COMMUNICATING CLIMATE RISK
A TOOLKIT

TECHNICAL NOTE

Communicating Climate Risk Toolkit is available here:
bit.ly/CommunicatingClimateRisk

Climate change risk leaves no person untouched. Effective strategies for amelioration need everyone's cooperation. That means that conversations about climate action need, in some way, to include everyone. But even though we share one planet, we often live in our own little worlds — each with its own vocabulary, values, and ways of viewing what's important. To effectively address climate risk, we need to communicate lucidly across these many worlds.

The Communicating Climate Risk Toolkit ('the Toolkit'), from the COP26 Universities Network (COP26 UN) and the Analysis under Uncertainty for Decision Makers network (AU4DM), seeks to narrow the gap between climate science and climate action, by providing insights, recommendations, and practical tools to support dialogue between scientists, decision-makers, and diverse stakeholders and communities. The Toolkit also endeavours to identify open problems and pose questions for further study and debate. The Toolkit builds on previous work by AU4DM and partly emerges from conversations at and around the COP26 Universities Network Climate Risk Summit, in September 2021, as well as survey questions shared with its participants.

One major focus area for the Toolkit is the relationship between uncertainty and risk. The Sixth Assessment Report (AR6), the latest major report from the Intergovernmental Panel on Climate Change (IPCC), continues to demonstrate a commitment to quantifying and communicating uncertainty in order to support transparency in science and inform robust decision-making. AR6 also includes greater emphasis on deep uncertainty, e.g. in domains such as tipping points and cascade risks. Risk assessment and risk management are assumed in AR6 as key frameworks that underpin global mitigation and adaptation efforts. However, more needs to be done to connect scientific understandings of uncertainty to risk-based decision-making. Specific kinds of uncertainty such as model uncertainty and deep uncertainty are challenging to communicate and are typically not well-understood by decision-makers, even those who are risk-literate. Key concepts differ across and within different domains of science and policy, creating the potential for information to be lost or misinterpreted. The term 'uncertainty' itself can carry misleading connotations, and when uncertainty is communicated badly it can impede rather than improve climate action. Other topics covered by the Toolkit include the use of visuals, including photography, in climate risk communication; best practice in fostering dialogue between scientists and policymakers; strengths and limitations of the stakeholder engagement paradigm of participatory climate action; and communication opportunities and challenges associated with tipping points.

The Toolkit is usefully read in conjunction with other outputs of the COP26 UN Climate Risk project, including Climate Action Unit's *Communicating Climate Risk Handbook,* which explores the science / policy interface, informed by neuroscience, climate journalism, and other fields, and which provides practical tips for writing and engaging in dialogues around climate risk.

NAME / LINK	DESCRIPTION	SOURCE
Storytelling vs. decision support: a checklist	Sometimes what the textbooks tell us about "engaging the public" or "supporting decision-makers" doesn't fit the messy reality of climate communication. This checklist will help communicators reflect on and refine their understanding of their audience(s) and goal(s). In particular, it will help them to reflect on what a proportionate communication of uncertainty might look like.	p.24
Tips for scientists engaging policymakers	Ten top tips for scientists and other experts who seek to engage policymakers in more impactful ways. There is a focus on the UK context.	p.66
Tips for using climate visuals	How do we show climate risk and climate action? Five tips for using photography in climate communications, and five tips for visualising climate data (especially complex and/or uncertain data).	pp.64-65
Case studies in climate communication	Lessons can be drawn from careful, constructive criticism of existing climate communications. The Toolkit examines the MCC Carbon Clock, an AR6 chart visualising precipitation trends, and an AR6 chart visualising climatic impact drivers.	p.12 (MCC Carbon Clock); pp.54-56 (AR6 visualisations)
Recommendations for the IPCC and modelling communities	Seven recommendations to build better conditions to communicate model uncertainty.	p.59
Living document of resources	Climate action needs to be rapid, and so the conditions in which we communicate, and what we need to communicate, is likewise liable to evolve rapidly. The Toolkit has been constructed with a view to future iteration and expansion. This growing crowdsourced directory will signpost useful resources for communicators, and innovative case studies in climate risk communication. Some items may be selected from the directory for inclusion (as case studies) in future iterations of the Toolkit.	p.72 bit.ly/ClimateCommsTools
Decision value chain	The decision value chain is a concept which seeks to capture how expertise transforms as it migrates from science to policy. Rejecting the view that information only degrades as it is transferred, it asks us to consider this process as fluid and dynamic, with the potential for decision value to be lost and/or added at each point in the chain, and potential for important decisions to be generated at any point in the chain.	p.20

1. We propose that taking an integrated, whole-economy approach to decision-making means **connecting scientific practices around uncertainty** to other understandings of risk across policy, business, the third sector, and communities affected by climate risk, within a just transition framework.

2. **When uncertainty is appropriately quantified and communicated, it can deepen collaboration between experts, decision-makers, and other stakeholders.** However, many kinds of uncertainty are challenging to quantify and/or communicate.

3. **Quantifying uncertainty is not always possible,** e.g. where there is deep uncertainty or data poverty.

4. **Attempting to quantify uncertainty is not ethically and politically "neutral,"** and may sometimes be undesirable, e.g. incompatible with the goals of transparency, inclusion and justice, or unduly disadvantaging to particular stakeholder groups.

5. Improving transparency and equity means **considering proportionality when communicating uncertainty.** Comprehensive and prominent uncertainty information will be appropriate for some contexts but not all.

6. Narratives and communicative practices around **model uncertainty** need to be strengthened, and lack of diversity in the modelling community needs to be addressed.

7. **The regional disparities in modelling are also problematic.** Data and research-poor regions are often the ones for which model predictions are least informative. Yet these same regions are often the most vulnerable, while lacking both forecasts that could support decision-making or means to implement appropriate adaptation and risk mitigation measures.

8. **Climate risk communication implies not only technical questions but also political ones,** because it is inherently concerned with the representation and weighting of the voices of diverse societal stakeholders.

9. **More can be done to deepen the participatory character of climate action. Real transfer of decision-making power needs to be improved.** Comparative studies and peer-to-peer learning allow different countries and localities to benefit from one another's experiences of strengthening participatory action.

10. Well-established terminology for actors at the science-policy interface, including *expert, decision-maker, stakeholder,* and *public,* remains indispensable; however, better attention can be paid to such terms' presuppositions and their potential to limit inclusivity and participation. In particular, **the interconnected nature of climate risk tends to expand the meaning of *stakeholder.***

11. The context in which we are communicating is always being shaped by **social movements** that help draw attention to the historical, economic and cultural politics of climate change. Societal backlash will occur if climate mitigation and adaptation is imposed top-down, and/or not adequately implemented.

12. Climate risk communication is a field with many open problems, and **there is clear value to interdisciplinary collaboration.** Scientists should collaborate with social scientists (such as psychologists and sociologists), arts practitioners and researchers (such as graphic designers and creative writers) and humanities scholars (such as environmental humanities and digital humanities scholars). There is also **clear value to transdisciplinary collaboration** incorporating non-academic partners. However, all such collaborations also demand significant time and energy. While funding incentives vary considerably across national and regional contexts, we caution against funders placing excessive emphasis on research outputs at the expense of capacity-building. Levels of unsuccessful bidding should also be monitored and funders may wish to explore whether such activity might be better structured through more graduated and "light touch" schemes to support interdisciplinary and transdisciplinary collaboration. Overall, we propose that **the current pace of academic funding, research and impact, is unsuited to the urgency of climate risk.**