Communicating Complex Crises:

A toolkit for academics seeking to broaden understanding of environmental crises

Who and what this toolkit is for

Emissions are still rising,[1] with potentially catastrophic effects.[2] Biodiversity is collapsing.[3] Food security is deteriorating at an alarming rate,[4] and global inequality is deepening.[5] In the coming years, humanity will meet unprecedented challenges. We face a future in which multiple environmental hazards will interact with pre-existing and emerging social crises and inequalities. This has the potential to produce cascading impacts that exceed societies' capacity to adapt.[6]

This is not a world for which society is prepared

Successfully navigating the turbulent years ahead to a safer, fairer and healthier future relies on open discussion and scrutiny of these complex crises. But with knowledge siloed, and only a narrow range of expertise platformed by the media, this is not happening.

This toolkit supports academics to tell more complete and authentic stories about today's entangled social and environmental crises – without overstepping their professional responsibility or eroding scientific credibility. It features advice that is relevant to media work, to public engagement in third sector contexts, as well as to day-to-day interactions with colleagues, experts in other fields, and policymakers.

This first edition is written primarily for academics operating in higher-income countries. Such countries typically have strong freedom of speech protections, and so academics based there are exposed to relatively limited personal risks when making public statements. Richer nations also have a disproportionate responsibility to address these crises, as many of them have their roots in industrialism and colonialism.

This toolkit is for you, if

- **You are an academic who studies an aspect of socio-environmental crisis**
- **You agree that the mainstream discourse surrounding these crises does not sufficiently scrutinise their connected or systemic nature, and that this must change**
- **You recognise that richer public discussion of systemic issues requires a greater range of voices than is currently the case – experts from diverse disciplines, cultures and backgrounds, including non-academics**
- **You would like to lead by example by engaging others – journalists, public forums, students or colleagues – in a way that encourages such discussion and embodies a safer, fairer, more sustainable world.**

Contents

The world ahead: Faculty for a Future's diagnosis of the problem – our understanding of a world in crisis — 4

Introduction: Analysis of the media landscape, why there are so few trusted voices that can broaden understanding, why academics have a unique responsibility to signpost audiences to that broader understanding - including by platforming others — 6

Toolkit: Five empirically-derived approaches offering ways forward whilst upholding key cornerstones of the professional contract between academia and society — 9

- Share your motivations — p10
- Contextualise your expertise — p12
- Platform others — p14
- Share your experiences — p16
- Reference real stories — p18

Authors and Reviewers — 20

Appendix — 21

Endnotes — 21/22

The world ahead

Faculty for a Future (F4F) has distilled research at the intersection of social and ecological crisis into **six key points** describing the world ahead. This toolkit – along with the rest of F4F's work – is informed by this diagnosis of the problem.

1. **A systemic sustainability crisis** - The world isn't just suffering from a climate crisis, but also severe damage to the wider natural world. This includes soil degradation, species extinction, water scarcity, and more - all of which damages our wellbeing. At the same time inequality, discrimination, mistrust and other social crises are rife. These environmental and social issues don't exist in isolation – they are entangled.
2. **Driven by systems of exploitation** - The pressures on the Earth and our societies have their roots in social, economic, and political systems that have historically exploited people and nature. From colonial to industrial capitalism down to the currently dominating economic order, these systems have entrenched values, norms, and behaviours that are unsustainable, as well as exacerbating inequalities in wealth, political influence and exposure to climate risks and pollution. Who and what we prioritise in our societies is a choice - what we decide now determines our future.
3. **Causing severe harms now** - Environmental degradation and social instability are already causing wide-ranging, long-lasting, and unpredictable harms. These range from crop failure and supply chain disruption (leading to rises in the cost of living), to loss of land, livelihoods, and lives. It would be dangerous to assume these harms won't combine in potentially devastating ways.
4. **Unequal harm, shared danger** - Those who have contributed least to these crises are typically being harmed first and worst by environmental shocks. And those with the most direct influence on decision making and existing power structures tend to be the most polluting and least affected. This injustice entails a moral imperative to act. It is also important to recognise that typically sheltered regions are starting to experience severe shocks. In an interconnected world, even seemingly distant disasters ripple out to produce global harms. These unequal but shared dangers will intensify.
5. **Urgent action to avoid catastrophe** - If we do not address these crises quickly, we risk harms so severe they overwhelm the ability of societies to cope – something already experienced by the most marginalised. Every moment of delay means a worse outlook for all - even those who profit from it in the short term.
6. **Together, we can rapidly correct our course** - While our situation looks daunting, history shows that rapid social, ecological, and technological transformations across society are possible with sufficient cooperation. Everyone has a role to play but academics, as trusted educators and knowledge holders, have a particular responsibility to challenge the status quo. By ensuring our professional and personal choices bring us into collaboration with others outside our usual sphere, and by building new structures together with those hitherto marginalised, we can face this polycrisis from a place of reflexivity, justice and reconciliation. Together, we can realise a safer, healthier, and fairer world.

Check out our website for links to a few recent reports that offer more detailed insight into the roots and implications of increasingly connected crises.

The impacts of an increasingly environmentally destabilised world ripple out through interconnected social and economic systems, interacting with and multiplying existing problems, such as inequality, food insecurity, and political instability.

CURRENT CONTEXT

Capacity to absorb negative events is being reduced slowly (e.g. population growth pushing the limits of agricultural technology)

Environmental Degradation
Growing Population
Income Inequality
Agricultural Technical Limits
Global Warming

BUILDING STRESSORS

Droughts
International Trade Complexity
Heat-waves
Loss Of Biodiversity
Market Speculation
Crop Vulnerability

SUDDEN AND GRADUAL TIPPING POINTS

An event of great magnitude or multiple failures at the same time could suddenly exceed all remaining capacity

Market Volatility
Displacement
Crop Failure
Water Conflict
Price Spikes
MULTIPLE BREADBASKET FAILURE

SYSTEMIC FAILURE

Food Insecurity
Currency Destabilization
Political Destabilization
Migration
Food Riots
War
Civil Unrest

* Each component displays complex correlations and feedback loops

UNDRR Global Assessment Report 2019

Introduction

The media landscape

Successfully navigating the coming turbulence to a safer, fairer and healthier future relies on widespread acknowledgement and understanding of the complex reality of the 21st century's entangled crises (see F4F's diagnosis, above).[7] In particular, we need public discussion of the barriers and pathways to an equitable transition. While many key aspects of these interacting crises were captured during the formulation of sustainability science,[8] there are still very few truly integrated and holistic approaches, either within or beyond academia.

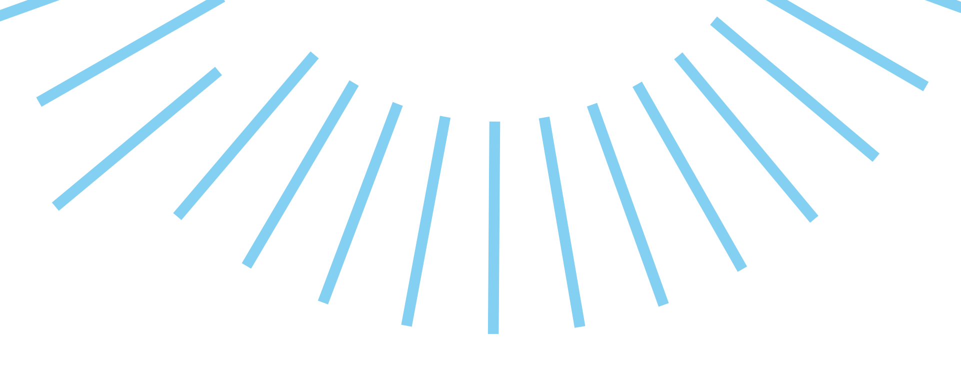
Having said that, news coverage of environmental issues has improved in recent years. The quantity of news stories covering the climate crisis, as tracked by UC Boulder's Media and Climate Change Observatory has ballooned.[9] Legacy media organisations such as the Financial Times, New York Times and The Guardian have introduced dedicated climate desks. And a vibrant ecology of bloggers and new media organisations has developed.[10]

This is not the case across the board - specialist journalists including environmental reporters have been cut by many outlets, especially local news. And the quality of TV coverage lags behind.

> Nevertheless, we feel the foundations have been laid for the kind of journalism the public deserves - coverage that is sensitive to the complex interactions of environmental and social crises, realistic about the kind of response this entails, and positive about the world such a response could create. Academics have a role to play in helping the media get there.

What will this take? A deeper look at the status quo of environmental journalism is illuminating.

Improved though it is, the vast majority of environmental coverage tends to focus on climate rather than other interrelated environmental crises. And in the Global North at least, coverage remains largely confined to climate, science, technology and environment pages, rather than filtering through to all relevant topic areas.[11]



Discussion of the economic or political aspects of environmental crises is becoming more common.[12] Yet the obverse is not true – it is not commonplace for mainstream media outlets to analyse the environmental aspects of a politics, business or lifestyle story, for example. And commentary on the interrelationship between environmental crises, let alone their wider impacts and root economic and cultural drivers, remains rare.[13]

These tendencies mean that only a narrow range of experts – largely climate scientists – have a media platform to speak about the socio-environmental crisis.[14] The media representation of other scholars with a research interest in these issues remains fleeting. And it is very unusual for local experts and those on the frontlines of the crisis to be given the chance to voice their experiences, insights and solutions.

In this context it is unsurprising that the majority of proposed solutions are technical in nature and derive from the Global North – commentary on environmental crises is generally framed in technical rather than social terms and is dominated by spokespeople from the Global North.

Those few academics considered sufficiently expert to receive a public platform therefore come under undue pressure. Many feel a distressing dissonance between privately held concerns about humanity's trajectory[15] and their professional responsibility not to abuse academic authority or harm their credibility by speaking beyond their area of specific expertise.[16]

On social media, this fosters unhealthy cycles of discourse. Those frustrated at the limits of traditional platforms take to Twitter and other means to be heard. NGOs, activist groups, and the media dial up the emotional volume and often misinterpret findings. Natural scientists spend time and energy correcting misunderstandings and exercising caution, rather than focusing on common ground. For some audience members, this dynamic further embeds mistrust of science and disengagement from the crisis.

This further benefits groups with an interest in framing the environmental crisis as a technical problem of energy transition and emissions reduction – and one that is under control. Such groups escape scrutiny as to whether the political and economic conditions exist for the systemic transitions deemed necessary by the UN. Also under-scrutinised is the issue of whether touted climate solutions are entrenching other aspects of socio-environmental crisis.

The role of the academic expert

No other stakeholder is able to play this critical scrutinising role. Trust in media and politicians is at an all-time low, and NGOs aren't faring much better.[17]

Academics are among the most trusted knowledge-holders in Western society.[18] Further, they have a responsibility for teaching that extends beyond their students. They have a duty to ensure that government, business and the public can play an informed role when considering policies, and to build the capacity of media professionals to hold key decision-makers to account. This responsibility is especially pronounced in times of great crisis, as the Covid-19 pandemic proved.

Academics have well-founded concerns about speaking beyond their area of expertise. But there are effective ways around this. In this toolkit we show how academics of all disciplines can paint a broader picture of environmental crisis without overstepping their professional responsibility or eroding scientific credibility.

We have drawn on recent research exploring the conditions under which climate scientists feel comfortable speaking beyond their direct area of research expertise.[19] We have also drawn on the latest insights into how best to communicate complex and sometimes frightening information in a way that leads to action rather than apathy.

The approaches in this toolkit outline a number of ways that academics can speak about the broader context in which their work sits, and do their bit to give those who are currently at the fringes of the crisis conversation a chance to shape the discussion.

Not all approaches will be suitable for every academic or applicable to every situation. Some are suitable for friendly contexts, some for more adversarial situations. Some lend themselves to an interview with a journalist, some to a talk with a local community group.

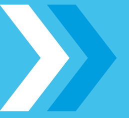
Other approaches suit day-to-day interactions with students or colleagues. Many of you reading this will be concerned about academia's lack of preparedness for the future. This toolkit can help start conversations at your local institution to address this. Change starts with those around us.[20]

Please note that this guide is specifically focused on methods for communicating the social relevance of environmental crises, and vice versa. It is not intended as a resource for general climate science communication - many existing toolkits do this very well already.

We recognise that this toolkit might not be for everyone. More basic communication of your own research can still play an important role. You can find a selection of our favourite resources in the Appendix.

Five approaches

- Share your motivations
- Contextualise your expertise
- Platform others
- Share your experiences
- Reference real stories



Share your motivations

Discuss the widely-held societal values that led you to academia in the first place

Scientists sometimes worry about discussing their motivations, or the values that drive them, because they see it as potentially violating a responsibility to be neutral. They might fear being accused of political or other motives in drawing their scientific conclusions. This risk is real. But keeping silent about your motivations does not make them vanish - we all have them. If you don't speak about your motivations, your audience will fill in the gaps by making presumptions.[21]

Values are in fact an important part of research – whether in the sciences, social sciences or humanities. Values inform how we judge what 'good' research must do to be robust.[22]

Of course there are some (e.g. political values) that we do not want influencing how we draw scientific conclusions. The scientific method is a process that limits how much direct influence personal values have on the scientific conclusions that are drawn.

On the other hand, consider the deeper values driving societal views as to which kinds of knowledge should be prioritised. Seen in this light, even biophysical science is never truly neutral. Its funding and societal application are guided by assumptions about what types of knowledge are important and how we perceive the world.

Trust in the science-society contract, a desire to conserve the rich tapestry of natural life, and striving for a fair and sustainable society are among the many widely-held values that bind societies together. Much of the concern felt by academics stems from the way in which humanity's overall trajectory is out of step with such widely-held, basic values. It is not controversial to say that you share these values and that they influence your academic work.

Below are three broad areas where academics and the general public often have shared concerns and interests, and which open space for broader discussion of interacting crises. Where appropriate, lean into the emotional side of these motivations – this will increase your authenticity and therefore credibility. For example, how does it feel to be someone who values biodiversity in the context of climate solutions which accelerate habitat loss?

- **Defence of academic knowledge.** In the current civilisational context, trust in academic knowledge could be fundamentally eroded if the public is not made aware of how research is being misdirected, misused, or ignored. For example, you might be open and confident about the fact that the knowledge produced on the climate and nature crises is clear. The problem is that policy-makers, and society more broadly, have not responded sufficiently or proportionally to this knowledge.
- **Defence of what you care about.** Speak about the value you hold for the things you study – e.g. the rich tapestry of life on this planet, or gender equality. This is another way to justify your professional interest in the way your expertise is applied by society. Speaking about these motivations will naturally lead you on to other discussions. For example, the existence of multidisciplinary evidence which suggests our socioeconomic systems are putting the things you care about at risk.
- **Advocating for better.** Do you believe that academic knowledge can result in better policy outcomes? Or that the science-society contract has broken down in some way? Say so. You might discuss how decision-making processes, if more firmly founded in research, would be improved. Science-based decision-making is a particularly effective example as it values robust decision-making based on knowledge which remains the same, regardless of your politics.

EXAMPLE

Perhaps you are a biologist who studies coral reefs. You are asked about your work at a public lecture, or in a more informal context, by friends. You might answer by talking about what motivated you to study coral reefs in the first place. This could be a childhood experience, or a growing wonder at the marine world that drove you to want to understand it better and perhaps protect it.

Describe how it feels to study coral reefs in the current context – can you talk about what has happened to a particular reef you've studied over the years, and why? You care about your work, yet the object of your study is disappearing and dying. The science is clear on why this is happening and yet other factors – social, economic, political, cultural, psychological – are preventing the science from being acted on.

Contextualise your expertise

Highlight the constellation of other types of expertise also relevant to the topic at hand

Your expertise is crucial, but it is only one part of the puzzle. Most academics working on environmental issues are aware that a broader and more nuanced societal understanding of the environmental crisis is required. This is because they interact with colleagues and decision-influencers from other disciplines and across the world, in a way that many members of society don't. This privilege is intimately tied to your professional role, and the public wants to know about it.

As an academic, you are expected to be aware of how your area of expertise fits into the bigger picture – and how advances in thinking in related disciplines across faculties impact your own work. This is crucial to ensuring the continued development of new knowledge, and the relevance of your expertise. When teaching, many academics already regularly self-train and impart knowledge in areas related to, but beyond, their specialism. Public engagement tied to one's research can be viewed as a similar educational service, imparted to the wider public.

You can publicly acknowledge this, and reference insights from your colleagues in other disciplines, countries, or from other types of expertise entirely. By contextualising your work in relation to that of others, you can talk about your own awareness of the breadth of the crisis. At the same time you can avoid having to be the authority on every topic, or being seen to over-step your expertise.

Of course, public engagement scenarios play out on the public stage. As such they can present greater risks of being accused of ulterior motives. However, there are ways of preempting this and clarifying what drives you.

- **Focus on your core expertise.** Always start by talking about what you know – what the evidence from your research area says about the question at hand.

- **Next, contextualise this expertise.** You've answered the question from the perspective of your discipline, but what other disciplines or forms of knowledge are relevant here? Most issues or questions require input from many types of experts. Give analogies.

  Metaphors relating to health and design can be particularly effective.[24] For example, no one would attempt a surgical operation solely on the advice of an anaesthetist. If you think debate of the topic at hand is currently skewed towards your own niche of expertise, mention who else we might need to talk to for a full answer. Has your audience considered the social or economic angle, for example?

- **Zoom out.** Indicate clearly whenever you move outside your area of expertise. But don't let that stop you from talking about other areas and summarising what experts in that area are saying about the situation. Audiences may not always know what questions are appropriate to what field, and can sometimes be receptive to having their own queries refocused and reframed. Instead of saying 'it's not my job to know about that,' listen carefully, question your audience or interviewer, and explore whether you can satisfy their curiosity with examples of your own or from elsewhere.

- **Spotlight other relevant expertise.** As a public intellectual, you can guide audiences in discovering and interpreting the expertise of others, even if it is not within your core field. You'll surely have read about other perspectives in far more detail than your interviewer or audience. Discuss what your knowledge about research and developments in related disciplines implies about the broader context behind an element of social-environmental crisis. Reference (as you would in any paper) other consensus academic views.

Say you are a meteorologist who has been invited on to a radio discussion about the climate crisis. You are asked about the feasibility of reaching net zero by a certain date, but you find it very difficult to answer based just on your technical perspective. You can, however, explain that there are many other factors that will determine what might happen from a social, political and economic point of view, which your colleagues in other disciplines are researching.

Think about the kinds of broader questions you might be asked in advance of the interview. Come prepared with a sense of what the consensus research in related areas – e.g. policy – says on the subject. Perhaps compile a list of notable recent studies that link to what the conversation is about.

Platform others

Use your engagement opportunities to invite other experts to speak in their own right

Go one step further than contextualising your own work in relation to that of others. Use your platform and public engagement opportunities to invite other experts to speak in their own right.

Only a narrow range of experts – predominantly climate scientists – currently have a public platform to speak about the socio-environmental crisis. You can use your voice to help change this. Consider what kinds of experts – whether academic or not – could enrich debate of the particular issue you are discussing. What angles and whose perspectives aren't being considered here?

As an expert in your particular field, you will likely have wider connections to relevant experts on the specific topic at hand than the journalist, event producer, or policymaker. These might be colleagues in adjacent disciplines or other countries. Equally, you may interact with different types of experts – those with experiential or lay knowledge, for example. If you can't think of many people that fit the bill, see this as an opportunity to strengthen links with others both inside and outside of academia.

- **Describe conversations with colleagues.** Reference conversations you've had with different kinds of experts, discuss what they said, and explain why their insights are relevant. These experts need not be from within academia – they could be practitioners or local people impacted by environmental crises, for example.

Spotlight other voices. If you are from an academic discipline or background which tends to enjoy privileged access to the media, use your platform to pass the baton on to other expert voices, including those currently missing from the debate. Spotlight other disciplines and voices that are crucial to answering the question. Make a particular effort to platform academics or experts who are from the Global South,[25] Indigenous, or people of colour.

Connect people. Make a point of suggesting that the journalist/producer/editor bring other relevant expertise to the table for a fuller picture. You might ask to bring along colleagues to the event or interview: 'I can answer most of your questions, but I'd like to bring along a colleague.' If this isn't suitable or possible, you might clearly outline what kinds of perspectives you think are missing from a particular event or interview once it's underway: 'I have scientific experience in this area, but you should also hear from someone who has direct lived experience. I can help to connect you.'

EXAMPLE

There's recently been a destructive hurricane in the Caribbean. You are an expert in hurricane preparedness and you know you'll be getting a lot of questions on the topic, whether from journalists, colleagues, or students.

Think carefully about who else you can platform during your time in the spotlight – city planners, disaster response experts, and perhaps most importantly, people on the ground. You might say: 'Well, to really understand what a future of such hurricanes means you will need to talk to people in Jamaica who are already living through it - I'm in my office in Glasgow and I can't imagine what it'll be like.'

Share your experiences

Talk about your experiences – personal and professional – of interacting with the wider world

Academics are stereotypically thought of as dispassionate observers of the world, disconnected from its machinations. But of course, the reality is different. As an academic who has navigated funding proposals, teaching expectations and institutional demands, you have a particular professional experience of power. You also have an understanding of how change happens – and conversely, how hard it is to effect change.

You are clearly passionate about your work. But others might not understand why it is important, what aspects of their life or the wider world it relates to, or how your work affects you emotionally. You get to see how academia interacts with wider society in a way that others don't. What is it like to be an academic in an era of advancing social and environmental crises?

Describing your professional experience in a personal manner will enable you to talk about the broader context within which your work sits. This might mean sharing an experience that informed your outlook on the world, a moment in which you grasped the scale of the socio-environmental crises, or simply a particularly exciting or frustrating aspect of your role.

When academics discuss their personal experiences, whether as a concerned parent, angry fly-fisher, or frustrated academic – , this invites the audience to get to know the person behind the expert.[26] This will shore up your credibility and legitimacy. We are more likely to trust another person when we have some insight into the paths that have led them to where they are today.

- **Be open about how your work impacts you on an emotional level.** Are there any particular moments during your career that have formed your views on humanity's predicament and trajectory? Perhaps there was a juncture when the gravity of the entanglement of crises set in for you, or when you realised the sheer complexity of the factors at play.

  If you feel able, talk about these moments and how they have informed your perspective on how society needs to tackle the crisis – as well as how you have been affected on an emotional level.[27] Showing vulnerability or admitting to feeling overwhelmed emphasises our common humanity – and therefore authenticity. It allows space for us to collectively acknowledge the difficulty of the challenge and work through it, rather than papering over it.[28]

- **Share the reality of your work.** Academics have plenty of direct experience of how research intersects with wider society. You could describe your frustration at a time when you did work that was ignored because of a dysfunctional science-society contract. You could also talk about a moment in your career where you saw thinkers and doers coming together to do something that really improved people's lives. Funny anecdotes are welcome – they help people to identify with you.

- **Connect with your audience's values and concerns.** This means listening and asking questions (even if you suspect you might not like the answers). Of course, sometimes time is scarce, and you may need to make reasonable and informed guesses about your audience's values, skills and interests.[29]

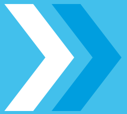
If the conversation starts to feel unproductively polarised, you can explore routing around the points of disagreement to find common ground. Try emphasising that a plurality of solutions is needed, and that many approaches to the sustainability crisis are not mutually exclusive.

At the same time, it can be tempting to concede things you shouldn't, merely for the sake of being friendly. Be principled, and steely when you need to be. Remember that for many media engagements, the people you are really trying to reach may not be the ones you're having the conversation with, rather the viewers or listeners back home.

EXAMPLE

As an academic studying an aspect of socio-environmental crisis, you will probably be asked many times what it's actually like to research the climate crisis, or deepening inequality, or the sixth mass extinction event. Before you speak, consider your audience. Think about any shared values or language beforehand. Are you going to be talking to bankers? Children? What aspect of your concern and experiences **might they share?**

If you feel able to speak from an emotional perspective, you might recall a career-defining or changing moment (see the opening of this **journalistic piece** for example). Open up about the reality of your work. Or you might want to describe your professional experience of policy-makers' responses to yours and colleagues' research and recommendations.



Reference real stories

Use real-world examples from the present to bring the complexity of crises to life – and foster agency to navigate them

Research demonstrates that people respond far better to narratives and stories than abstract statistics.[30] The climate crisis, ecological devastation, and pre-existing social stressors are already producing complex chains of harmful consequences. How severe these consequences will be is influenced by the decisions of local communities and policy-makers.[31] This creates plentiful opportunities for academics to talk about real-life examples of how crises are already manifesting and being acted on in the real world. In doing so, you can bring to life the real-world, big picture relevance of your expertise.

Humans have been telling stories since the dawn of time. Understanding the recent past through storytelling has a unique power to engage people in complex issues and promote understanding. Real-world examples can connect people to the meaning of socio-environmental crisis on a tangible and emotional level. They are relatable in a way that the latest findings in climate science are not. As a trusted academic with critical thinking skills and deep understanding of a certain aspect of the planetary predicament, you are uniquely placed to explain the important take-homes from such stories.

It isn't always easy to find the right story. You may have appropriate examples from your work, but it doesn't need to be related to your own research or experience. You can just as appropriately use the self-learning and disseminating skills you use in your writing and teaching. These can yield prototypical stories that snapshot the integrated challenges and opportunities facing humanity today.

Below we outline the latest research on how to tell stories that effectively raise awareness of socio-environmental crises in ways that empower people to participate in the transition to a better world, rather than disengage them with feelings of being overwhelmed.

- **Real local people.** The scenario should tell the stories of real local people,[33] and give voice to the emotional consequences of social disruption.[34] People's testimonial experience is hard to argue with, and demonstrates clearly how interconnected problems manifest in complex, and often unpredictable ways.

- **Human decisions fostering transformative agency.** The idea is to encourage action rather than apathy.[35] Give examples not just of cascading harms from multiple crises, but of how human decisions established the conditions for reduced harm and future flourishing. What infrastructure, decision-making process, or local knowledge/culture safeguarded health and well-being? Which preemptive actions improved the current situation and guarded against potential future impacts? Choose examples where communities acted in a way that had co-benefits for others – i.e. where actions were taken that addressed or negotiated the root causes of interacting crises in some way.
- **The bigger picture.** Step back to highlight that this example is not representative of the whole. What can other people, communities and regions learn from this story of agency? What might your audience, in particular, take from it into their own lives?
- **Pick a story you think your audience is likely to relate to.** In the future we would like to seek funding to build a living library of such stories, for use by academics and anyone else with an interest in communicating complex crises. If you are interested in getting involved in this effort – even taking ownership of it – or if you have any ideas about funding sources or direction, please get in touch with us at hello@facultyforafuture.org.

EXAMPLE

Academics are often asked uncomfortable questions about our future trajectory. With a couple of good present-day examples on hand, you can turn those questions into opportunities to illuminate the ways in which crises are already converging and causing harm, and how human decisions can influence that trajectory.

For example, an interviewer might ask about our long-term safety in the wake of a natural disaster. You might say, 'I don't have a crystal ball, but what I do know is that…', and proceed to give a real-world example of what good decision-making looks like. Place the story in the context of the dual need to safeguard wellbeing and address the underlying causes of these disasters. Explain that such stories are the exception, and suggest what will influence them to become the norm.

Another interviewer might ask about the technical challenges involved in the rapid energy transition humanity is tasked with. You might share the example of a region that has been subject to multiple environmental and social stressors and is taking numerous measures to reduce energy use. Perhaps this region is building local, low-impact energy infrastructure that is resilient to future impacts and of benefit to all in the region. You might explain the factors that made this case turn out this way, explain that such outcomes are possible in many more places, and outline what we can all do to advance this future.

Authors and Reviewers

PROJECT LEAD

Josephine Lethbridge, Director of Communications, Faculty for a Future

LEAD AUTHORS

Josephine Lethbridge, Director of Communications, Faculty for a Future

Jordan Raine, Chief Executive, Faculty for a Future

Lydia Messling, Climate Change Communications Technical Lead, Climate and Resilience Hub, WTW; Research Associate, Climate Outreach

AUTHORS

James Dyke, Associate Professor in Earth System Science, University of Exeter; Academic Lead, Faculty for a Future

Wolfgang Knorr, Academic Lead, Faculty for a Future; Independent Consultant, European Space Agency; climate scientist of 30 years

Laurie Laybourn, Visiting Fellow, Chatham House; Associate Fellow, Institute for Public Policy Research (IPPR); Visiting Fellow, Global Systems Institute, University of Exeter

REVIEWERS

Anna Pigott, Lecturer in Geography, University of Swansea

Dom McDonald, Science Engagement Consultant

Jo Lindsay Walton, Research Fellow in Arts, Climate and Technology, University of Sussex

John Vucetich, Distinguished Professor, College of Forest Resources and Environmental Science, Michigan Technological University

Ken Rice, Professor of Computational Astrophysics, University of Edinburgh

Klaus-Dieter Rossade, Head of School of Languages and Applied Linguistics in the Faculty of Wellbeing, Education and Language Studies, Open University; Public Speaking Trainer; TEDx Coach

Michael Nelson, Professor of Environmental Ethics and Philosophy, Oregon State University

Peter Friederici, Professor & Director, MA Program in Sustainable Communities, School of Communication, Northern Arizona University; award-winning freelance journalist

Polina Levontin, Research Associate, Centre for Environment Policy, Imperial College London

Renee Karunungan, PhD Candidate, Centre for Research in Communication and Culture, Loughborough University

Tara Bryer, Science Communications Advisor, Climate Outreach

1st published October 2022, v.2 published February 2023.

Copyeditor **Varya Clark**
Graphic design **Stephanie Aungier**

Appendix

You may find the following communications resources useful in supplement to this toolkit:

- NEON's Spokesperson Handbook
- Climate Outreach's Uncertainty Handbook
- Principles for effective communication and public engagement on climate change: a handbook for IPCC authors and reflective paper by Pidcock et al
- Climate Justice Messaging Guide
- Frameworks Institute's Six ways to change hearts and minds about climate change
- Communicating Climate Risk: a living document/directory of resources
- Communicating Climate Risk: A Handbook

End notes

1 United Nations Environment Programme (2021). Emissions Gap Report 2021, Nairobi. Available at: https://www.unep.org/resources/emissions-gap-report-2021.

2 Kemp, L., Xu, C., Depledge, J., Ebi, K. L., Gibbins, G., Kohler, T. A., Rockström, J., Scheffer, M., Schellnhuber, H. J., Steffen, W. and Lenton, T. M. (2022). Climate Endgame: Exploring catastrophic climate change scenarios. Proceedings of the National Academy of Sciences, 119(34), e2108146119.

3 United Nations Environment Programme (2021). Making Peace with Nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies, Nairobi. Available at: https://www.unep.org/resources/making-peace-nature.

4 FSIN and Global Network Against Food Crises (2022). 2022 Global Report on Food Crises, Rome. Available at: https://www.fao.org/documents/card/en/c/cb9997en/.

5 Chancel, L., Piketty, T., Saez, E. and Zucman, G. (2022). World Inequality Report 2022, World Inequality Lab. Available at: https://wir2022.wid.world/

6 United Nations Office for Disaster Risk Reduction (2019). Global Assessment Report on Disaster Risk Reduction 2019. Available at: https://www.undrr.org/publication/global-assessment-report-disaster-risk-reduction-2019

7 Ballew, M. T., Goldberg, M. H., Rosenthal, S. A., Gustafson, A. and Leiserowitz, A. (2019). Systems thinking as a pathway to global warming beliefs and attitudes through an ecological worldview, PNAS Environmental Sciences, 116 (17), pp.8214-8219.

8 Kates, R.W., Clark, W.C., Corell, R., Hall, J.M., Jaeger, C.C., Lowe, I., McCarthy, J.J., Schellnhuber, H.J., Bolin, B., Dickson, N.M. and Faucheux, S. (2001). Sustainability science. Science, 292(5517), pp.641-642.

9 Boykoff, M., Katzung, J., Nacu-Schmidt, A. and Pearman, O, (2022). A Review of Media Coverage of Climate Change and Global Warming in 2021, Media and Climate Change Observatory, Cooperative Institute for Research in Environmental Sciences, University of Colorado. Available at: http://sciencepolicy.colorado.edu/icecaps/research/media_coverage/summaries/special_issue_2021.html

10 Russell, A., Kangas, J., Kunelius, R. and Painter, J. (2022). Niche climate news sites and the changing context of covering catastrophe, Journalism. Available at: https://doi.org/10.1177/14648849221113119

11 See Wolfgang Blau's recent talk on this, based on his research with over 50 newsrooms around the world. Blau, W. (2021). Journalism and the Climate Crisis: Hopes and Limitations, Responsible Media Forum. Available at: https://www.youtube.com/watch?v=nWgrJOrWoBg

12 Stecula, D. A. and Merkley, E. (2019). Framing Climate Change: Economics, Ideology, and Uncertainty in American News Media Content From 1988 to 2014, Frontiers in Communication. Available at: https://doi.org/10.3389/fcomm.2019.00006

13 Climate Outreach's excellent climate science ambassador programme is one example of an initiative trying to change this. Available at: https://climateoutreach.org/climate-ambassadors-list/

14 Hase, V. (2021). Climate change in news media across the globe: An automated analysis of issue attention and themes in climate change coverage in 10 countries (2006–2018), Global Environmental Change, 70.

15 Tollefson, J. (2021). Top climate scientists are sceptical that nations will rein in global warming, Nature 599, 22-24.

16 Messling, L. (2020). How can climate scientists engage in policy advocacy and preserve their scientific credibility and independence?, PhD thesis, Reading University, pp.4-16. Available at: https://centaur.reading.ac.uk/96012/

17 Edelman (2022). 2022 Edelman Trust Barometer. Available at: https://www.edelman.com/trust/2022-trust-barometer

18 Ipsos (2021). Global Trustworthiness Index 2021. Available at: https://www.ipsos.com/sites/default/files/ct/news/documents/2021-10/Global-trustworthiness-index-2021-ipsos.pdf.

19 Messling, L. (2020). Messling defines climate scientists as those whose expertise would match those of Working Group I (WG1) scientists in the Intergovernmental Panel for Climate Change: that is, broadly 'natural' as opposed to 'social' scientists.

20 Hayhoe, K. (2021). Saving Us: A Climate Scientist's Case for Hope and Healing in a Divided World, Atria/One Signal Publishers, New York.

21 Crompton, T., Sanderson, R., Prentice, M., Weinstein, N., Smith, O. and Kasser, T. (2016). Perceptions Matter: The Common Cause UK Values Survey, Common Cause Foundation, p. 9. Available at: https://commoncausefoundation.org/wp-content/uploads/2021/10/CCF_survey_perceptions_matter_full_report.pdf

22 Messling, L. (2020). p. 130.

23 See for example Longino, H. (1990). Science as Social Knowledge: Values and Objectivity in Scientific Inquiry, Princeton: Princeton University Press. Or Douglas, H. (2009). Science, Policy, and the Value-Free Ideal, Pittsburgh: University of Pittsburgh Press.

24 PIRC, 350.org and NEON (2021). Climate Justice Messaging Guide, https://framingclimatejustice.org/resources

25 Carbon Brief, with the support of the Oxford Climate Journalism Network, has set up the 'Global South Climate Database' to ensure that journalists from all over the world can contact scientists from Asia, Africa, Latin America and the Pacific. If this describes you, consider signing up, or encouraging colleagues or friends who fit the brief to do so. More information can be found here: https://www.carbonbrief.org/global-south-climate-database/

26 Messling, L. (2020). pp. 77-80; 91-92.

27 Crompton, T., et al (2016). p. 9.

28 Vince, G. (2020). How scientists are coping with 'ecological grief", The Guardian, 12 January. Available at: https://www.theguardian.com/science/2020/jan/12/how-scientists-are-coping-with-environmental-grief

29 Corner A., Shaw, C. and Clarke, J. (2018). Principles for effective communication and public engagement on climate change: A Handbook for IPCC authors. Oxford: Climate Outreach. Available at: https://www.ipcc.ch/site/assets/uploads/2017/08/Climate-Outreach-IPCC-communications-handbook.pdf. Includes a useful list of values that speak to a broad cross-section of the general public.

30 Morris, B. S., Chrysochou, P., Christensen, J. D., Orquin, J. L., Barraza, J., Zak, P. J. and Mitkidis, P. (2019). Stories vs. facts: triggering emotion and action-taking on climate change, Climatic Change 154, pp. 19-36.

31 Kelman, I. (2022). Disaster by Choice: How our actions turn natural hazards into catastrophes. Oxford: Oxford University Press.

32 Morris, B. S., et al (2019).

33 Gustafson, A., Ballew, M. T., Goldberg M. H., Cutler, M. J., Rosenthal, S. A. and Leiserowitz, A. (2020). Personal stories can shift climate change beliefs and risk perceptions: the mediating role of emotion, Communication Reports 33(3), pp. 121-135.

34 Roeser, S. (2012). Risk communication, public engagement, and climate change: a role for emotions, Risk Analysis 32(6), pp. 1033-1040.

35 De Meyer, K., Coren, E., McCaffrey, M. and Slean, C. (2021). Transforming the stories we tell about climate change: from 'issue' to 'action', Environmental Research Letters 16(1).