COMMUNICATING **CLIMATE CHANGE** AND **BIODIVERSITY** TO POLICY MAKERS

COUNCIL OF EUROPE

CONSEIL DE L'EUROPE

COMMUNICATING **CLIMATE CHANGE** AND **BIODIVERSITY** TO POLICY MAKERS

Council of Europe

English edition
Conseil de l'Europe : points forts 2014

Layout and cover design: Scienseed
Cover photo: The Library of Congress
Published by the Council of Europe
F-67075 Strasbourg Cedex
www.coe.int

A guide by Scienseed SL for the Bern Convention (Council of Europe)
Madrid, 30th September 2016

CONTENTS

Introduction: climate change and biodiversity

At present, there is broad scientific consensus that places the progressive increase in greenhouse gases´ levels due to human activities as responsible for an increase in global temperatures and, consequently, a **climate change.** This is perfectly reflected in the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC): *Human influence on the climate system is clear, and recent anthropogenic emissions of green- house gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems. Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen* [1].

In addition, human development is also the cause of a steady decline in the **biodiversity** of our planet. The destruction of ecosystems due to pollution, unsustainable exploitation or the introduction of invasive alien species, among other human interventions, is leading to the extinction of thousands of species worldwide.

Climate change and biodiversity are highly **interdependent.** Consequences of climate change such as heat waves, droughts, extreme storms, floods, landslides, increases in sea level, etc. are not only natural disasters that impact our economy but also **affect ecosystems and endanger the species** that inhabit them. Also, the rise of temperatures is having a direct impact on the life cycles of several species. Nesting, spawning, reproductive cycles and migrations are compromised, thus putting many species at serious risk. In fact, according to reports of the Habitats Directive, climate change is negatively affecting the conservation status of 19% of types of European habitats and 12% of species [2]. This adds to increasing concerns for the conservation of an already deteriorated biodiversity. It has been estimated that the loss of species is 100 to 1,000 times faster than in geological times. Only in the twentieth century we have lost 35% of mangroves, 40% of forests and 50% of wetlands. In addition, 80% of global fisheries are fully- or over-exploited [3]. As these figures increase, we are currently reaching points of no return. For example, coral reefs are risking complete collapse unless CO2 emissions are urgently reduced.

On the other hand, many species are crucial to safeguard the balance and health of several ecosystems that play a crucial role in building **resilience and buffering the effects of climate change.** Currently, deforestation is estimated to be responsible for 20% of human-induced carbon dioxide emissions so the conservation of habitats is known to reduce the amount of carbon dioxide released into the atmosphere. Moreover, conserving mangroves and drought-resistant crops, for example, can reduce the disastrous impacts of climate change, such as flooding and famine [4].

Therefore, the interdependency between climate and biodiversity is a crucial issue to take into account. A stable climate fosters biodiversity maintenance; preserving biodiversity is crucial to contain climate change. Achieving this is possible by implementing adaptation and mitigation policies. But **how do we effectively communicate these counteractions to our policy makers?**

There are **several obstacles** in this endeavour. Both climate change and the conservation of biodiversity are multifactorial, comprehensive, scientifically complex and controversial subjects. For years, biased interests have misused scientific uncertainty to deny climate change through aggressive propaganda that still makes an impression on certain sectors of society. Yet in the present context when evidence is difficult to deny, there are still major barriers of extend beyond scientific facts into psychology, economy and politics. Thus, there is a clear need to analyse the complexity of the subject in order to develop an informed and broad communication strategy.

This manual is conceived as a **communication toolbox** that could help delegates of the Bern Convention to effectively communicate the link between climate change and biodiversity to politicians.

Whereas the scientific endeavour should persevere in order to provide society with the most accurate information on climatic change and its relation with biodiversity, there is a complementary and essential effort that should not be undermined: to effectively communicate scientific evidence in a way that ensures full awareness and political action. Despite increasing effort in recent years, the goal is still far. As it has been said, *if current communications on biodiversity were effective, then we wouldn´t be losing so much of it* [5]. Let's then face this second challenge together and find ways of using communication to change this reality.

01 The communication challenge I: communicating scientific information

Disseminating scientific information has always been a tough task. Scientific discoveries and advances are published in journals full of technical terminology whose language and storytelling also have their own idiosyncrasy. In addition, both climatic change and biodiversity are complex multifactorial topics that are commonly misunderstood. Thus, we have to deal first with the complexity of this scientific information and **communicate in a language our interlocutor will understand.**

Jargon

Often scientists and technical experts use too much jargon, complicated scientific terms and acronyms in their communications.

In any communication strategy, we have to speak the same language as our audience, so we have to make our best effort to **avoid technical terms.** However, this should not come at the cost of numbing concepts down or drifting into a lecturing tone. Stakeholders in general, and policy makers in particular, do not want to be lectured, they want to be informed.

Complexity

Both climate change and biodiversity are multifactorial processes that involve several parameters with many different implications. We have to carefully identify those parameters and try to be especially didactic because, even explained with plain language, they could be misunderstood **(see Example 1).**

There is a great deal of work to tackle complexity and explain it in simple, self-standing terms. Here are a few rules to follow:

- **Dissect and organise the information**. Get rid of unnecessary data. Most times clarity is inversely proportional to precision, and in communication clarity is preferred.

- Communicate a limited number of messages. No matter how complex a process is, **we should never include more than one or two ideas at once.**

- **Find paradigmatic cases or metaphors** that easily resemble the process that we want to communicate. In this effort we have to be cautious and not fall into over-simplification.

- **Find a suitable end format** to deliver the information. Sometimes going beyond text is preferred. Infographics, animations and short videos are perfect tools to illustrate complex topics in an easy way.

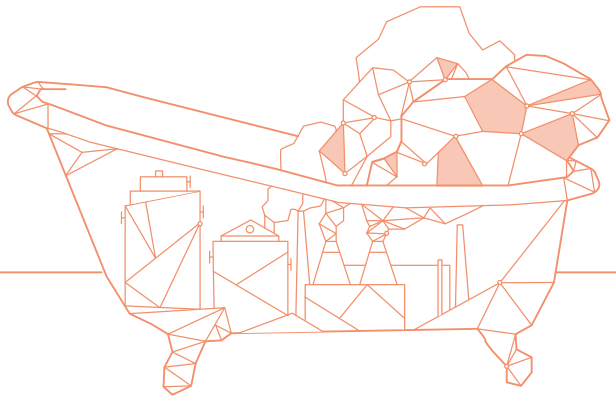
Tips & tricks

Ask for feedback **outside the scientific community.**

Analyse **the tone** of your communications.

Example 1: Understanding cumulative effects.

Cumulative effects are caused by the combined results of past, current and future activities. These effects have easy daily examples in our bathtub or our bank account. In order to anticipate how much money or water we will have in the future we know that we should take into account what we have, and what we are planning to add or to subtract. But it seems that something changes when we move from the daily examples to scientific problems. This was demonstrated with 212 graduate students at the Massachusetts Institute of Technology (MIT), that were enrolled in a study to investigate the relationship among Green House Gases (GHG) emissions, atmospheric concentrations of these gases and mean temperature. They knew that GHG emissions raise atmospheric gas concentrations and hence produce an increase in the mean temperature, and they were asked to sketch the evolution of emissions required to stabilise atmospheric CO2 in different situations. Surprisingly, 84% of them drew patterns that violated the principles of accumulation. Participants thought that the levels of GHGs can stabilise even when GHG emissions uninterruptedly surpass removal, *analogous to arguing a bathtub continuously filled faster than it drains will never overflow* [39].



Tips & tricks

Forget the order in which academic books explain the concepts that you are trying to communicate.

Think in the order that **naïve curiosity** would follow.

Simplifying complexity is what **brands** do every day. Learn from them.

Impersonality

One of the things that characterise scientific literature are **objectivity and impersonality**. Whereas this style might serve the purpose of science dissemination amongst scientists, it does not fit within the requirements of communication outside the scientific community. Indeed, in order to engage lay audiences, it is important to take into account that the general public tends to empathise with human stories, not with graphs and error bars.

The explanation for this is in the systems that our brains use to process information [6]. Whereas the so-called **analytical system** deals with scientific information, the **experiential system** integrates emotional information. Although it is common to assume that we process information analytically, instead we heavily rely on the experiential processing system [7]. Thus, in order to translate scientific facts into information that our brains can process, we need to accompany them with **social examples and human stories.**

Summary: Communicating scientific information

Start with a limited number of messages and select just the indispensable. Analyse the language and remove all the jargon. Watch your tone, do not lecture! If possible, use a powerful human example to illustrate the message.

02 The communication challenge II: psychological phenomena

A proper understanding of science by stakeholders is only the first obstacle to overcome in our communication strategy. In fact, there are plenty of underlying mechanisms that also need to be taken into account. In a study aimed to find the mechanisms for public apathy over climate change, researchers found that concern about climate change did not correlate with scientific knowledge or technical reasoning capacity. Rather, they found that it correlates with personal beliefs and cultural polarisation [8]. Thus, **psychological conditioning** over a certain subject plays an important role in thinking and decision-making that should be considered to improve our communication strategy.

We all have **mental models**. These are ideas of how particular things work based on our experience, on what we have heard or studied. These patterns highly influence our ability to learn as we tend to accommodate reality to our pre-existing mental model. The phenomenon known as **confirmation bias** consists on accepting new information that agrees with our mental model whilst dismissing information that requires a change of mind **(see example 2).**

It is essential that we properly identify the mental models of our stakeholders because they are the framework in which we want to introduce new information. This knowledge is critical to design a strategy to add important missing information and dispel misconceptions that can affect the decision-making [9].

Example 2: Mental models & confirmation bias in meat consumption.

In 2009, a research article pointed out that a global transition to a low meat-diet would reduce the mitigation costs for climate change by about 50% in 2050 [40]. Here is something far more achievable than changing global policies that we can all individually do. But are we ready to the challenge that changing our diets represents? This was tested in a recent study performed with consumers from Netherlands and United States [41]. Results showed that only 6% of the US population and 12% of Dutch population believed that a low meat diet would be an effective solution to climate change. Most importantly, willingness to eat less meat increased with the perceived effectiveness of the measure and a crucial fact: not being a regular meat eater. Thus, people that already eat less meat and thought that this countermeasure is effective were more open to hear on the impacts of meat consumption and do something about it. This illustrates the profound impact of mental models in our actions.

Altering Mental Models: Framing

Mental models are not static. They can be altered in some situations but it is essential to know how to introduce the new information so that it is not dismissed, denied or downplayed. Thus, we have to choose our words wisely and create **a context to facilitate a desired interpretation or perspective in the stakeholder.** This preparation is a subtle art called **framing** [10].

Framing "Climate Change"

Clean energy, sustainable energy, green energy, carbon-free energy, renewable energy… although these are words that we use as synonyms, every word has its particularities. The same is true for the use of the terms "climate change" or "global warming", which is a subject of extensive debate that seems to highlight important differences between the mental models of stakeholders.

On the one hand, the terminology preferred by the **scientific community** is "climate change" since this is the most accurate term to fit within available scientific evidences. However, it seems that the **general public** expresses a higher level of interest, awareness and concern when the subject is "global warming" [11] as this is a more descriptive and self-explanatory term. This is illustrated in *Figure 1* where google search trends show a predominance of "global warming" versus "climate change".

Also, the use of alternative terminologies also carries **political connotations**. For instance, in the United States the communication strategist of the Republican party, Frank Luntz, argued in a leaked document that the Bush administration should try to avoid "global warming" and use "climate change" instead, as it *sounds more controllable and less emotional challenging* [11]. The effects of this framing has been extensively studied in American politics concluding that "climate change" is the terminology preferred by the republicans, with no preferences among democrats [12].

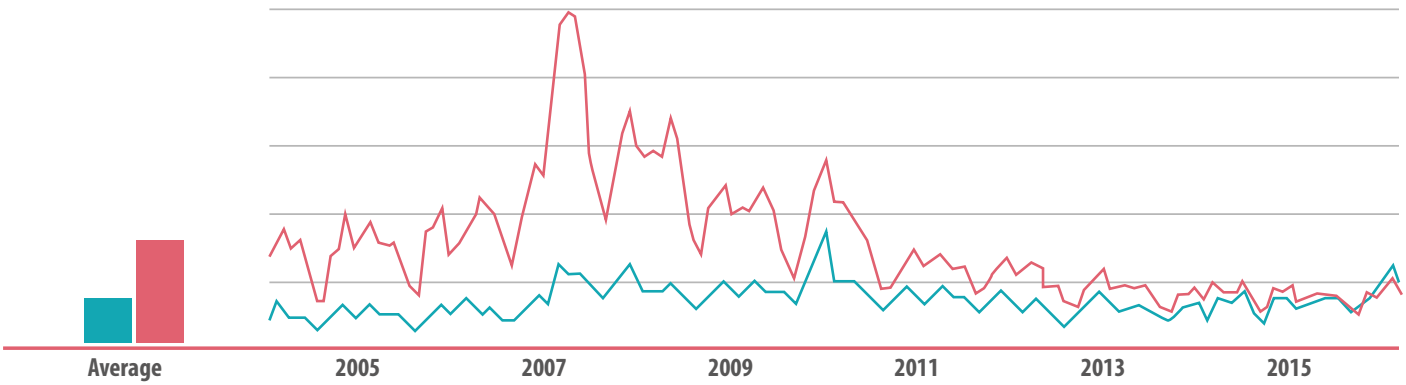


Figure 1: Evolution of searches for the terms "climate change" (blue line) and "global warming" (red line) between 2004 and 2016.

Framing "Biodiversity"

Framing biodiversity represents an even greater challenge because currently the term is not widely understood. For instance, in a study in South Africa, researchers investigated the best term for increasing biodiversity conservation by comparing reactions in policy makers to the words "biodiversity" and "sustainability". The authors demonstrate that of the term "biodiversity" is poorly understood and unlikely to be effective when communicating with decision makers [13].

Another report of a similar study in Canada points out that politicians associate biodiversity only with a pristine, wilderness-type environment, a phenomenon which researchers refer to as the **"biodiversity bias".** They think that this bias limits the usefulness of the term biodiversity for the promotion of conservation given the increasing fragmentation of environments that are nevertheless worth preserving [14].

Despite the poor understanding of the term, there is another crucial factor that poses doubts over the use of the term biodiversity. The sustained framing of an issue can over time create a network of associations, or **brand**, which in the case of biodiversity might not be serving our purposes. Indeed, communication on biodiversity has associated it to the extinction of species for a long time, thus creating a somewhat tragic connotation to the term in the public imagination. We can refer to this as the **"under threat"** frame. Although this frame has been useful for awareness purposes, it is known that doom messages lead to inaction [5]. As the 2010 Gallup Analytical Report "Attitude towards biodiversity" described, more than 8 in 10 EU citizens (84%-93%) felt that biodiversity loss was a very or fairly serious problem at national, European and global levels [15]. Respondents of the interview also defended that the conservation of biodiversity was a moral obligation. However, given the current conservation state of biodiversity, many authors have pointed out that awareness is not being translated into action [5].

All these evidences demonstrate that **we have to re-brand biodiversity** and strategically enclose different messages in the word as the brands do. In "Branding biodiversity", a guide published by Futerra, the authors identify four possible messages that were currently used to brand biodiversity: loss (of biodiversity), love (for nature), need (economic value) and action (countermeasures) [5]. The authors recommend to avoid the loss message and focus in the love and need, that will lead to action.

Framing psychological distance

One of the issues that we face when communicating global and complex phenomena like climate change and biodiversity loss is that they might be perceived as **temporally, geographically and socially distant** by the general public. For instance, most EU citizens saw no immediate personal impact by biodiversity loss and thought that it would only have an impact in the future [15]. However, trends may be changing as a more recent study with UK and US citizens pointed out. The study found that participants perceived climate change as a geographically and temporally close phenomenon and admitted that people similar to themselves would be also impacted by it [16].

This shift is crucial, because **distant risks do not do not stimulate the same reactions as those perceived as close risks** since they are processed with different parts of the brain. As discussed with scientific data, distant risks are processed with the **analytic system** and rarely lead to action. On the contrary, immediate risks like emotional experience are processed in the **experiential system** and lead to action [17]. Thus, communication is meant to work on this shift in order to bring climate change and biodiversity loss to the present, to a local scene and to a similar social setting to that of the stakeholder **(see example 3).**

Example 3: Decreasing psychological distance

Reaching acceptance among local stakeholders is crucial for the conservation of biodiversity. A study aimed to understand in retrospect how this acceptance was reached for the participation in LIFE restoration programmes within Natura 2000 sites. The authors assessed different means of persuasion and found that replacing standard communication based on texts with the organisation of live experiences in nature for the stakeholders was highly effective [35]. These activities were useful in diminishing the psychological distance with the problem and, importantly, in some cases, made the audience recall personal experiences, reinforcing the experimental processing.

We stated in the first section of this guide that telling stories instead of showing facts is a better strategy to communicate scientific information. People tend to empathise more with stories, and they ease the hard process of memorising things. Stories also build ties among people, connect, involve and interest. But more interestingly, the narrative of stories can tackle temporal and social distance [18]. Thus, we can take some profit of them in our communications about climate change.

Although one of the deficiencies of the human brain is that it is flawed at making long-term decisions, the good news is that this can be altered with storytelling. Future-oriented stories can induce a future-oriented mindset, and future-oriented mindsets lead to making more future-oriented decisions. One example applied to climate change can be found at the article "Changing Perspectives: Narrative frames & the willingness to donate to climate mitigation" where it is demonstrated that different narratives can vary the psychological distance to future climate change impacts and affect the willingness to donate to a charity doing climate mitigation work [19].

Due to this phenomenon a new fiction genre has been drawn into action in which climate change is a key element in the stories. Climate Fiction or "Cli-Fi" -term coined by the Taiwan-based activist Dan Bloom in 2007 is nowadays a stablished fiction genre in which many short stories, novels, short and long films and even videogames deal with the issue of climate change.

Solar by Ian McEwan *Nan A. Talese, 2010.*	**The Water Knife** Paolo Bacigalupi *Knopf Doubleday Publishing Group, 2015.*	**The Sea and The Summer** by George Turner *Faber & Faber, 1987.*	**The Carbon Diaries 2015** by Saci Lloyd *Holiday House (2010)*
Far North by Marcel Theroux *Picador, 2010.*	**Forty Signs of Rain** by Kim Stanley Robinson *HarperCollins, 2004.*	**Flight Behavior** by Barbara Kingsolver *HarperCollins, 2004.*	**The Stone Gods** by Jeanette Winterson *Hamish Hamilson, 2007.*
Back to the Garden by Clara Hume *Moon Willow Press, 2012.*	**Oryx and Crake** by Margaret Atwood *McClelland and Stewart 2003.*	**Year of the flood** by Margaret Atwood *McClelland and Stewart 2009.*	**MaddAddam** by Margaret Atwood *McClelland and Stewart 2009.*
The Healer: A Novel by Antti Tuomainen, *Henry Holt and Co., 2013.*	**Odds Against Tomorrow: A Novel** by Nathaniel Rich, *Straus and Giroux, 2013.*	**Breathe** by Sarah Crossan *Bloomsbury Publishing PLC, 2012.*	**I'm With the Bears: Short Stories from a Damaged Planet** by Nathaniel Rich, *Straus and Giroux, 2013.*

Table 1: Selection of "Cli - Fi" books.

Framing uncertainty

Scientific information is always associated to some level of uncertainty. For scientists and other specialist, uncertainty is a potent stimulus for action and research is pushed forward as an exploration of the unknown. Given that certainty is uncommon, scientists are not particularly comfortable with categorical statements in their communications and are usually inclined to focus in what they do not know yet. However, this scientific idiosyncrasy may hinder the power of communication as general public and policy makers do not react to uncertainty similarly.

Thus, there is a particular framing that is required when communicating uncertainty to a lay audience. It might only be a matter of emphasis and order in our communications. Policy makers need to know first the scientific evidences, what we know, what is certain, because this is actually what can help them making a decision. For instance, the overwhelming consensus on the anthropogenic origin of climate change (Figure 2). Later, they can hear the concrete uncertainties that are still trying to be unravelled. But not the opposite. Overall, **uncertainty should never undermine what we are certain of [20].**

In addition, it is crucial to highlight that **uncertainty is not a distinctive feature of science**. Every organisation, business company or government, consistently faces uncertainty. Decisions are always taken based on imperfect, ongoing knowledge. However, the wording that these sectors use is different as they normally talk about **"risk", not "uncertainty"**. With this simple twist we might get rid of common associations. Whereas uncertainty is understood as if our knowledge is still imperfect and leads to inaction, risk implies that everything has both costs and benefits. Thus, in the context of climate change there is a clear message to be sending when we use risk: not acting also has its costs.

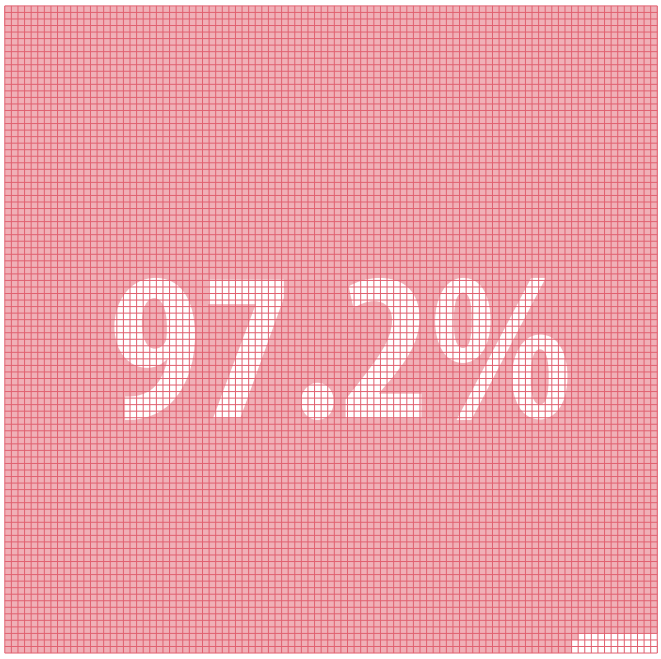


Figure 2: Graphical representation of the consensus on anthropogenic origin of climatic change: 97.2% [42].

The American Organisation Climate Access recognises that nowadays there is an opportunity for building what they call **"the preparation frame"** on the shared value of preparedness. In this context, uncertainty is not a justification for inaction and not knowing the future impacts should only increase motivation for taking preventive actions [20].

Since the Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), authors have proposed an interesting system to frame uncertainty in their summary for policy makers. The solution is called **verbal approach** and comprises a scale of terms for the different degrees of certainty, confidence, probability and agreement **(see example 4).**

Example 4: Verbal approach for confidence

The IPCC reports have opted for a wording that reflects the degree of certainty:

A. Species and climate change

Many terrestrial, freshwater, and marine species have shifted their geographic ranges, seasonal activities, migration patterns, abundances, and species interactions in response to ongoing climate change ***(high confidence).*** *While only a few recent species extinctions have been attributed as yet to climate change* ***(high confidence)****, natural global climate change at rates slower than current anthropogenic climate change caused significant ecosystem shifts and species extinctions during the past millions of years* ***(high confidence).***

B. Global aggregate impacts

Risks of global aggregate impacts are moderate for additional warming between 1–2°C, reflecting impacts to both Earth's biodiversity and the overall global economy ***(medium confidence).*** *Extensive biodiversity loss with associated loss of ecosystem goods and services results in high risks around 3°C additional warming* ***(high confidence).*** *Aggregate economic damages accelerate with increasing temperature* ***(limited evidence, high agreement)****, but few quantitative estimates have been completed for additional warming around 3°C or above.*

The verbal approach has proven very effective for communicating scientific consensus although it might still be subject to revision. A recent multi-national study involving 24 countries and 17 languages showed that people interpret IPCC statements *as conveying different probabilities than those intended by IPCC authors* [21]. The authors of this study also presented an interesting alternative: supplementing the verbal terms with numerical ranges (e.g "It is very likely (greater that 90%) that hot extremes, heat waves, and heavy precipitation events will continue to become more frequent"). They demonstrate that this approach increases the correspondence between the public´s interpretation and IPCC guidelines.

Another method to address uncertainty is the **graphical representation** of different future scenarios. From IPCC First to the Fifth Assessment Report, different models have been used to depict different scenarios and how mitigation and adaptation can impact on the different outcomes (see Representative concentration pathways in figure 3). Regarding biodiversity, since AR4, impacts of climate change on species and ecosystems have been graphically depicted in a so-called "Climate envelope modelling" (also called niche-based or bioclimatic modelling). As mentioned above, the visual representation of concepts beyond simple texts aids understanding.

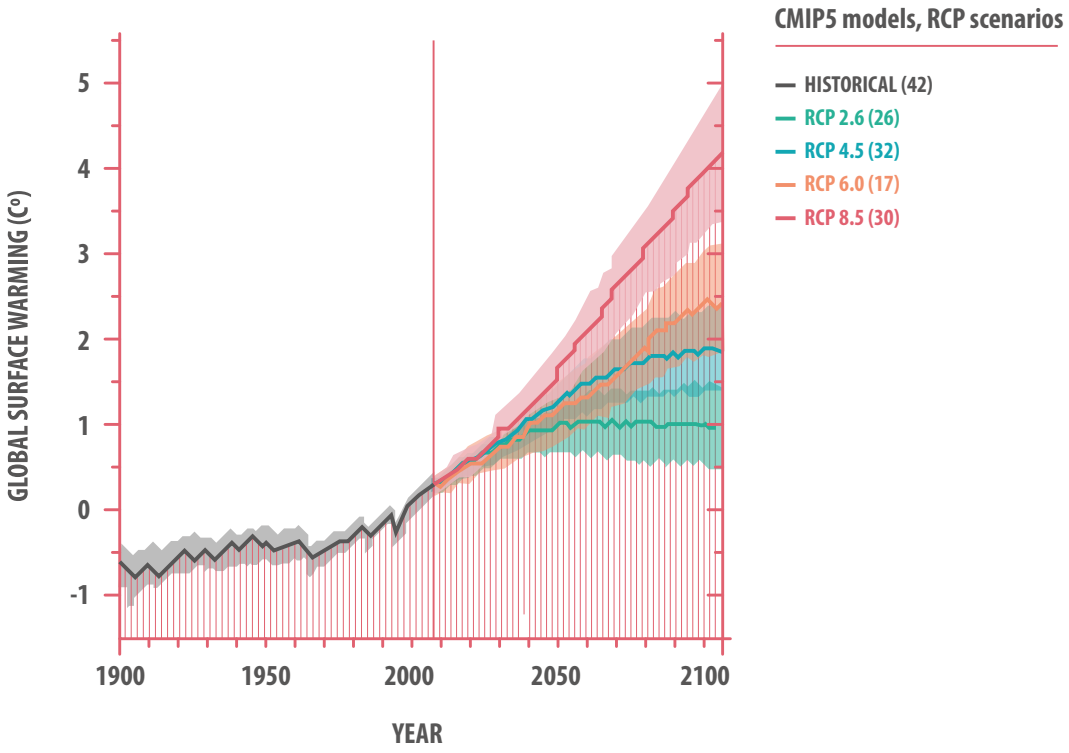


Figure 3: IPPC's representative concentration pathways.

Framing winning and losing

In 1979 the Nobel Prize in Economics Daniel Kahneman and Amos Tversky published "Prospect Theory: An Analysis of Decision Under Risk" [22]. According to their theory, when the prospect of gains is highlighted, individuals reject risky behaviours, but when the attempt to restraint losses is emphasised, individuals tend to prefer risky behaviours. Thus, **people are more inclined to act when this is meant to avoid losses** rather than to seek gains.

In order to encourage policymaking on issues like climate change and biodiversity loss (which implies action and risk-taking), we have to take this winning vs. losing frame into account. This is perfectly illustrated with conservation actions, which are meant to preserve what we have and can be lost in the present and in the near future.

Framing positive vs negative

Writing the same sentence in a **positive or negative** voice can totally change the willing to act. This effect has been described in a study focused on knowing how framing climate change uncertainty could influence individual action [23]. This study showed that uncertainty combined with a negative frame (**emphasising possible losses**) decreased individual intentions to behave environmentally. Nevertheless, when uncertainty was combined with a positive frame (**emphasising the possibility of losses not happening**) this produced stronger intentions to act. This is illustrated in *example 5*.

Example 5: Framing losses in a positive way

People are more inclined to acting upon possible losses than upon potential gains. However, at the same time they are more prone to act if they receive positive messages. How can these two approaches be combined? From A to C we can see how we should progressively improve our phrasing:

A. Framing gains positively (not good): If we act, we will save millions of species from extinction

B. Framing losses negatively (better): If we don´t act, millions of species will disappear

C. Framing losses positively (best): If we act, we will avoid losing millions of species

Framing promotion vs prevention

We may divide our society into two distinctive groups. The ones whose goal consists on making something good to happen –they have a **promotion focus**- and the ones whose main concern is to maintain the *status quo* –they have a **prevention focus**- [17]. If we aim directly to an individual or a group of individuals with a clear promotion or prevention focus, we have to tailor the message to their specific focus (e.g. "we can save the Lynx!" for people with promotion focus and "don't let the Lynx disappear" for the prevention-oriented). But if messages are meant to reach a broad and diverse audience, the best strategy is to include both promotion and prevention-designed focus in our messages.

Common Biases

There are several biases that could influence the success of our communication actions. For example, climate change and biodiversity loss are paradigmatic examples of what is known as the **tragedy of the commons** [17]. This phenomenon, which was first described in Economics, occurs when we share a common and limited resource. In these situations, we know that we should work in the best interest of our group and in the sustainability of the resource, but instead we usually tend to focus in our self-interest resulting in the depletion of the resource.

Additionally, we could think that this is because there is not enough awareness and people need to worry more about climate change. But it is important to be careful because we all have a psychological limitation for worrying. This is called the **finite pool of worry** [7]. Since there is a limited number of things we can worry about, it is better not to include too many negative messages in our communications. This way you can avoid what is known as **emotional numbing**: the incapacity to react against negative stimuli due to prolonged exposure to emotionally draining situations [7].

Other phenomena affecting our perception of climate change which may have to be taken into account are: **misplaced confidence** (assuming the future will be similar to the past, a bias that is difficult to alter when conditions change), **wishful thinking** (favourable outcomes are more likely to happen than adverse ones) and **belief polarisation** (we tend to associate with people that share our mental models, something that is being highly potentiated by social media).

Tips & tricks

Strengthen the sense of affiliation with the community to avoid the tragedy of the commons.

Choose wisely the **number of worrying messages** so that you can avoid emotional numbing.

Summary: Psychological phenomena and communication

Only studying the mental models of our stakeholders we will be able to frame climate change and biodiversity properly. After this, we need to move forward and forget the futurist catastrophic messaging full of uncertainties. We need to frame the difficulties: focus in what we know, and identifying clear risks and put them in a way our actions may prevent future losses. The more local and specific these challenges are, the better.

03 The communication challenge III: policymaking

Policymaking can be described as an assembly line of all the elements that are required to make policy. The first step involves placing the issue on the political agenda and defining the problem that needs to be addressed. This is then taken to the executive areas of the government where alternative solutions are assessed in the light of the available evidence on the subject. Once the different solutions are selected and refined, the executive agencies put them in practice. Finally, while policies are in place, some interest groups might challenge the actions through the judicial branch which sometimes leads to the policy being evaluated and revised or even scrapped [24]. The main aim in this part of the manual is to take into account **the particularities of policymaking** in order to tailor our communication strategy.

Political strategies

When interacting with politicians, it is important to know how policymaking works. There are four main factors that we need to know in order to design our communication strategy towards policy makers: who are the different **players** (individual or groups involved in the process), their role and **power** (of each player), which is their **position** towards policymaking on climate change and biodiversity (support or opposition) and the public **perception** of the policy [25].

Timing is also an issue when trying to influence science-based decisions. Research projects often take many years to execute thus becoming a continuum that lacks timeliness. On the contrary, policy makers are likely to only remain in charge for one legislation cycle. Thus, research *is perceived as out-of-step with the majority of the decision-making processes* [26]. In order to avoid this, we have to keep in mind policy cycles and plan ahead of time since in the majority of the cases it will be necessary to anticipate policy decisions.

In addition to ascertain who to target and when to do it, framing is essential as it will determine how efficient our communication will be.

Framing the political agenda

A proper frame is not only capable of bypassing biases and psychological particularities, but also **it is needed to allow any politician to place a given issue in the political agenda**. As Porter and Hicks stated, *the eventual fate of a policy proposal is also a function of how it is formulated in the first place -how it defines the problems to be attacked and what it offers in the way of policy solutions* [27] (*see example 6*).

Example 6: Framing the political agenda. Health reform in Dominican Republic

In 1996 the Dominican Republic initiated political action to reform the health system. This involved the transfer of certain competences in the health sector to private companies, similarly to the way it was being done in many Latin American countries with the support of multilateral development banks. However, whereas the process was relatively smooth in most countries, at the Dominican Republic the reform was perceived as a complete privatisation of health services and faced a fierce opposition from the media. Overall, this negative formulation generated a strong reluctance among bureaucrats and policymakers to support the reform, reaching a tipping point when opposition also arose from medical associations and NGOs in the health sector [25].

Framing economics

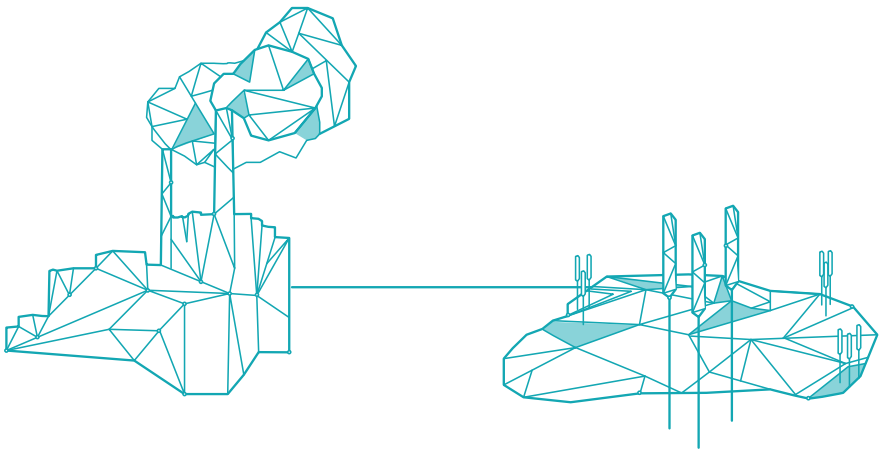
Ecosystem protection and conservation are immediate costs in national budgets whereas benefits are uncertain and may always come in the future. This inevitably imbalances the choice for decision makers. One of the strategies to counteract this issue is to highlight the **economic value** of conservation measures.

Nature has a value. Up to 40% of the world`s economy is based on biological products and services [5] but, despite this fact, *the preservation of nature is regarded as fundamentally in opposition to socio-economic development* [13]. Thus, we have to investigate how to **represent that value** at local, national and international policymaking.

We need to work on **the economic frame**. This was the aim of "The Economics of Ecosystems and Biodiversity" (TEEB) study that assessed" the economic impact of the global loss of biodiversity in order to present a convincing economic case for conservation [28]. A similar initiative for actions on climatic change is the Stern Review [29]. A practical illustration of how framing economics can have a real impact on policymaking is detailed in *example 7*.

Framing economics. A swamp in Uganda

The Nakivubo Swamp, in Uganda, receives and cleans water pollution coming from industrial and urban waste. There were plans to drain and use this wetland for other purposes until a study of the economic value of the swamp was performed. The study showed unequivocal evidence of the importance of the swamp. It was calculated that building the infrastructure required to achieve similar levels of wastewater treatment would cost around US$2 million/year. As a result of this revealing study, the Nakivubo Swamp was legally protected and included in the city´s greenbelt [28].

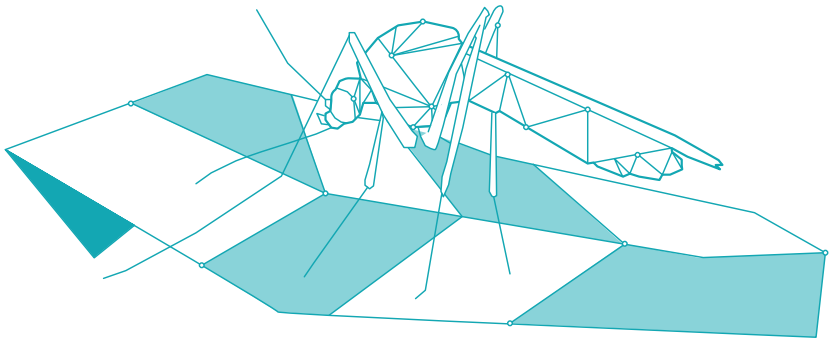


2 million/year | **0 million/year**

Framing Public Health

Climate change is having a big impact in **public health**. For instance, increases in rainfall can favour the dissemination of several infectious agents and increases in temperature may affect their growth and survival [30]. Also the increased presence of mosquitos poses a high risk for European countries as these animals may carry parasitic and viral diseases endemic from warmer areas.

Thus, whilst many decision-makers and citizens may not be concerned about the environment, they will most likely worry about public health, as it impacts in their everyday life. This makes public health a perfect frame for this audience.



Framing National Security

The National Security is another worry that can be targeted in non-environmentalist policy makers. In 2007, the United Nations Security Council added, for the very first time, climate change in their agenda as it can cause future conflicts on food and water supplies or land [17].

Framing ideology

Historically, concerns and actions against the progression of climate change and biodiversity loss have been championed by left-wing political groups. Although this is not true in all cases, introducing environmental countermeasures into the agenda of these parties is fairly straightforward. However, what happens if the centre-right is in the government? Again, this is a question of framing.

A report by The Climate Outreach & Information Network (COIN) [31] indicates that there are four main narratives to involve right-winded parties and citizens:

- **Localism:** To those that are proud of the local countryside, a narrative that addresses the need to protect for future generation is effective
- **Energy security:** Renewable energy resonates efficiently with those that are concerned about the excessive dependence on other countries for the supply of energy.
- **New environmentalism:** The creation of sustainable businesses is a good argument to be used with those that demand a modern, efficient and productive industry that provides long-term benefits.
- **The "Good Life":** For those concerned about health, it is effective to remark that climate change is a major threat to the health of our communities and that the production of energy with fossil fuels exacerbates asthma and other respiratory diseases.

Framing beliefs

Religious beliefs also play an important part in the decision-making process of many citizens and policy makers. Regardless the spiritual connotations, religious scriptures are books of law, ethics and moral that are meant to guide the actions of followers.

In the book "Tread Lightly on the Earth: Religion, the Environment, and the Human Future" [32], Christopher Gregory Weeramantry, Vice-President of the International Court of Justice, argues that all of the scriptures of the world's major religions contain obligations to protect nature [33]. Thus, in some cases knowing about the religious beliefs and framing them accordingly may aid in our communication strategy.

Summary: Policymaking and communication

Knowing the ins and outs of policymaking is essential to design a good communication strategy. We have to take into account who we should be targeting (policy makers or advisors) and when to do it (political cycles). Framing is also important as it might help policy makers placing issues on the political agenda, using economics, public health or national security as powerful reasons to back conservation and mitigation politics. In order to achieve this both the ideology and the beliefs of the policy maker should be considered in order to frame the message properly.

04 The Emerald opportunity

One of the most ambitious strategies of the Bern Convention for the conservation of biodiversity is the Emerald Network. This programme aims to increase the available habitat for species, serve as field of study on the impacts of climate change and mitigation strategies, thus enhancing biodiversity and resilience of the protected area. Among other challenges, its implementation requires a well-defined and carefully planned communication strategy.

One of the main weaknesses of similar instruments such as Natura 2000 network was the lack of **background knowledge** of local stakeholders, which might be easily attributed to ineffective communication actions. This factor prevented in some cases well-informed policy decisions [34]. Also, an awareness deficiency in the general public might be an important factor. The Analytical report of the Eurobarometer's "Attitudes of Europeans towards the issue of biodiversity" showed that **EU citizens are unfamiliar** with Natura 2000 areas. Almost 8 in 10 respondents said they had never heard of Natura 2000 and those who knew the term were not aware of its actual meaning [15].

Thus, the implementation of the Emerald network needs to learn from previous communication errors and develop a strategy that ensures effective implementation. Additionally, protected areas are a great setting to apply and overcome many of the challenges for communicating the **interrelation between climate change and biodiversity** presented in this manual. First of all, protected areas are an excellent approach to see the effects of climate change and realise the counteracting measures in a **local setting.** This effectively diminishes psychological distance in citizens and decision makers. Also, the importance of these areas can be expressed in **economic terms**, as they have an intrinsic value and also contribute to the regional economy by promoting industries in the ecotourism sector. Finally, the presence of protected areas also brings **reputational benefits** that influence local decision makers.

Overall, the Emerald Network provides the ideal setting to study the effectiveness of alternative arguments on the conservation of nature at local level, allowing for comparison between different sites [35].

05 Building a communication strategy

A communication strategy is a complex set of actions that needs design, time and a little bit of luck. We need to set our objectives, identify and understand our stakeholders, work on our message and find the perfect channel to succeed.

Objectives

Any communication strategy requires a clear definition of objectives. Visibility, support or changing a policy or law, are examples of objectives that require a specific management thorough education, advocacy and lobbying [36].

- **Education:** Any activity that seeks to disseminate information without judgement or particular intention other than raising awareness on a certain subject.
- **Advocacy:** Any activity that aims to influence public policies or legislative actions. Advocacy actions express a judgement (support or opposition).
- **Lobbying:** It is a sort of advocacy that includes activities of direct influence on decision-making persons (legislators or their staff).

Tips & tricks

For advocacy or lobbying practices, depending on your country of residence and your specific role in your organisation, legal counselling is recommended.

Stakeholders

As previously pointed out, we need to identify who are our stakeholders. After, we need to be aware of their common concerns and interests, core values, pre-existing knowledge and lack of knowledge, misconceptions and beliefs. It is crucial to understand policy maker's mental models in order to properly prepare the information to achieve our goals.

Tips & tricks

Take into account **various levels of government** (International, National, Province, State, Region, District, Local…) and the role of the different policy makers at each level.

Focus on intermediaries as much as on policy makers. If they rely on other experts, they are your targets too.

Also identify those **who have opposite interest** and that will also be affected by a policy change.

Policy makers are busy and come from many different backgrounds so they are usually not experts in their area. In a normal scenario, they will skim information and rely on specialists or consult policy-related information [37]. This information can be provided by research institutions, statistical organisations, mass media, non-profit organisations or even lobbyists or individuals. All these intermediaries can be targeted too and have to be properly identified and understood as well [37].

Message & Imaginary

In business it is common to prepare a quick speech containing all there is to say about your idea, plan or intention. It is called the **Elevator Pitch** and it is inspired in a hypothetical scenario of an accidental encounter with an important person in an elevator. There, you only have a few seconds to make your company's message interesting and value-adding. If you succeed, there are high possibilities that the conversation will continue afterwards.

This exercise is somewhat comparable to what we have to do in order to attract policy makers` attention. Similar to what happens in the business environment, items which finally will make it to any policy maker agenda will have gone through a tough competence.

In order to prepare our elevator pitch, we have to apply the previously introduced concepts:

- select a limited number of ideas and concepts in one clear message,
- make it short and simple,
- remove all the jargon,
- use local and human examples that could be memorable and impactful,
- talk about what is certain first,
- be positive and inspiring,
- focus on present and future losses rather than gains,
- if you cannot be positive, be helpful,
- and, if possible, engage.

At this point, you should perfectly know the mental model of the target decision maker. This information will serve to use the **most adequate frames** to ensure the message does not enter in conflict with those models.

Timing

Previously, it was discussed how it is important to **be aware of policy cycles** to introduce topics in the political agenda or influence topics that are being discussed. Choosing the perfect timing is crucial. We can have the perfect message, tailored to the right person but delivered at a wrong time which will make it worthless. Also, although the majority of the political events are predictable we have to be ready to **unpredictable events** and prepare information that will be helpful in emergencies and one-off events.

Communication Channels

As it has been previously described in the guide "Communicating with policymakers" [37] , there are several channels that we can use to make our message through. These include **written materials** (namely briefing papers, reports, brochures and letters to policy makers), **face-to-face interactions** (conferences, presentations, debates and workshops) or **audio-visual products** (explainer infographics, 2D and 3D animations and also conventional video).

In addition, policy makers are also part of the general public so they also are indirectly informed by **mass media** including newspapers, radio, TV, books, advertising campaigns, websites and social networks. In order to target this channels, is it important to be aware of advantages and disadvantages. On the one hand, we cannot only raise a message to the policy maker but also to the most important people for them: the electorate. On the other hand, it is difficult to control the message in mass media so it is advisable to choose the channel wisely and rely on trustworthy journalists.

Tips & tricks

Do a little research on different communication campaigns and identify the key messages and channels used.

The channel of choice will depend on the particular topic and stakeholder you want to reach.

Consider using a mix of tools and channels to most effectively achieve your communication goals.

Tactics

Every communication strategy has a measurable capacity and budget. To identify this is essential in order to provide for your needs, apply for external funding or build alliances. It is far more likely that the strategy will succeed if **networks of organisations and individuals,** both at a local and national level, join forces in order to address issues that require political action. The more diverse profiles and organisations that support the strategy, the more likely success will be. If alliances are not an option, it is advised to set more realistic goals.

Measuring the impact

Remember the axiom *what we say is not necessarily heard, what is heard is not necessarily understood, what is understood is not necessarily acted upon, what is done is not necessarily repeated* [38]. We need to know if our message has been heard, understood, acted upon and replicated.

Thus, communications objectives should be achievable and measurable. Every communication strategy needs planning but also implementing, and evaluating before revising and starting all over again. If objectives are not measurable, success cannot be determined and there will be no way of building on successful tactics and revising less effective ones.

07 References

1. IPCC. Climate Change 2014 **Synthesis Report Summary Chapter for Policymakers.** Ipcc 31 (2014). doi:10.1017/CBO9781107415324

2. Condé, S., Jones-Walters, L., Torre-Marin, A. & Romão, C. EU 2010 biodiversity baseline. **EEA Technical report** 12/2010. (2010). doi:10.2800/6160

3. Kettunen, M. et al. **THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY TEEB for National and International Policy Makers.** TEEB (2011).

4. Convention on Biological Diversity. **Climate Change & Biodiversity**. (2005).

5. Futerra & Shakespeare, W. **Branding Biodiversity.** 15 (2010).

6. Weber, E. U. **What shapes perceptions of climate change?** Wiley Interdiscip. Rev. Clim. Chang. 1, 332–342 (2010).

7. Marx, S. M. et al. **Communication and mental processes: Experiential and analytic processing of uncertain climate information.** Glob. Environ. Chang. 17, 47–58 (2007).

8. Kahan, D. M. et al. **The polarizing impact of science literacy and numeracy on perceived climate change risks.** Nat. Clim. Chang. 2, 732–735 (2012).

9. Bostrom, A., Atman, C. J., Fischhoff, B. & Morgan, M. G. **Evaluating risk communications: Completing and correcting mental models of hazardous processes, part II. Risk Anal.** 14, 789–798 (1994).

10. Pike, C., Doppelt, B. & Herr, M. **Climate Communications and Behaviour Change. A Guide for Practitioners.** 54 (2010).

11. Ward, B. **Communicating on Climate Change : An Essential Resource for Journalists , Scientists , and Educators.** Office 297, (2008).

12. Schuldt, J. P., Konrath, S. H. & Schwarz, N. **'Global warming' or 'climate change'? Public Opin.** Q. 75, 115–124 (2011).

13. Wilhelm-Rechmann, A. & Cowling, R. M. **Framing biodiversity conservation for decision makers: Insights from four South African municipalities.** Conserv. Lett. 4, 73–80 (2011).

14. Larson, F. E. A. and B. M. H. **Biodiversity and Conservation Framing in Canada : A Case Study of the Oak Ridges Moraine.** Zeitschrift für Kanada-Studien 32, 107–125 (2012).

15. European Commission. **Attitudes of Europeans towards the issue of biodiversity:** Analytical report - Wave 2. Flash Eurobarom. 290 98 S. (2010).

16. Spence, A., Poortinga, W. & Pidgeon, N. **The Psychological Distance of Climate Change. Risk Anal.** 32, 957–972 (2012).

17. Shome, D. & Marx, S. **The Psychology of Climate Change Communication.** Trust. Columbia Univ. City New York 129, 54 (2009).

18. Israel, A., Rosenboim, M. & Shavit, T. **Using priming manipulations to affect time preferences and risk aversion: An experimental study.** J. Behav. Exp. Econ. 53, 36–43 (2014).

19. Shrum, T. **Changing Perspectives : Narrative Frames & the Willingness to Donate to Climate Change Mitigation.** (2016).

20. Corner, A., Lewandowsky, S., Philipps, M. & Roberts, O. **The Uncertainty Handbook: A Practical Guide for Climate Change Communicators.** (2015).

21. Budescu, D. V., Por, H.-H., Broomell, S. B. & Smithson, M. **The interpretation of IPCC probabilistic statements around the world.** Nat. Clim. Chang. 4, 508–512 (2014).

22. Kahneman, D. & Tversky, A. **Prospect Theory: An Analysis of Decision under Risk. Econom.** J. Econom. Soc. 47, 263–291 (1979).

23. Morton, T. A., Rabinovich, A., Marshall, D. & Bretschneider, P. **The future that may (or may not) come: How framing changes responses to uncertainty in climate change communications.** Glob. Environ. Chang. 21, 103–109 (2011).

24. Nall Bales, S. **Framing public issues.** 60 (2005).

25. Reich, M. R. **The politics of reforming health policies.** Promot. Educ. 9, 138–142 (2002).

26. Wimberley, R. C. & Morris, L. V. **Communicating research to policymakers.** Am. Sociol. 38, 288–293 (2007).

27. Porter, R. & Hicks, I. **Knowledge utilization and the process of policy formation: towards a framework for action.** From Plan. to action Gov. Initiat. … (1997).

28. Ring, I., Hansjürgens, B., Elmqvist, T., Wittmer, H. & Sukhdev, P. **Challenges in framing the economics of ecosystems and biodiversity: The TEEB initiative.** Curr. Opin. Environ. Sustain. 2, 15–26 (2010).

29. Stern, N. **The Economics of Climate Change.** Stern Rev. 662 (2006). doi:10.1257/aer.98.2.1

30. McMichael, A. J., Woodruff, R. E., Kenneth, H. M. & Pizer, H. F. **Climate change and infectious diseases.** Soc. Ecol. Infect. Dis. 9, 378–407 (2008).

31. Corner, A. **A new conversation with the centre-right about climate change : Values , frames and narratives.** 33 (2013).

32. Weeramantry, C. G. **Tread Lightly on the Earth: Religion, the Environment, and the Human Future : a Report for the World Future Council.** (Stamford Lake, 2009).

33. Crawhall, N. **Social and Economic Influences Shaping Protected Areas.**

34. Kati, V. et al. **The challenge of implementing the European network of protected areas Natura 2000.** Conserv. Biol. 29, 260–270 (2015).

35. Mueller, A. & Maes, J. **Arguments for biodiversity conservation in Natura 2000 sites: An analysis based on LIFE projects.** Nat. Conserv. 12, 1–26 (2015).

36. Society for Public Health Education. **Guide to Effectively Educating State and Local Policymakers.** (2009).

37. King, A. **Communicating with Policymakers.** MRS Bull. 27, 83 (2002).

38. Rosenberg, E., Janisch, C. & Nair, N. **Evaluation Design Toolkit. APPENDIX 4 Guidelines for Local Government Biodiversity Communication.** (2012).

39. Sterman, J. D. **Economics. Risk communication on climate: mental models and mass balance.** Science 322, 532–533 (2008).

40. Stehfest, E. et al. **Climate benefits of changing diet.** Clim. Change 95, 83–102 (2009).

41. de Boer, J., de Witt, A. & Aiking, H. **Help the climate, change your diet: A cross-sectional study on how to involve consumers in a transition to a low-carbon society.** Appetite 98, 19–27 (2016).

42. Cook, J. et al. **Quantifying the consensus on anthropogenic global warming in the literature: Rejoinder.** Energy Policy 73, 709 (2014).

Communication is key in tackling major environmental problems such as climate change and biodiversity loss. But it is not an easy task. One should take into account people's poor understanding of the complex language used in science, the manifold psychological phenomena that affect the processing of this sensitive information and the specific requirements for successfully reaching to the most relevant stakeholders: decisions makers.

This publication is a communication toolbox that could help national delegates, experts and collaborators to the Bern Convention to effectively communicate the link between climate change and biodiversity to politicians. Because there is no future without strong political action against the human impact on our planet.

ENG

www.coe.int

The Council of Europe is the continent's leading human rights organisation.
It comprises 47 member states, 28 of which are members of the European Union.
All Council of Europe member states have signed up to the European Convention on Human Rights, a treaty designed to protect human rights, democracy and the rule of law. The European Court of Human Rights oversees the implementation of the Convention in the member states.

COUNCIL OF EUROPE

CONSEIL DE L'EUROPE