

Ipsos MORI. (2020). *Veracity Index 2020*. [online] Ipsos MORI. Available at: <https://www.ipsos.com/ipsos-mori/en-uk/ipsos-mori-veracity-index-2020-trust-in-professions> [Accessed 12 April 2021].

Jenkins, J., McCauley, D. Heffron, R. H. Stephan, R. and Rehner, R. (2016). 'Energy justice: A conceptual review', *Energy Research and Social Science*, 11, pp. 174–182. Doi: 10.1016/j.erss.2015.10.004

Kleres, J. and Wettergren, Å. (2017). 'Fear, hope, anger, and guilt in climate activism', *Social Movement Studies*, 16 (5), pp. 507-519. Doi: 10.1080/14742837.2017.1344546

The Leeds Climate Change Citizens' Jury. (2019). Available at: https://www.leedsclimate.org.uk/sites/default/files/REPORT%20V1.1%20FINAL_0.pdf.

Markowitz, E. and Guckian, M. (2018). 'Climate change communication: Challenges, insights, and opportunities' in Clayton, S. and Manning, C. (eds), *Psychology and Climate Change*. London: Academic Press, pp.35-63.

McCauley, D. and Heffron, R. (2018). 'Just transition: Integrating climate, energy and environmental justice', *Energy Policy*, 119, pp.1–7. Doi: 10.1016/j.enpol.2018.04.014

McCauley, D., Heffron, R. and Jenkins, S.K. (2013). 'Advancing energy justice: the triumvirate of tenets,' *Int. Energy Law Rev.*, 32(3), pp. 107–110.

Mellier, C. and Wilson, R., (2020). Getting Climate Citizens' Assemblies Right. [online] Carnegie Europe. Available at: <https://carnegieeurope.eu/2020/11/05/getting-climate-citizens-assemblies-righttps://carnegieeurope.eu/2020/11/05/getting-climate-citizens-assemblies-right-pub-83133ht-pub-83133> [Accessed 20 May 2021].

Moberg, K. R., Aall, C., Dorner, F., Reimerson, E., Ceron, J.-P., Sköld, B. et al. (2018). 'Mobility, food and housing: responsibility, individual consumption and demand-side policies in European deep decarbonisation pathways'. *Energy Efficiency*, pp.1–23. Doi: 10.1007/s12053-018-9708-7.

Myers, T. A., Nisbet, M. C., Maibach, E. W. and Leiserowitz, A. A. (2012). 'A public health frame arouses hopeful emotions about climate change', *Climatic Change*, 113(34), pp. 1105 - 1112. Doi: 10.1007/s10584-012-0513-6

Nabi, R., Gustafson, A. and Jensen, R., (2018). 'Framing Climate Change: Exploring the Role of Emotion in Generating Advocacy Behavior', *Science Communication*, 40(4), pp.442-468. Doi: 10.1177/1075547018776019

Nisbet, M.C. (2009). 'Communicating Climate Change: Why Frames Matter for Public Engagement', *Environment: Science and Policy for Sustainable Development*, 51(2), pp. 12-23. Doi: 10.3200/ENVT.51.2.12-23

O'Neill, S. J., Boykoff, M., Niemeyer, S. and Day, S. A. (2013). 'On the use of imagery for climate change engagement', *Global Environmental Change*, 23(2), pp.413-421. Doi: 10.1016/j.gloenvcha.2012.11.006

Pajnik, M. (2006). Feminist Reflections on Habermas's Communicative Action. European Journal of Social Theory, 9(3), 385–404. doi:10.1177/1368431006065719

Reis, J. and Ballinger, R. (2020). 'Creating a climate for learning-experiences of educating existing and future decision-makers about climate change', *Marine Policy*, 111. Doi: 10.1016/j.marpol.2018.07.007

Romsdahl, R., 2020. 'Deliberative framing: opening up discussions for local-level public engagement on climate change', *Climatic Change*, 162(2), pp.145-163. Doi: 10.1007/s10584-020-02754-x

Roser-Renouf, C., Maibach, E. W., Leiserowitz, A., and Zhao, X. (2014). 'The genesis of climate change activism: From key beliefs to political action', *Climatic Change*, 125(2), pp.163-178. Doi: 10.1007/s10584-014-1173-5

Sandover, R., Moseley, A. and Devine-Wright, P., (2020). *A Rapid Review of Evidence and Best Practice Prepared for the Devon Climate Emergency Response Group and the Devon Net Zero Task Force. Contribution to the Devon Climate Emergency.* Exeter: University of Exeter. Available at: <https://www.devonclimateemergency.org.uk/wp-content/uploads/2020/12/Rapid-Review-Online-Deliberation.pdf> [Accessed 24 May 2021].

Scotland' Climate Assembly (2021). Retrieved from https://www.climateassembly.scot/sites/default/files/inline-files/Scotland%27s%20Climate%20Assembly%20Recommendations%20for%20Action.WebVersion%20%282%29.pdf

Sovacool, B. and. Dworkin, M. (2015). 'Energy justice: Conceptual insights and practical applications', *Appl. Energy*, 142, pp. 435–444.

Sovacool, B. K., Burke, M., Baker, L., Kotikalapudi, C. K. and Wlokas, H. (2017). 'New frontiers and conceptual frameworks for energy justice', *Energy Policy*, 105, 677-691. Doi: 10.1016/j.enpol.2017.03.005

Steentjes, K., Pidgeon, N., Poortinga, W., Corner, A., Arnold, A., Böhm, G., Mays, C., Poumadère, M., Ruddat, M., Scheer, D., Sonnberger, M., Tvinnereim, E. (2017). *European Perceptions of Climate Change: Topline findings of a survey conducted in four European countries in 2016.*

Cardiff: Cardiff University. Available at: <http://orca.cf.ac.uk/98660/7/EPCC.pdf>
[Accessed 21 April 2021].

Third Report and Recommendations of the Citizens' Assembly How the State can make Ireland a leader in tackling climate change (2018). Retrieved from https://2016-2018.citizensassembly.ie/en/How-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/Final-Report-on-how-the-State-can-make-Ireland-a-leader-in-tackling-climate-change/Climate-Change-Report-Final.pdf