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Tales of doom, tales of opportunity

**How climate communication can help to overcome
psychological barriers to sustainable action**

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Summary

This paper focuses on barriers and drivers of personal and public engagement. The success of climate change policies in democracies depends on social consent and ownership of the actions taken. Campaigners and decision-makers therefore need to communicate their ideas in a way that speaks to and galvanises people. To do this successfully, the first step is to recognise what motivates people to act and what hinders them. This paper contributes to answering these questions by giving an overview of theories from psychological and communication science on the cognitive biases that obstruct logical decision-making. It then moves on to suggest an alternative to the widely used “fear appeal” in communication about climate change: an opportunity-oriented framing of climate mitigation that connects to people’s values with the prospect of fostering long-lasting engagement with sustainable action. Lastly, the paper explores how the co-benefits framing can be used for policymaking.

Contents

1.	Tales of doom	4
2.	Psychological barriers to engaging with climate change	6
2.1	I understand it's bad, but it doesn't scare me	6
2.2	Playing safe with the status quo	7
2.3	Postponing faraway problems	8
2.4	I'm so worried, I'm going to stay in bed	8
2.5	Do we have a finite pool of worry?	10
2.6	I like to confirm what I already believe	11
2.7	Taking the SUV to the recycling station	11
2.8	Why should I be the one to cut back when it's everyone's climate?	12
3.	Telling a motivating story to engage people for climate action	13
3.1	Connecting to people's values	16
3.2	Bringing the climate back into the conversation	19
4.	Further thoughts on how to drive engagement through climate communication	21
5.	Using the co-benefits frame for policy communication	23
6.	Conclusion	25
7.	Literature	26
8.	About the author	31

1. Tales of doom

People around the world agree that climate change poses a severe risk to their countries (Pew Research Center 2019). A survey by IPSOS (2020) found that two thirds of people worldwide consider climate change to be as threatening as COVID-19. But while the pandemic motivated a fast and determined response by decision-makers in almost all countries, and a majority of people were willing to accept drastic measures to reduce the risk of infection, when it comes to reacting to the threats of climate change, the response has been insufficient. In fact, we are significantly lagging behind in taking the actions needed to stay below the global warming limit of 1.5°C above the pre-industrial level – exceeding this limit would have severe consequences for humanity and ecosystems (IPCC 2018). The challenge of getting people around the world involved in climate action remains as pressing as ever if we want to avoid severe future shocks triggered by climate change. Although many people are already taking steps towards a more sustainable lifestyle, there is much room for improvement. So, the question is: If so many people are concerned about climate change, why is more action not being taken? One reason is structural barriers like low income or a lack of infrastructure (see also Gifford 2011). But even many of those individuals who are not faced with structural barriers could do more. What is holding them back?

This paper focuses on barriers and drivers of personal and public engagement. Although individual action can and should not shift the responsibility away from big polluters and political regulations, but social science shows that individual change is an integral part of system change — in “driving social shifts, influencing government and in wider climate advocacy” (Climate Outreach 2021, 1). The Marrakech Partnership for Global Climate Action (2019, 3) also highlights the importance of individual choices in reducing emissions, as all these little steps “add up to meaningful levels of ambition, especially when markets and policymakers recognize these actions and reflect them in products, policy and programmes.”

The success of climate change policies in democracies depends on social consent and ownership of the actions taken. Campaigners and decision-makers therefore need to communicate their ideas in a way that speaks to and galvanises people. To do this successfully, the first step is to recognise what motivates people to act and what hinders them. This paper contributes to answering these questions by giving an overview of theories from psychological and communication science on the cognitive biases that obstruct logical decision-making. It then moves on to suggest an alternative to the widely used “fear appeal” in communication about climate change: an opportunity-oriented framing of climate mitigation that connects to people’s values with the prospect of fostering long-lasting engagement with sustainable action. Lastly, the paper explores how the co-benefits framing can be used for policymaking.

The motivation for this paper comes from the observation that climate change discourse is still dominated by alarmist, fear-inducing language, despite the recommendations of communication experts. Popular images include the famous polar bear stranded on an ice floe, burning forests or, when humans enter the picture, looming famine or flood victims. Given the seriousness and urgency of the matter, this choice of (visual) language might seem justified, but the strongest emotion it evokes in people is helplessness (More in Common 2021). This has a paralysing effect, effectively hindering action (Salomon, Preston, and Tannenbaum 2017).

Moreover, alarmist language in the media is not always a reflection of climate science. Hulme (2007) analysed the coverage of the IPCC Working Group I report in 2007 in the UK's main newspapers. The articles used fear-inducing adjectives like "catastrophic, shocking, terrifying or devastating" though none of these words were used in the original IPCC report. Atieno and Njoroge (2014) came to similar results for media coverage of climate change in Kenya, which focused on dramatic local events. The issue was portrayed as an inevitable development, contrary to what scientists have stated.

The many social and economic benefits of climate mitigation and adaptation, on the other hand, are commonly overlooked. This is not the case in science: Chapter 5 of the IPCC October 2018 Special Report on Global Warming of 1.5°C explores the relationship between climate action and sustainable development. Many studies, including those of the COBENEFITS project, which this paper is part of, have assessed the social and economic co-benefits of climate action in countries around the world. In fact, there is a wealth of evidence showing the potential benefits accompanying climate action, e.g. for health, economic prosperity and security. But these findings have yet to be fully recognised by campaigners and policymakers and integrated into their communication strategies.

2. Psychological barriers to engaging with climate change

It is surprising how little attention policymakers, environmental campaigners, and the media are paying to social and psychological science, given that human behaviour and decision-making are at the core of climate change. This chapter will introduce a couple of cognitive biases that could be responsible for our inability to adequately address climate change in our individual decision-making, and will give some insights into the effects of different climate action frames. According to Lorenzoni et al. (2007), engagement has three key components: cognitive (understanding/knowledge), affective (emotion/interest and concern), and behavioural (action). This implies that “it is not enough for people to know about climate change in order to be engaged; they also need to care about it, be motivated and able to take action” (ibid, 446) – or, more precisely, judge themselves capable of taking action.

Framing describes the way in which information is presented or the context into which it is placed. In communication, framing is an approach that emphasises certain attributes of an issue over others. Frames serve as cognitive tools to sort information, which affects people’s understanding, perceptions, and reactions to it (Moser and Dilling 2004, 36). Studies show that a different framing of the same options can induce people to change their preferences among options (Kahneman and Tversky 1979). Framing is therefore a central aspect of communication and can be a powerful tool to overcome barriers and gain public support for climate action (or against it, as practiced by climate sceptics and some political parties) – provided that we understand how our brain reacts to different frames so we can use them strategically.

2.1 I understand it’s bad, but it doesn’t scare me

In order to better understand people’s response to climate change, we first need to understand how humans take decisions. Evolution has led the human brain to develop two distinct information processing systems. Psychologist Daniel Kahneman in his best-selling book „Thinking, fast and slow” (2011) calls the two thought processes System 1 and System 2. System 1 is fast, driven by emotions, intuition, and experience. It helps us manage everyday situations effortlessly and often unconsciously – interpreting somebody’s facial expression, calculating 2+2, or driving down an empty street. It is also associated with creativity, aesthetic judgement, sense of humour, intuition, and empathy (Norris and Epstein 2011). System 2 is slower, more logical, and deliberative. It steps in when the information we receive is more complex – when we are reading a complicated article, calculating 24x6, or parking a car in a small space. This division of labour is efficient as System 1 does not require a lot of effort from us and helps us manage our daily lives. However, its fast response is also prone to make wrong decisions.

Our perception of risk is handled mostly by System 1, our “emotional brain”, which reacts strongest to issues that are immediate and close; that contain social meaning; and that use metaphors which draw on experience. Communication about climate change is largely based on scientific data, which

addresses System 2. For most people, this kind of information suffices to understand the seriousness of the issue, but it does not create an emotional reaction – we do not feel that we are at risk, therefore we do not feel like we must deal with the problem.

With the division of labour between the two systems in mind, it might seem tempting to scare System 1 into a reaction by communicating climate change as an immediate threat. However, according to Kahneman, climate change is too distant and abstract to become an emotional issue (Marshall 2015). The next subchapters will explore this issue further.

Implications for climate communication: Messages need to activate both thinking processes: convincing System 2, our “logical brain”, with data, and translating these data into a form that stimulates System 1, our “emotional brain” – by drawing the issue closer, giving it social meaning, and relating it to experiences.

2.2 Playing safe with the status quo

Kahneman and Tversky (1979) developed a psychological theory of decision-making under risk. Their prospect theory, which won Kahneman the Nobel Memorial Prize in Economics, says that people do not take decisions based on “rationally” weighing potential losses and gains; instead, they assign value to these outcomes based on frames and their specific situation, and use these values as a base for their decision-making. This theory, which contradicted the more rational concepts of economic science¹, states that it is not the probability of the outcome itself that drives an individual’s decision, but the perceived likelihood of that event, which could be subject to major biases.

In particular, people neglect outcomes that are merely probable in comparison with outcomes that are obtained with certainty. This tendency, called the certainty effect, contributes to risk aversion in the positive domain and to risk seeking in the negative domain: People would rather attain a sure, lesser win than take the chance at winning more (but also possibly risking getting nothing). The opposite is true when dealing with losses: People prefer an uncertain, higher loss over a smaller loss that is certain.²

Many decisions involve choosing between the status quo and an alternative which has its advantages and disadvantages, which the decision-maker evaluates as gains or losses compared to the status quo. Because losses loom larger than gains, prospect theory argues that people will be biased in favour of the status quo (Kahneman and Tversky 1984).

Prospect theory is relevant when reaching out to people and communities that have not yet had to suffer climate-related loss and damage. The situation is likely to be different for people whose status quo is an environment already affected by extreme weather events that are attributed to climate change, or other impacts such as rising sea levels. The latter may have been an existential threat for Pacific islands earlier, but disastrous events like the flooding in Western Europe in July 2021 and huge wildfires following droughts in the USA have also brought the issue closer to these parts of the world. Events like these alter the status quo for people across the world.

¹ One popular concept is the *expected utility theory*, which considers a rational individual that makes decisions based on objective probabilities. Prospect theory allows for the influence of subjective probabilities of outcome.

² For instance, why do we choose to pay monthly for insurance instead of taking the risk? It all depends on how high we rate the probability of a disaster happening. If we do not expect an event to happen – like a flood at home – we will choose not to pay for insurance because the monthly payment would feel like a loss for an unknown gain. But this changes if a low probability event like a flood *does* happen to us, or to someone we know: The odds of this event happening (again) suddenly appear much higher, so the monthly insurance payment feels like a gain in the face of a huge loss.

Implications for climate communication: Prospect theory suggests that when climate change impacts are framed as potential (i.e. uncertain) losses in the distant future, whereas climate change solutions are framed as certain losses at present, people may conclude that maintaining the status quo is “worth the gamble” (Van Der Linden, Maibach, and Leiserowitz 2015). With climate change-associated disasters unfortunately affecting countries across the world now, this bias will likely lose its importance over time. However, to reach the people that are still lucky enough to be unaffected by extreme weather events, one way to overcome this cognitive bias is to highlight the gains of climate action instead of merely talking about risk prevention.

2.3 Postponing faraway problems

Research also shows that people give more priority to the short term over the long term when weighing up potential costs and benefits – immediate concerns take precedence over planning for the future (Berns, Laibson, and Loewenstein 2007). It might well be for good evolutionary reasons that most humans have a “limited attention span to devote to nonimmediate problems” (Moser and Dilling 2004, 36). But it becomes a problem when many people still view climate change as a distant, future threat that does not affect their everyday lives as this allows them to dismiss the problem (Spence, Poortinga, and Pidgeon 2012).

Although climate change is a global problem, concrete information relevant to its local circumstances is likely to be key to motivating behaviour to reduce and mitigate climate change (Van Lange, Joireman, and Milinski 2018). Bridging the temporal and geographical distance of climate change by communicating its immediate and local effects (thereby emphasising that it is not only a problem for people who live far away), as well as reducing uncertainty whether climate change is happening, was found to raise concern about climate change and draw the issue psychologically closer. With extreme weather events now occurring in countries worldwide, communicators sadly no longer need to look far for examples. However, research shows that localising climate change does not by itself translate into increased engagement or policy support (Schuldt, Rickard, and Yang 2018). It may also be important to highlight the wider, global impacts of climate change (Spence, Poortinga, and Pidgeon 2012), probably because people tend to perceive climate change impacts to be more serious at distant locations (Spence and Pidgeon 2010). Note that most research was conducted in the UK and the USA and that this factor may vary geographically, as well as temporarily after extreme weather events.

Implications for climate communication: To overcome psychological distance, communication about climate change should highlight local, near-term impacts. Combining these with a global perspective can add urgency.

2.4 I’m so worried, I’m going to stay in bed

There are more reasons why “fear appeal”, basically a more extreme version of a loss frame, is not the most effective and sustainable frame when the aim is to encourage people to act on the climate. Research shows that we should be careful not to overuse emotional appeals. Fear-inducing messaging is still widely used in climate communication. A growing body of research on whether such messages are likely to engage people for climate action shows that dramatic or shocking climate change representations can be quite successful in getting people’s attention and to some extent give them the perception that climate change is an important issue. However, such images and stories can also act to distance and disempower individuals in terms of their sense of personal engagement with the issue (Moser and Dilling 2004; Lorenzoni, Nicholson-Cole, and Whitmarsh 2007). Empirical studies that investigated the role of visual and iconic representations of climate change for public engagement found that the same images that made participants feel that climate

change is important – dramatic images, often involving human or animal suffering – were also disempowering at a personal level. These images drove “feelings of helplessness, remoteness, and lack of control” (O'Neill and Nicholson-Cole 2009, 373).

This is problematic, because agency, or perceived self-efficacy, is a key determinant of action: The extent to which a person believes in their own capacities to deal with a situation affects whether they will even try to cope with it. People “avoid threatening situations they believe exceed their coping skills, whereas they get involved and behave assuredly when they judge themselves capable of handling situations that would otherwise be intimidating” (Bandura 1978, 141). According to Bandura, perceived self-efficacy not only determines if people get involved, but also how long they will persist in the face of obstacles.

By contrast, one finding in the study by O'Neill and Nicholson-Cole (2009) was that the images that caused the greatest feelings of self-efficacy were those clearly showing what people can do personally. Local impact images were considered necessary to communicate local relevance, though a global context should be included to add significance. Action images were found to be best suited to make people feel empowered to make a difference.

Implications for climate communication: The use of fear-inducing or dramatic representations of climate change is an inappropriate tool to encourage public engagement for climate action (O'Neill and Nicholson-Cole 2009). Catastrophic stories get people's attention and concern, but they do not motivate them to do something about the issue. In fact, they are likely to trigger fatalism, denial, and other barriers to engagement (Lorenzoni, Nicholson-Cole, and Whitmarsh 2007), unless they are accompanied by feasible coping options to foster self-efficacy. Spence and Pidgeon (2010) show that there are other ways to get people's attention, which will be discussed in chapter 3.



Does this image make you feel worried about climate change? Probably. Does it motivate you to act? According to research, probably not.

© Public domain

2.5 Do we have a finite pool of worry?

The finite pool of worry hypothesis states that people have a limited capacity for issues they can worry about at one time, so when worry over one threat increases, worry over others can drop (Weber 2006). A contrasting hypothesis, affect generalisation, suggests that increased worry over one threat can be (mis)attributed to other threats (Johnson and Tversky 1983). Following this hypothesis, greater worry about one threat can generalise to worry about other ones.

In view of COVID-19, a threat that people all over the world worry about, both hypotheses have implications for climate advocates who communicate with emotional frames to evoke fear and worry. If the finite pool of worry theory is correct, these campaigners would be well advised to slow down their efforts until the public has the emotional capacity to worry about climate change again, or change their communication strategy so they do not have to fish in the same “emotional pool”. In contrast, if new threats have no or even a positive effect on worries about climate change, this momentum could be used to gain support for ambitious new policies to combat the risk of climate change.

Until recently, no study has been able to sufficiently prove either hypothesis. However, research carried out in the course of the COVID-19 pandemic in three countries (China, Italy, USA) supports the affect generalisation hypothesis. Sisco et al. (2020, submitted) found that COVID-19 worry increased worry about climate change and support for climate policies, as well as increased worry about topics more closely related to the pandemic such as the struggling economy and unemployment. Interestingly, this spillover effect was the strongest in conservatives, maybe because they typically show less worry about climate change and therefore have more room for increases.

Yet even though COVID-19 increased worry about climate change, it also decreased attention to it, measured by the use of social and news media. COVID-19 attention was associated with increased “attention to the threats directly tied to it (problems with the economy and unemployment) and decreased attention to threats largely unassociated with it (climate change and terrorism)” (Sisco et al. 2020, 5). As the authors write, the disparity between increased worry and decreased attention to the same topic might seem perplexing, but attention on the individual level is necessarily a finite resource – we can only focus on and address so many problems at once.

Implications for climate communication: Because COVID-19 increases worry about climate change, even among usually less worried groups, the pandemic might open a window of opportunity for policymakers to gain broad consensus for ambitious policies to mitigate the even bigger climate crises. But as long as public attention is focused on the virus, the results also indicate that it is going to be challenging to engage people on the individual level, at least if climate action is framed as “dealing with another major problem”.

2.6 I like to confirm what I already believe

People have a tendency to search for, trust and recall information that confirms their prior attitudes, beliefs, and behaviours. They ignore or more easily forget information that challenges their views and would push them to change their behaviour (Nickerson 1998). This so-called confirmation bias applies to the perception of information on climate change as well: Climate change sceptics will pay more attention to news that normalises extreme weather events, whereas people who acknowledge that the climate is warming would probably make a connection between a heat wave and global warming. Both sides are likely to ignore news that does not fit their beliefs, or interpret it as an exception to the rule.

Implications for climate communication: The good news is that our mental models are flexible and can be updated with time and enough information, but one report alone will not do the job. Knowing which confirmation bias your audience holds and gradually replacing false beliefs with new facts can be a way to overcome this bias (Center for Research on Environmental Decisions 2009).

2.7 Taking the SUV to the recycling station

In response to uncertain or risky situations, humans tend to focus and simplify their decision-making. Weber (1997) coined the phrase “single action bias” for a suboptimal risk management response. Decision-makers are likely to take one action – not necessarily the best or most effective one – to reduce a risk they worry about but are much less likely to take additional steps that could provide more protection or risk reduction. Different people will choose different single actions, but independent of the chosen option, they are unlikely to take further action. This is presumably because the first action is enough to assure them that the problem has been dealt with, thereby reducing their feeling of worry or vulnerability. This problem-solving behaviour can be insufficient in a complex environment where a set of actions is needed to contain a risk.³ To give an everyday example: Even though recycling is an important contribution to environmental protection, it should be only one of many, e.g. changing to renewable energy, eating less meat, or flying less.

Implications for climate communication: Trying to engage people to act on the climate simply to avoid the threat of climate change is likely to lead to insufficient action. Instead, communicators should find a different way to spark more sustainable behaviour. The next chapter will suggest another, more promising approach.

³ Weber found that farmers who showed concern about global warming were likely to either change something in their production, change their pricing, or lobby for government interventions, but they hardly ever engaged in more than one of those actions, even though a combination of these measures could have added up to greater protection against the impacts of climate change. Other research found that farmers in Argentina engaged in only one activity to protect themselves against the impact of drought on their livelihoods, even though they had several options. For instance, farmers that had the capacity to store grain were less likely to use irrigation or crop insurance (Hansen, Marx, and Weber 2004).

2.8 Why should I be the one to cut back when it's everyone's climate?

Not a psychological barrier per se, the tragedy of the commons is nevertheless a relevant theory for climate communicators. Introduced by Hardin (1968) in an article in *Science* in 1968, it has since been widely used to describe the expected exploitation of a scarce resource that is available to many individuals.

Hardin exemplified his theory with a pasture open to all. Herders are free to let their animals graze in the pasture, thereby receiving a direct benefit from their own animals. In Hardin's theory, any rational herdsman would want to maximise his gain by adding more and more animals to the pasture, eventually leading to overgrazing. While all the proceeds of one additional animal go to the herdsman, the effects of overgrazing are shared by everyone. Hardin's theory says that commonly available resources are likely to suffer from overuse. The nature of a common resource is that the responsibility to take care of it is shared by everyone, making it unattractive to be the first to take action to preserve it because this would entail giving up one's own benefit, not knowing if others will follow suit. People are therefore expected to put their own short-term benefits first and disregard the costs that occur in the long term for the entire community.

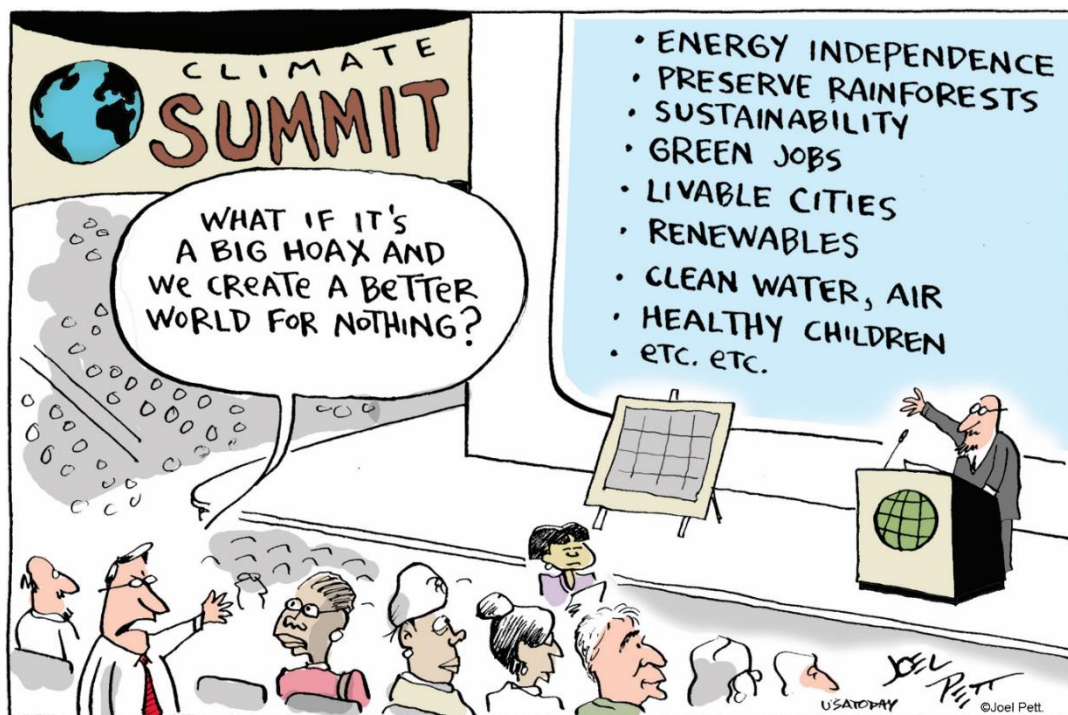
The tragedy of the commons theory is frequently used to describe the exploitative use of natural resources, such as overfishing or water-management issues. On a larger scale, a healthy planet with clean air is a common resource used by everyone. Yet reducing one's own greenhouse gas emissions to preserve this resource is unattractive when one has to give up benefits, when one's own contribution seems small compared to that of others, and when others continue to emit high emissions.

Hardin's solution was the privatization of common resources and to introduce top-down regulations to control overuse of common resources – such as to restrict people's reproductive freedom to prevent overpopulation, an idea that made his article in *Science* highly controversial. Nobelist Ostrom, for her part, objects to the belief that governmental regulations are always the best choice as there are in fact many successful examples of sustainable use of collective resources. She argues that individuals would voluntarily agree to rules that improve joint welfare under a couple of conditions: "Successful self-organized resource regimes can initially draw upon locally evolved norms of reciprocity and trustworthiness and the likely presence of local leaders in most community settings." (Ostrom 2000, 149) However, to be successful in the long term, these resource regimes tend to follow certain design principles, essentially becoming a kind of club with a restricted group of members and rules that apply to everyone.

Implications for climate communication: A stable climate can be seen as a common-pool resource that we all depend on. However, the tragedy of the commons theory suggests that people will not make sustainable use of it; exactly because it is 'used' by many, their own impact seems small and the consequences of 'overuse' (e.g. high emissions of greenhouse gases) are shared by everyone. Following this theory, appealing to people with a 'protect our Mother Earth' frame will not work. Communicators could instead look for successful examples of self-organized collective action and work together with their leaders to inspire similar projects.

3. Telling a motivating story to engage people for climate action

“Believable, positive, open-ended, problem-solving, and meaning-giving visions are needed to offer a lasting motivation [...]” (Moser and Dilling 2004, 43)



What kind of world do we want to live in? A famous picture by US cartoonist Joel Pett first published in USA Today around the 2009 climate summit in Copenhagen shows a conference presenter listing the many environmental, social, and economic benefits of climate action, only to have a climate change denier say that if it were all a hoax, “we[d] have] create[d] a better world for nothing”. While the vast majority of scientists agree that humans are causing global warming (Cook et al. 2016), parts of the public still believe that there is no scientific consensus on the topic, and political polarisation on climate change has increased over the last decades within the United States and some European nations (Capstick et al. 2015). The misconception that there is no scientific consensus on human-caused climate change affects other climate beliefs and the acceptance of mitigation policies, too (Van Der Linden et al. 2015).

Clearly, more time and effort are needed to convince those in doubt, but, as discussed in Chapter 2, believing in the seriousness of climate change alone does not suffice to bridge the cognitive resource limitations that keep people from engaging in climate action.

So, what can we do if even an overwhelming scientific consensus and decades of alarmist climate communication do not succeed in activating the masses? Instead of repeating doomsday scenarios, a different approach is to envision the future we want to live in: Research suggests that narratives that express visions of desirable futures can serve as “calls to action” to achieve the aspirations of a community. People use narratives not only to reflect on the world, but also to actively “shape reality as they know it” (Chabay et al. 2019, 3). Envisioning a desirable scenario for our future could motivate us to create that place. But while narratives are certainly powerful and deserve more scientific attention, this paper will look at scenarios for the future in a slightly different and perhaps more tangible way.

Box 1: Co-benefits terminology

The term “co-benefits” refers to simultaneously meeting several interests or objectives resulting from a political intervention, private sector investment or a mix thereof. Co-beneficial approaches to climate change mitigation are those that also promote positive outcomes in other areas, such as air quality and health, economic prosperity, and resource efficiency or more generally in terms of sustainable development benefits).

(Helgenberger, Jänicke, and Gürtler 2019)

Research suggests that, in comparison with negative loss scenarios, positive gain frames have been shown to increase pro-environmental attitudes and support for mitigation and adaptation policies (Hurlstone et al. 2014). Linking climate change information with personal concerns and interests by emphasising the additional benefits of reducing emissions such as energy independence, green jobs, and liveable cities appears to be a more constructive way of engaging people for climate action. One advantage of communicating the social and economic co-benefits of climate change mitigation is that they can appeal to people unconvinced or unconcerned about climate change (except for the upset climate change denier in Joel Pett’s cartoon), because they do not depend on believing climate change is real or important.

A worldwide study by Bain et al. (2015) found that motivations to act on climate change were clearly related to the awareness of co-benefits. These results are in line with other research indicating that promoting the gains of climate mitigation instead of the losses of not mitigating produces more positive attitudes towards these measures. Perhaps surprisingly, the “gain frame” was also found to make people judge climate change impacts more severe (Spence and Pidgeon 2010). An explanation could be that the gain frame arouses feelings of hope and increases people’s personal or societal self-efficacy. This allows them to face the issue and not enter into a state of fatalism and denial to suppress their fears. Feelings of hope and efficacy are strongly correlated with a willingness to engage in pro-environmental behaviours and to support climate change policies (Lorenzoni, Nicholson-Cole, and Whitmarsh 2007; Moser and Dilling 2004; Spence and Pidgeon 2010).

These results suggest that climate change communication should focus on what can be gained by mitigation efforts rather than capitalising on the potential negative impacts of not acting. Communicating the co-benefits of addressing climate change could provide a constructive way to increase the acceptance and ownership of mitigation measures and foster public engagement, even among those unconvinced or unconcerned about climate change. Factoring in the lessons learned from prospect theory and research on psychological distance, the best results would be achieved by communicating sure, immediate benefits instead of merely probable gains in the future.

The benefits of climate action are versatile and speak to different interests, from protecting the environment to improving livelihoods, fostering energy security and creating employment opportunities (IASS 2017). The next subchapters will introduce a theory of human values that can help to understand what motivates different people to act, summarise the important lessons learned from co-benefits framing research, and suggest a way to avoid possible negative effects of the opportunity frame.



A solar engineer in the solar powered village of Tinginapu, in the Eastern Ghats of Orissa (India).

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3.1 Connecting to people's values

Every person holds numerous values that serve as guiding principles in his or her life (Schwartz 1992). Human values are relatively stable over their lifetime, although they may change in response to significant changes in a person's surroundings or extreme events such as the Fukushima nuclear accident (Prati and Zani 2013). Value theory (Schwartz and Bilsky 1987; Schwartz 1992, 2012) describes four clusters of values that structure ten types of values, which are organised in two bipolar dimensions to highlight the oppositions between competing values: openness to change (hedonism, self-direction, and stimulation) versus conservation (security, tradition, and conformity), and self-enhancement (hedonism, achievement, and power) versus self-transcendence (universalism and benevolence). The ten value types are shown in the table below along with their defining goals to provide a better understanding of what motivates people.

Table 1: Schwartz' values, adapted from Schwartz, S.H. 1994

Schwartz' values		
Dimension	Value type	Defining goal
Self-transcendence	Universalism	understanding, appreciation, tolerance, and protection for the welfare of all people and for nature
	Benevolence	preserving and enhancing the welfare of those with whom one is in frequent personal contact (the 'in-group')
Conservation	Tradition	respect, commitment, and acceptance of the customs and ideas that one's culture or religion provides
	Conformity	restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
	Security	safety, harmony, and stability of society, of relationships, and of oneself
Self-enhancement	Power	social status and prestige, control or dominance over people and resources
	Achievement	personal success by demonstrating competence according to social standards
	Hedonism*	pleasure or sensuous gratification for oneself
Openness to change	Stimulation	excitement, novelty, and challenge in life
	Self-direction	independent thought and action-choosing, creating, exploring

* Hedonism shares elements of both openness to change and self-enhancement.

Values are key motivators of most other factors related to decision-making, such as attitudes, norms and beliefs (Stern et al. 1999; Schwartz 2012). People for whom security, tradition, or universalism are important values are motivated to pursue these goals, and they will evaluate people or actions positively if they support them in achieving these goals, or negatively if they hinder them. People's values also have a substantial impact on their view on climate change and how climate science is understood (Pearson, Schuldt, and Romero-Canyas 2016; WWF 2010), and they 'filter' the information they receive on climate change and other topics according to whether it fits their values (Corner, Shaw, and Clarke 2018). According to Leiserowitz (2006), values have an even bigger influence on policy preferences than either political party identification or ideology.

Research suggests that both individual pro-environmental behavior and community-based actions are motivated by values labelled by Schwartz as universalist, as these actions “allow individuals to fulfill their own personal environmental goals and ‘live the change they want to see’” (Sloot et al. 2018, 3). That’s why many social movements, including the environmental movement, build their normative claims on universalist values (Stern et al. 1999).

It is therefore essential for communicators to know which values their target group holds to be able to connect to them. Research has found a high level of consensus regarding the importance of specific values across societies. “In the vast majority of nations studied, benevolence, universalism, and self-direction values appear at the top of the hierarchy and power, tradition, and stimulation values appear at the bottom” (Schwartz 2012, 17). This means that people across the world value the welfare of their ‘in-group’ (benevolence) and the welfare and protection of all people and nature (universalism) highly, higher than their own social status and prestige (power). In other words: Most people are not mainly driven by money and self-interest: As they are social animals, they hold altruistic values that are connected to the well-being of others.

Connecting to people's values with co-benefit framing

Framing climate action in terms of its social and economic co-benefits gives communicators a tool to connect to people’s values in a positive way. Framing research provides orientation on the effectiveness of different co-benefit frames in specific countries. In particular, promoting the social aspects of mitigation was found to result in more positive attitudes than focusing on personal aspects because the former are perceived as weightier, at least in the UK (Spence and Pidgeon 2010). One worldwide study found that economic and scientific development and a more caring and moral community were principal motivators to engage with climate action, as opposed to co-benefits addressing pollution or disease (in a positive frame: co-benefits for clean air and health). Yet the popular negative co-benefit frames were found to be the weakest motivators of action overall (Bain et al. 2015). In the US, however, the public health frame was found to be successful, arousing feelings of hope and support for the suggested policy (Myers et al. 2012).

Lockwood (2011) tested the effectiveness of political framing for the expansion of renewable energy and regulations for energy efficiency in the UK. He found that an energy security frame was the strongest frame, followed by the climate change frame. Notably, a frame highlighting the economic opportunities of renewable energy policies generated less support than the climate change frame. Respondents said that numbers related to potential job creation and the threat of being left behind by other countries made them feel more supportive of the policy. But the frame was weakened by scepticism regarding whether the jobs created would stay in the UK (Lockwood 2011). This finding underlines the importance of highlighting the local benefits of climate mitigation policies. For example, during his presidential campaign in 2007, former US President Barack Obama talked about a clean-energy economy and “green-collar” jobs, emphasising the protection of the local manufacturing base and the creation of American jobs (The American Presidency Project 2007). US President Joe Biden continues this line of argumentation with his American Jobs Plan, framing climate action as a booster for jobs in the country (The White House 2021).

It is important to note that most of the framing research has been conducted on US and UK audiences. In fact, a screening of English-language climate change framing literature found that almost 50 per cent of our understanding of climate change framing comes from the US (Badullovich, Grant, and Colvin 2020). As the effectiveness of a frame (and potential unwanted “boomerang” effects, i.e. resulting in less concern and more hopelessness among audiences) is dependent on factors such as culture, values, and experience, it is important to recognise the specific context of the audience. After all, a frame that is effective in the US may not be suitable for another country with different conditions and beliefs.

Box 2: Visual climate communication

Co-benefits frames can not only be applied to written communication, but also to visual representations of climate change and climate change solutions. To give an example: The image below of a worker setting up solar panels in Vietnam has been used in COBENEFITS reports along with the information that replacing coal power plants in Vietnam with solar or wind will more than double the number of jobs per average MW capacity. Both text and image convey the message that climate action is not a burden, but instead brings opportunities for the country and its people.

A good source for photos, many of them free to use, is the Climate Visuals Gallery: <https://climatevisuals.org>



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3.2 Bringing the climate back into the conversation

As the presented research shows, framing climate action in terms of social and economic opportunities instead of avoided risks or environmental protection has the potential to spark behavioural changes and stronger support for a certain policy. Climate communication should therefore be based on an understanding and appreciation of people's values and link to local environmental issues and personal concerns such as saving money, future-oriented jobs, or better air quality in order to meaningfully engage individuals with climate change (Lorenzoni, Nicholson-Cole, and Whitmarsh 2007; O'Neill and Nicholson-Cole 2009).

However, while the economic co-benefit framing might be efficient for short-term behavioural changes, it has some shortcomings. Incentives like economic gains will only work as motivators for as long as they can be maintained (Van Der Linden, Maibach, and Leiserowitz 2015). Self-enhancing values per se are negatively correlated with environmental behaviour – possibly until an individual is faced with a direct threat. Long-term engagement is likely to depend on the activation of self-transcendent values (universalism, benevolence). Compton writes that “extrinsic and physical-self goals (especially financial success) are associated with greater indifference to bigger-than-self problems, while intrinsic and self-transcendent goals (especially community feeling) are repeatedly correlated with greater concern about bigger-than-self problems, and higher incidences of corresponding behaviour” (WWF 2010, 39).

Corner, Markowitz, and Pidgeon (2014) add that matching campaign messages to the values held by the target group, even if they are incongruent with environmental engagement, is unlikely to create a “spillover” effect for positive engagement with climate change because the original behaviour was only motivated by the prospect of a gain (e.g. promoting energy efficiency to save money), not by environmental concerns. In parts of the world where day to day survival is a concern, for example in rural Africa where climate change deeply impacts the harvest, not much convincing is needed to persuade farmers to use climate-smart techniques if they can improve production. But in most developed countries, people's daily lives are not yet affected by climate change.

Because it is a long-term problem, climate communication strategies need to find a way to connect short-term motivation with values that spark more sustainable, long-lasting engagement for climate action. As Corner, Markowitz, and Pidgeon (2014, 417) suggest, “coupling, for example, values around security or freedom with self-transcending values like concern for the welfare of others” is one possible way of bridging this tension. Prati, Pietrantoni, and Albanesi (2018) find that universal and self-direction values (not all the self-transcendent values include benevolence) should be considered to inspire public engagement for climate action and build support for ambitious policy changes. The motivational goal of self-direction is independent thought and action (Schwartz 2012), so communication strategies are likely to benefit from stimulation of one's own thought and judgement (Prati, Pietrantoni, and Albanesi 2018). Coming back to Schwartz' global study (Schwartz 1992), people across the world also hold strong values around benevolence and universalism, which suggests that a majority of people will respond well to framing climate action as a way to create a more just, healthy, liveable environment for everybody.

Connecting climate action to self-transcendent values is also in line with another important point made by Crompton:

“People have natural tendencies that can orient them to express concern about ‘bigger-than-self’ issues: empathy, cooperativeness and sharing. But there is a crucial point to add. Because cultural input is essential and inevitable, a sensitive, cooperative, sharing moral instinct can be nurtured – or inhibited” (WWF 2010, 38).

In this regard, public statements made by politicians and other influential people as well as marketing campaigns can create ‘a new normal’. Civil society also plays a role, for example with the current trend of upcycling and vintage clothing and furniture. Reduced consumption of fast fashion and reduced waste has now become a lifestyle choice. In Berlin, the city has picked up on this trend and has opened a mall for second-hand objects and furniture, and offers classes in sewing and upcycling as well.

Implications for climate communication: Climate communication should be based on an understanding and appreciation of people’s values. Financial gains on the individual level can work as short-term motivators but are unlikely to create a spillover effect for environmentally friendly behaviour – they could even nurture self-enhancing values that are incongruent with climate action. Speaking to values related to self-transcendence and openness to change by communicating climate mitigation benefits like health and justice is a promising approach to spark long-lasting climate-friendly behaviour.

4. Further thoughts on how to drive engagement through climate communication

Connecting to the values and experiences of the target group has proven to be key in motivating behaviour and obtaining policy support. Other factors are likely to have an impact on people's responsiveness to and acceptance of certain messages. Two of them will be presented here only briefly as their deeper exploration exceeds the scope of this paper.

Understanding social norms

Social norms are rules that tell members of a group how they should behave. Social psychology distinguishes between injunctive norms (what most others approve or disapprove of) and descriptive norms (what most others do) (Cialdini, Reno, and Kallgren 1990). Norms are social expectations, and people are therefore “more or less inclined to accept them depending on how important conformity vs. self-direction values” are to them (Schwartz 2012, 16). Social norms can have a strong influence on people's environmental behaviour: Norms can stop littering (ibid) and induce people to conserve energy in hotels (Goldstein, Cialdini, and Griskevicius 2008).

In a large behavioural science experiment, a company called OPOWER in Minnesota sent out personalised home energy reports to their customers. The reports revealed how much energy a household consumed relative to their neighbours over the same period. The results showed that people adjust their own consumption levels to match the norm: If their energy use was higher than that of their neighbours, they decreased it. But the report also led to a boomerang effect: If people realised that they were more energy-efficient than their neighbours, they increased their energy use (Allcott 2011).

The OPOWER field experiment and other studies show that social norms can be effective in changing people's behaviour, but lasting change is unlikely if the norm is not internalised and is solely connected to a campaign. People may need to be exposed to a social norms intervention for years in order for it to have a long-lasting effect after the intervention ends (Goldberg, Gustafson, and Van Der Linden 2020).

Choosing a trusted messenger and making diverse voices heard

Arguments are best received if they come from a source perceived to be credible and legitimate. The most suitable speaker will depend on the frame and the audience (Moser and Dilling 2004; Myers et al. 2012). For example, when communicating the economic benefits of climate action, an economist's word will have more weight than that of an environmentalist. A medical doctor in turn is a believable messenger when health impacts are the topic, but less suitable when it comes to communicating the social impacts of climate action.

Working together with partners outside of the environmental box such as business organisations, experts and influencers can also help to mainstream the message and enrich the discussion. On top of that, establishing new partnerships for outreach can play an important part in involving women, youth and other excluded groups and making their voices heard (Dupar, McNamara, and Pacha 2019), thus also educating and promoting relatable, authentic role models for diverse audiences.



Watering plants with a solar irrigation pump outside of Kitale, Kenya.

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5. Using the co-benefits frame for policy communication

A co-benefits framing based on people's values is of strategic relevance for policy communication, both in the direction of civil society into politics and the other way around. Values, as discussed in this paper, are of crucial importance in shaping attitudes and our response to bigger-than-self problems such as climate change. Values also influence our motivation to engage in an action that helps to address them, both in our own behaviour and in demands for changes such as in politics (WWF 2010, 25). Campaigns built on robust knowledge of a group's values are therefore more likely to resonate and generate broad support. In the environmental domain, the diverse co-benefits of climate action offer an opportunity to connect people's values to political interests. The fact that climate action delivers quantifiable benefits such as jobs, cleaner air, and energy independence has made it possible to move the topic out of the environmental box and on to the tables of different ministries (IASS 2017). Communicating the co-benefits of climate action to policymakers therefore has the potential to lower barriers to climate action and connect otherwise opposing interests.

At the same time, the success of climate change policies in democracies depends on social consent and ownership of the actions taken. Decision-makers therefore need to communicate their ideas to society in a way that speaks to and activates people. As de Paula and Mar put it in an IASS Policy Brief: "Given the urgency of climate action for human health specifically, and planetary health more broadly, there is a need for communication tools and strategies that effectively demonstrate climate-health synergies" (IASS 2020a, 6).

Based on the psychological and social science presented in this paper, policymakers trying to garner public support for climate action would benefit from leveraging social norms and highlighting the immediate gains of climate action. Connecting climate action with people's values using a co-benefits framing has the potential to spark long-term pro-environmental behaviour and policy support. Mentioning the risks of not acting can add urgency to the message, however, these frames should be used with caution to avoid unwanted effects like denial, as described in Chapter 2.

As elaborated in Chapter 3, people generally value independent thought and action (the self-direction value). Research and policy design would therefore benefit from involving the knowledge and experience of different actors, including civil society. This method, called the co-creation approach, is also being developed and reflected on by the IASS Potsdam, based on "the assumption that well-designed cooperation processes can tap into the assembled expertise and perspectives of participants in such a way that new forms of knowledge, agency and creativity can emerge" (IASS 2020b, 14) – and new ways of connecting to people's values, with the prospect of fostering long-term climate engagement.

To tap into the full potential of climate action co-benefits, and to ensure that addressing climate change will deliver the benefits that the public value, decision-makers need to move beyond narratives to include these opportunities in ambitious policy design (Bain et al. 2015). The fact that many co-benefits of climate action occur earlier than climatic ones, and that they can be calculated

with more certainty, can support more ambitious near-term climate action, as the benefits reduce the importance of uncertainty over climatic damages. Numerous studies such as those carried out by the COBENEFITS project have quantified the diverse co-benefits of climate change mitigation over the past two decades (for a detailed review, see Deng et al. 2017). However, despite their significance, co-benefits are commonly not considered in political decision-making, leading to biased policies (Karlsson, Alfredsson, and Westling 2020). Karlsson et al. suggest that one reason might be that political discussions often takes place in ‘silos’, where single ministries focus only on their core task and often overlook other important dimensions (e.g. climate and health, two closely linked subjects, are the responsibility of different ministries). But another important factor seems to be the lack of reliable data on co-benefits. An analysis of the barriers and opportunities for incorporating air quality co-benefits into climate policy assessments carried out by Nemet, Holloway, and Meier (2010) came to the conclusion that uncertainty about both the costs and benefits of climate change mitigation reduces the role of air quality benefits in policy debates because it complicates comparison. These results show the need for more systematic measuring of co-benefits for an informed debate.

This research is in line with the findings from the COBENEFITS project which this paper is part of. The political stakeholders involved in the project have expressed the need for quantified co-benefits because they make these effects more tangible. They have also found that the opportunities presented by decarbonising the power sector make a more convincing argument for climate action than burden sharing (Sperfeld and Helgenberger 2020). For example, South Africa can reduce health costs related to air pollution from coal-fired power plants from USD 2.3 billion today to around USD 270–980 million by 2030 (IASS/UfU/IET/CSIR 2020). By the same time, Vietnam could create up to 8 million jobs with a shift from the current energy policy to a greener pathway (IASS/UfU/GreenID 2020).

These results show that countries can achieve many of their development goals and solve local problems with the decision to decarbonise the power sector. By ‘translating’ scientific findings in a way that helps policymakers make best use of them, and by using windows of opportunity to connect these findings to political processes, science communicators can support the process of obtaining political support for the consideration of co-benefits in policy design. A governmental co-benefits communication campaign, such as the COBENEFITS project suggests for India, could “encourage entrepreneurs, businesses, and communities to take ownership of climate action measures” (IASS/UfU/TERI 2020, 31).

6. Conclusion

While structural barriers to engaging with climate action such as low income or a lack of infrastructure certainly exist for many, psychological barriers affect those who are not met with these limitations. Arguing for climate action solely based on risk prevention can create a sense of urgency. But messages evoking fear and guilt are likely to trigger barriers to climate action such as helplessness, fatalism, and denial. Different messaging strategies are needed if the goal is not just to inform people about the dangers of climate change but to engage them in climate action and gain policy support. Psychology and communication science suggest that positive gain frames that highlight the many benefits of climate action are much more motivational than negative loss frames. Messages should be based on people's values and personal concerns to resonate with them and create long-lasting engagement.

The co-benefits of climate action are well known but still underrepresented in policymaking. Reliable data and communication strategies that highlight the synergies between climate action and benefits for human health, employment and security could raise the ambition level for climate policies and pave the way towards a more just, sustainable future.

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8. About the author

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