

RESEARCH ARTICLE



WILEY

The role of trust in the international climate negotiations

Heike Schroeder¹ | Felix Beyers² | Niko Alexander Schöpke³ |
 Kathleen A. Mar² | Christine Wamsler⁴ | Dorota Stasiak² | Tim Lueschen² |
 Carolin Fraude² | Thomas Bruhn² | Mark Lawrence²

¹University of East Anglia, Norwich, UK

²Research Institute for Sustainability–Helmholtz Centre Potsdam (RIFS), Potsdam, Germany

³University of Freiburg, Freiburg, Germany

⁴Lund University, Lund, Sweden

Correspondence

Heike Schroeder, School of Global Development, University of East Anglia, Norwich Research Park, Norwich NR4 7TJ, UK.

Email: h.schroeder@uea.ac.uk

Funding information

Svenska Forskningsrådet Formas, Grant/Award Numbers: 2019-00390, 2019-01969

Abstract

In this paper, we examine the role of trust in the international climate negotiations. We (1) identify forms of trust inferred from institutional designs, (2) analyse effects of institutional design on social and political trust and (3) describe the relationship between social and political trust in international climate change negotiations. We do this by combining document analysis, literature review and interviews. We find that the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Paris Agreement imply different forms of trust and thereby produce different levels of trust. Social trust is generally medium to high, political trust rather low. Our analysis illustrates tensions and contradictions between human agency and intention, on the one hand, and political agency and process, on the other. These tensions and contradictions are such that, although delegates at the international climate conferences do at least partly trust each other, they meet in an institutional context that is marked by lack of political trust. Moving forward, we discuss whether this lack of trust is well-founded or not given the current institutional and organisational structures of the UNFCCC and its subsequent agreements and what it is highlighting in terms of specific flaws or omissions in the UNFCCC's design.

KEYWORDS

climate change negotiations, political trust, social trust, UNFCCC

1 | INTRODUCTION

Trust is arguably a critical component in efforts toward sustainability transformations, including in the international climate negotiations, which we address in this study. We mean to the United Nations Framework Convention on Climate Change (UNFCCC) process itself when we refer to ‘the international climate negotiations’ or simply ‘the negotiations’. Former Executive Secretary of the UNFCCC Figueres (2022) illustrated the importance of trust by stating in an article in TIME Magazine in 2022 that “trust is the glue that will hold our collective efforts together” and that it “is one of the most precious and

powerful human capacities. Without it all efforts fail, with it we can build the future”.

As research on trust keeps increasing across disciplines, its definitions vary widely, and the number of terms used as synonyms grows. These include mutuality, empathy, reciprocity, civility, respect, solidarity and fraternity (Newton, 2009). Broadly defined trust is “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer et al., 1995: 712). Other definitions focus on trust as the expectation of cooperative behaviours

This is an open access article under the terms of the [Creative Commons Attribution](https://creativecommons.org/licenses/by/4.0/) License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2024 The Author(s). *Environmental Policy and Governance* published by ERP Environment and John Wiley & Sons Ltd.

(e.g., Gambetta, 1988; Newton et al., 2018; Ostrom & Ahn, 2003). Trust is also seen as context-specific, with various elements contributing to trusting relationships (e.g., Henry & Dietz, 2011; Marion Suiseeya et al., 2021). Furthermore, trust has been identified as a so-called transformative quality or capacity for transformation toward sustainability (Wamsler et al., 2020, 2021). Trust is built (and broken) in myriad ways and difficult to characterise precisely. We define trust as a mechanism that establishes safety in the broadest sense regarding a particular person, organisation, situation, institution or process.

An established distinction when studying trust is between so-called social trust, also referred to as personal trust (belief in the honesty, integrity and reliability of people based on cultural norms) and political trust, also referred to as institutional trust (trust in political institutions, interrelations and dynamics) (Earle & Cvetkovich, 1995; Rotter, 1967; Uslaner, 2018; van der Meer & Hakhverdian, 2016). Others refer to these as horizontal (across people) and vertical (across structures) trust, respectively (Braithwaite & Levi, 1998; Eek & Rothstein, 2005; Holmberg & Larsson, 2018; Putnam, 1993). The difference highlighted here is that of trusting (or not) friends, neighbours, colleagues and fellow citizens based on personal experience versus having confidence (or not) in institutions such as parliament, the state bureaucracy and the courts, based on a sense of their performance or fairness (Newton, 2009).

Research on how trust is understood, related to and built within key institutions shaping climate negotiations is still scattered. Only few studies have looked at it conceptually or analytically in the context of the UNFCCC: Marion Suiseeya et al. (2021) find that trust can indicate strength and quality of relationships among actors and thus shape governance possibilities. Gupta (2016) deems trust in the UNFCCC as critically low. Vogler (2010) finds that trust building among parties is not limited to formal compliance mechanisms but instead grows with the institutionalised relationships among long-standing officials and technical experts. Vogler (2010), Rathbun (2018) and Yamagata et al. (2013), among others, analyse how the lenses of realism, institutionalism and constructivism establish the need for trust in international negotiations in fundamentally different ways. These oscillate between trusting in no one, trusting in institutions and trusting through mutual actions toward mutual goals and a shared sense of common fate, respectively. Thus, while the role of trust is becoming more recognised, its expression and relevance for effective climate negotiations is still underexplored.

We therefore aim to examine the role of trust in the international climate negotiations in the context of the larger question of *quo vadis* for the UNFCCC process, which is at the heart of current debates (e.g., Obergassel et al., 2022). More specifically, we pursue the following three research questions and related objectives:

1. First, which institutional framings of trust currently exist in the UNFCCC process? Objective A here is to understand how the designs of the UNFCCC, the Kyoto Protocol and the Paris Agreement frame trust differently.
2. Second, what are the consequences of institutional designs for trust building? Objective B here is to examine the interplay of

institutional designs and trust with diverse participants of the negotiations, in particular, whether the political structures undermine success because of how they limit opportunities for trust building.

3. Third, what are the relational dynamics between social and political trust? Objective C is to contribute to the wider discourse on trust to explore the underlying relationship between social and political trust and what might need to change so that trust in the international climate negotiations is improved to ultimately support transformation.

In the remainder, we first elaborate on our conceptual understanding of trust. Then, after describing our methodology, we move to analysing the role of trust in the three main UNFCCC institutions and conduct exploratory interviews on the relationship between trust in people and trust in institutions. We then outline the underlying relational dynamics between social and political trust and conclude with summarising the current state of trust in international climate negotiations and steps to address design weaknesses or omissions.

2 | CONCEPTUALISING TRUST IN THE INTERNATIONAL CLIMATE NEGOTIATIONS

We address the topic of trust in international climate negotiations through a conceptual framework comprising three dimensions with corresponding objectives, definitions and concepts, summarised in Table 1. We distinguish between prevailing institutional designs forming trust (Dimension 1–design), social and political forms of trust as outcomes of institutional designs (Dimension 2–forms) and the resulting dynamics between social and political trust in the UNFCCC process to contribute to broader debates on trust in international negotiations (Dimension 3–dynamics).

Dimension 1 (design) aims to capture approaches to trust that are (implicitly) built into institutional designs, referring here to the means and tools for structure–agency interactions (Alexander, 2005). We refer to the ideological orientation and design of trust in institutional structures. We base this on Vogler (2010), who finds that trust building among parties is not limited to formal compliance mechanisms, but instead grows with the institutionalised relationships among long-standing officials and technical experts. The establishment and growth of trust through institutional design is therefore key. Vogler (2010), Rathbun (2018) and Yamagata et al. (2013), among others, analyse how a need for trust in international negotiations is established differently from the perspectives of realism, institutionalism and constructivism. For this to be applied, we need to understand whether and how trust is addressed and framed in the institutional design. We make use of elements such as foundational beliefs of trust, ideological orientation and resulting assumptions to distinguish between different institutional approaches to trust.

Dimension 2 (forms) aims at a better understanding of the trust-related consequences of institutional designs, that is whether trust is built or hindered by them. We distinguish between social and political

TABLE 1 Three research dimensions with objectives and concepts forming a three-pronged analytical framework.

Dimensions with objectives and concepts	Analytical framework
<p>A. Dimension 1 (design) Objective A: Identify forms of trust inferred from institutional designs Concepts: Ideological orientation and institutional design of trust Analysed in Section 4 below</p>	<p>Description: Basic beliefs and ideological orientations that shape institutional design in fundamentally different ways and how this is reflected in practical assumptions. Categories: (Neo)Liberal (Institutionalist), (Neo)Realist, (Post)Constructivist Indicators: Modes of institutional design and framing between (a) trusting in no one, (b) trusting in institutions and (c) trusting through mutual actions toward mutual goals and a shared sense of common fate</p>
<p>B. Dimension 2 (forms) Objective B: Analyse effects of institutional design on social and political trust Concepts: Widely established distinction between social and political trust between inner personal world and outer experiences Analysed in Section 5 below</p>	<p>Description: Social trust: Belief in the honesty, integrity and reliability of others based on cultural norms. Political trust: Trust in political institutions, interrelations, and dynamics. Categories: Social trust building or breaking at the individual level. Political trust building or breaking along important structural elements of the UNFCCC process that were highlighted in the interviews such as the market, the North–South divide, the patriarchal structure, the scientific process and trust-building processes Indicators: Factors conducive and hindering for social and political trust building</p>
<p>C. Dimension 3 (dynamics) Objective C: Describe the relations between social and political trust in international climate negotiations throughout different institutional designs of trust so that they become generalizable Concepts: Relational turn of social and political trust Analysed in Section 6 below</p>	<p>Description: “a paradigm shift [...] away from focussing on interactions between entities, toward emphasising continually unfolding processes and relations” (West et al., 2020) Categories: Social and political trust through Institutional, Neo(Realist) and (Post) Constructivist designs Indicators: Relational dynamics of trust in people and organisations as well as trust in institutions and processes</p>

Abbreviation: UNFCCC, United Nations Framework Convention on Climate Change.

trust, that is belief in the honesty, integrity and reliability of others based on cultural norms, on the one hand (e.g. Uslaner, 2018), and trust in political institutions, contexts and dynamics, on the other (e.g. van der Meer & Hakhverdian, 2016). We thereby differentiate

between (dis)trust in people/actors/organisations and processes/structures/institutions. To understand these effects, we examine the perspectives of stakeholders and the prevailing discourses to understand whether different forms of trust are built or prevented at personal and political levels.

In dimension 3 (dynamics), we bring in a relational perspective (Walsh et al., 2021; West et al., 2020) that discusses the relationship between social and political trust throughout the differing institutional approaches to trust. Here, we describe how institutional framings link to trust-related consequences of social and political trust to advance the theoretical understanding of trust.

3 | METHODOLOGY

We seek to examine the role of trust in the international climate negotiations. In particular, we aim to understand how the main institutions underlying these negotiations, the 1992 UNFCCC Convention, the 1997 Kyoto Protocol and the 2015 Paris Agreement, have shaped trust differently (Objective A). We thus carried out a document analysis of these treaty texts and a review of related academic literature from disciplines including politics, sociology, anthropology and psychology. The literature review was not aimed to be exhaustive, but rather served to reflect on the outcomes of the analysis regarding their interpretations and wider implications. We consider explicit or implicit formulations regarding trust in the treaty texts and the consequences these formulations have. We focus on these three agreements, as together they shape and, at the same time, represent large parts of the international climate negotiations. We believe that studying and comparing them allows for a nuanced account of trust in the design of the UNFCCC process.

We also conducted exploratory interviews with selected participants of the Conferences of the Parties (COPs) to understand the trust-related implications of the implementation of these treaties (Objective B). We conducted eleven 40–70-minute-long interviews with members of party (Gov-3), intergovernmental (Int-3) and observer delegations (Obs-5). We invited 25 participants and of the 11 who responded favourably, about half were observers. All interviewees were knowledgeable about trust and/or the international negotiation process, which was likely due to self-selection of those generally interested in this topic. Each interview was recorded and transcribed. The questions were aimed to solicit a general understanding of trust in the context of the COPs, by giving the participants the opportunity to share their own understanding of trust in relation to: (1) individuals and organisations participating at COPs, (2) structures and procedures of the COPs and (3) suggestions for possible improvements in creating conditions for trust (see Appendix A). Interviews were carried out in 2020 and 2021, followed by analyses and comparisons with existing literature during 2022–2023. Transcripts were coded and quotes ordered according to types of trust (social versus political) and emerging recurring themes that formed the themes and sub-headings in Section 5 below to illustrate the different perceptions. We related the variables of trust that were highlighted in the

interviews to the wider literature. We examined trust across actor groups and institutional themes that emerged, contextualised them in the literature and identified patterns that strengthen or weaken social and political trust. Appendix B and the interview codes used below offer information on regional background (E = Europe; Af/ME = Asia/Middle East; As = Asia; NA = North America; LA = Latin America), gender (m/f) and sector (Gov; Int; Org). Appendix B also details COP experience of those interviewed.

A thematic analysis approach was chosen to analyse the interviews and compare the outcomes with the document and literature reviews (Corbin & Strauss, 1990; Walsh et al., 2015). We examined the data to identify common themes, topics, ideas and patterns of meaning that came up repeatedly. We followed a process that included the steps of familiarisation with the data, coding for different perspectives, followed by coding for trust in people and trust in institutions, generating themes, reviewing them and writing up. Several interviewees mentioned the difference between trust in people and trust in institutions when describing what trust meant to them. A lot of the academic literature also makes this distinction (Earle & Cvetkovich, 1995; Rotter, 1967; Uslaner, 2018; van der Meer & Hakhverdian, 2016). We do not measure trust as such but examine trust perceptions based on the attributes interviewees themselves identified that are summarised in Section 5.1.

In a final step, we aimed to understand the relationship between trust in people and trust in political processes by conceptually interweaving the notions and reflecting jointly on the different ideological orientations and their implications (Objective C). We examined the ways in which social and political trust interact in relation to the various types of institutional design in the treaty texts. We have carried this out in iterative processes to address the different perspectives and contribute to the theoretical discussion on trust as a lever for transformation. We are aware of the limited number of interviews, which certainly reflects a limitation of this study and the conclusions.

However, our conclusions are thorough in that they are based on a comprehensive document and literature review, complementary qualitative data analyses, the linking of the various analyses and the iterative discussion of the participating co-authors, who themselves have been attending the climate conference for many years as observers and commentators.

4 | HOW THE UNFCCC, KYOTO PROTOCOL AND PARIS AGREEMENT FRAME TRUST

4.1 | The UNFCCC

Our document analysis (for a summary see Table 2) of the 1992 UNFCCC showed that it is built on a belief of trust in institutionalised cooperation to enable, as per its preambular text, “the widest possible cooperation by all countries” whilst safeguarding “the principle of sovereignty”. International cooperation is thus the chosen way to overcome the diverse and often diverging national interests among countries. The UNFCCC sets out the institutional arrangements for an ongoing process to fulfil its ultimate objective, based on the assumption of progress through trust in ongoing cooperation and market principles, that is, institutions.

The process nature of the UNFCCC is cemented by Articles 2–4. It is objective (Article 2) is to stabilise “greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” in accordance with sustainable economic development. This relies on a process of ever-evolving scientific understanding of what is necessary to avoid dangerous interferences, such as represented by the Intergovernmental Panel on Climate Change (IPCC) reports. The principle of common but differentiated responsibilities and respective capabilities (Article

TABLE 2 Summary of main UNFCCC agreements and their relationships with trust.

	UNFCCC (convention)	Kyoto protocol	Paris agreement
Foundational belief on trust	Trust in institutionalised cooperation to facilitate cooperation and market performance (= > political trust stronger)	Trust in no one, rather it is about competitive advantage and individual country goals (= > political trust weaker)	Trust through mutual actions toward mutual goal and shared sense of common fate, applied in pluralistic ways, to co-construct action and support as well as understanding and agreement. Ideational aspects are key to orient construction of reality (= > political trust stronger)
Relevant design elements	Process nature, framework approach, non-binding commitments for Annex-1 countries	Market mechanisms, legally binding commitments for Annex-1 countries	Commitment to submit Nationally Determined Contributions (NDCs) but no hard penalty for not achieving them, flexible, pluralistic and inclusive approach
Ideological orientation	(Neo)Liberal (institutionalist) leaning	(Neo)Realist leaning	(Post)Constructivist leaning
Underlying assumptions of ideological orientation	Web of institutions that support cooperation and market principles, interdependence as insurance for progress toward mutual goals	Anarchic world order made up of sovereign states in competition with one another	Reality is socially constructed by cognitive structures that give meaning to the material world, thus favouring a pluralistic policy approach

Abbreviation: UNFCCC, United Nations Framework Convention on Climate Change.

3) is equally broad and subject to ongoing interpretation and deliberation. The commitments of each Party to the Convention (outlined in Article 4) include the reporting of emission inventories and national policies and measures on an ongoing basis. Reports are periodically reviewed and verified by the UNFCCC Secretariat. Article 4 included a (voluntary) 'aim' to stabilise emissions at 1990 by 2000 for developed countries. This was only achieved fortuitously by Germany through reunification and the UK through its shift from oil to gas. There was thus a focus on setting up an institutionalised process, rather than pushing for mitigation per se.

Furthermore, the UNFCCC sets an institutional framework for a process with ongoing meetings to continue its implementation through annual COPs and biannual meetings of the subsidiary bodies (SBSTA and SBI). It thus ensures progress on scientific and technical issues (SBSTA) and ongoing implementation of the convention (SBI). Future protocols and agreements are to strengthen country commitments toward reducing emissions. Decisions are made by consensus, rather than majority voting (Articles 7–10).

The UNFCCC structures and trust design can thus be interpreted as liberal-institutionalist in that they serve to facilitate cooperation and market performance. It is anticipated that trust building between parties will take time and is to be achieved through a consensus-based negotiation process and equitable and sustainable solutions supported by international organisations and secretariats (Rathbun, 2011; Vogler, 2010). Elements including reducing transaction costs, providing information and establishing focal points for coordination are essential ingredients to facilitate cooperation through institutions (Keohane & Victor, 2011). This set of processes and institutionalised relationships is referred to as a "regime" (Young, 1994) that supports cooperation and market principles, as well as interdependence as a supposed "insurance" for progress toward common goals.

4.2 | The Kyoto Protocol

The 1997 Kyoto Protocol takes more of a realist turn with a nuance of trust in no one. It was born out of the 1995 Berlin Mandate, in which parties agreed that industrialised countries should take the first step in reducing emissions due to their historic responsibility for emissions. This led to the US Senate resolution in the summer of 1997 stating that it would only ratify the new agreement if developing countries also limited their emissions and market mechanisms were included. Both points were highly contentious. Emphasis was on mitigation alone, which would be achieved through centrally negotiated quantified emission limitation or reduction commitments for each industrialised country, that is "assigned amounts" (Article 3) listed in Annex B. A compliance mechanism was needed to hold sovereign states to account, though this was in the end tied to future commitments. This decision allowed non-compliant parties to easily circumvent the compliance mechanism, simply by not being part of future commitment periods, which all non-compliant countries took advantage of (Oberthür & Lefeber, 2010).

The Kyoto Protocol was met with considerable resistance by those countries who feared competitive economic disadvantage from compliance with their target. As a result, the post-Kyoto Protocol negotiations (1998–2001) and negotiations over the compliance mechanism (2001–05) were mired in hard bargaining to reduce countries' own obligations and to make sure there were no free riders in other countries (Böhringer, 2003). Many countries wavered before finally ratifying the agreement from 2001 onwards, with the US and Australia withdrawing from the Kyoto process. Australia later reversed its position and ratified the protocol in 2007. The second commitment period negotiated by 2011–12 for 2013–2020 was ratified only by a subgroup of countries. This included the European Union members, Australia, Belarus, Iceland, Kazakhstan, Norway, Switzerland and Ukraine, countries that had met their commitments from the first commitment period. There has been no negotiation of a third commitment period to date.

The negotiations and institutional form of the Kyoto Protocol and subsequent commitment periods are thus neo-realist leaning (Kuyper et al., 2018), where mutual distrust required weak compliance procedures to get all parties to ratify (Vogler, 2010). The market mechanisms of carbon emissions, joint implementation and the Clean Development Mechanism are a bone of contention. They found their way into the treaty text to circumvent 'bad for the economy' arguments made by several industrialised countries. This allowed all countries to access the low-hanging fruits of cheap mitigation options in other countries, subjecting climate action "to the principles of profit-making, market forces and market growth." This has led to further increases in global inequality and disintegration (Evans & Musvipwa, 2017; Lohmann, 2010), which in turn contributed to losses in trust in the UNFCCC process (Int-1).

4.3 | The Paris Agreement

The 2015 Paris Agreement is characterised by an approach to trust through joint actions toward a mutual goal and shared sense of common fate of aiming "to strengthen the global response to the threat of climate change" (Article 2). It is the only agreement of the three that mentions trust explicitly. Article 13.1 states: "In order to build mutual trust and confidence and to promote effective implementation, an enhanced transparency framework for action and support, with built-in flexibility which takes into account Parties' different capacities and builds upon collective experience is hereby established."

This constructivist approach to the Paris Agreement's goal of keeping warming to below 2°C above pre-industrial levels and possibly limiting it to 1.5°C places trust centre stage by relying on individual Nationally Determined Contributions (NDCs) to achieve this (Lawrence & Schäfer, 2019). Countries are free to submit their own version of best intentions and effort in the form of their NDC and will not be penalised formally if they do not. The Enhanced Transparency Framework specifies how parties shall report on progress in climate change mitigation, adaptation measures and support provided or received. In addition, a naming, blaming and shaming function has



fallen on external actors, who have taken it upon themselves to make sense of individual countries' as well as collective efforts on an ongoing basis, such as the Climate Action Tracker and UNEP Emissions Gap calculations (UNEP, 2022). The first Stocktake took place in 2023 (Aidam, 2024).

A key strategy of the French Presidency in the preparation of the negotiations at COP15 was inclusiveness, so that every negotiator would be able to return home from the COP with something in hand to signal success for their respective country (Int-2; Dimitrov, 2016). The Paris Agreement also introduced more structural diversity. It gives more space to non-party stakeholders in the wider process of achieving its goals, thereby acknowledging their central role in implementation (Obergassel et al., 2022). Diversity is also visible in the broader set of concepts mentioned in its treaty text, such as ecosystem integrity, climate justice and Mother Earth. The treaty even supports different cultural and knowledge traditions and formal or informal systems, including valuing the ability of indigenous perspectives to contribute toward the protocol objectives (Schroeder & N.C. González, 2019; Sillitoe, 2010). Such ideational factors can often have far-reaching effects in that they can trump materialistic power concerns (Neumann & Sendig, 2007). More than in previous climate agreements, the negotiation process has been summarised as politically innovative as well as inclusive, diplomatic and successful (Brun, 2016).

5 | TRUST IN PEOPLE VERSUS TRUST IN INSTITUTIONS IN THE UNFCCC PROCESS

5.1 | Variables of trust

The analysis of our interviews shows that trust is understood and experienced from a very individual and subjective perspective, based on interviewees' life experiences, beliefs, values and norms. There are a number of variables that are repeated across interviewees, the most common of which is transparency, followed by reliability, good faith and shared goals. This compares somewhat with the general literature on trust. Here attributes of ability, integrity and benevolence as well as cooperative behaviours are particularly highlighted (e.g., Gambetta, 1988; Mayer et al., 1995), but perhaps not transparency as much as in our interviews.

1. Reliability and transparency:

“Trust is that you can rely on somebody doing what they said they would do and that they would not use the situation in ways that would affect you negatively” (Int-1/m-E);

“Believing that the other person/actor will behave in the way they say they are going to” (Org-1/m-NA);

2. Good faith and transparency:

“When the person is dealing with you in good faith and that you can take their word at face value and know that any agreement you reach can turn out in good faith; knowing that there are no hidden games being played” (Gov-3/m-LA);

“Trust is basically a part of social capital. It basically happens when you don't need explicit verification of statements, of claim” (Gov-1/m-As);

3. Shared goals and transparency:

“If I know that the person is working toward the same goal without prioritising their hidden agenda, then that trust exists and vice versa” (Int-2/m-AfME);

“For a person it is a certain level of confidence that their values and actions will be aligned with yours, just like your base confidence, not saying everything will be the same” (Org-2/f-E).

Regarding the relationship between one's inner world and one's experiences of the outer world (Ruzicka and Keating 2015) and the difference between trust in people and trust in institutions (Earle & Cvetkovich, 1995; Rotter, 1967; Uslaner, 2018; van der Meer & Hakhverdian, 2016), interviewees made the following observations:

4. Inner-outer relationship:

“Trust is based on an experience” (Org-5/f-E);

“Less reacting out of mistrust but [...] based on actions that can help be a foundation for trust” (Org-3/f-NA).

5. Trust in people vs. trust in institutions:

“You can have trust in persons and trust in processes [...] I always trust individuals rather than institutions” (Org-4/f-E);

“When talking about processes, then it is the fact that these processes will not harm you or your cause, but rather help you achieve” your goals (Org-2/f-E).

5.2 | Social: Trusting people and organisations

Trust in people and organisations is not explicitly mentioned by either the UNFCCC or the Kyoto Protocol, but referred to only in one place in the Paris Agreement, empathising trust building through mutual actions toward shared goals. Moreover, the Paris Agreement is more inclusive in recognising the key role non-party stakeholders are playing as implementers of nationally determined contributions. Our interviews show that there is a good level of social trust in and among negotiators and mixed levels of trust in different sets of countries. They also show that social trust tends to be limited or eroded by politics, in other words, the less political an actor, the higher the social trust in them.

Despite the state-centric approach of particularly the UNFCCC and the Kyoto Protocol, interviewees independently identified the actor groups as particularly relevant in the context of trust. This included not only the negotiators, UN agencies, countries and COP Presidencies, but also NGOs, corporations, billionaires, scientists, youth and faith groups. The state representatives are trusted or not to varying degrees and for varying reasons (see respondents' perceptions of what promotes and hinders social trust in Table 3), whilst the non-state representatives are more squarely divided. There is a lack of trust in NGOs, corporations and billionaires and generally good trust in scientist, youth and faith representatives.

TABLE 3 Summary of respondents' perceptions that help and hinder the development of social trust at individual and national level.

	Factors conducive for social trust building	Factors that hamper social trust building
Individual level	<ul style="list-style-type: none"> # personal relationships # social bonding: lived and shared experience # intra-group trust: within an interest group 	<ul style="list-style-type: none"> # personal agendas and vested interests # behaviour that is steeped in politics, suspicion, caution, diplomacy and secrecy # representation: taking orders from their capital # lack of inter-group trust: mistrust of "others"
Country level	<ul style="list-style-type: none"> # honesty (or transparency) # shared values # authenticity # neutrality # qualities and competencies of people/organisations # inclusivity # science due to the scientific method # moral interests (youth, faith) 	<ul style="list-style-type: none"> # lack of integrity or shared goals or values # exclusivity # lack of transparency # power: billionaires and corporations # politics of deception and secrecy

5.2.1 | Negotiators

At the level of the negotiators themselves, interviewees highlighted the ongoing importance of personal relationships and bonding for strong social trust to emerge, whilst personal agendas and self-serving attitudes break this trust. Furthermore, negotiator behaviour that creates distrust is one that is steeped in politics, vested interests, suspicion, caution, diplomacy and secrecy—all of which are often characteristic of international negotiations (Gunia et al., 2014; Lahsen, 2016).

A key point about trust and the UNFCCC negotiations at large is the interviewee's perspective that "Trust is so human" and "a human being can trust a human being. So, if people [including negotiators] have good relationships with each other, [...] then we can listen to each other" (Org-5/f-E). Furthermore, "Lived and shared experience" creates "some kind of bonding. The more the people have engaged in sleepless nights together fighting over a comma or shall vs should also tend to generate a certain modicum of trust" (Gov-3/m-LA). This shows that trust can be built among people merely by sharing an experience. It is also mentioned that negotiators "trust their natural allies" (Org-5/f-E) and "coalition partners" (Gov-2/f-As).

Where politics and vested interests come in is precisely where social trust is inhibited: "I just made a friend with someone I can't talk to publicly because we're technically at war with each other" (Org-3/f-NA). In other words, "negotiators can be the best of friends, but if they have clear orders from their capital to not move in certain ways, then all the trust in the world" will not help (Org-1/m-NA). Thus, "when you speak of countries or negotiations, you enter an area of

suspicion and caution and diplomacy and secrecy, and you enter a world of mistrust" (Org-5/f-E).

Generally, "official representatives of countries" seem to be not trusted as they "use beautiful words but don't act on them" (Org-2/f-E). It was also mentioned that "Governments are political. [...] they are elected by the people" but they often pursue a "personal agenda" (Org-5/f-E) and are rather "business negotiators" (Gov-2/f-As). Put bluntly, "a good part of it is simply a self-serving group of people who take part in this ritual because they personally benefit from it" (Int-3/m-E). Thus, given the oftentimes political nature of their actions, social trust is questioned and weak.

5.2.2 | Countries

At the level of countries, honesty (or transparency) is highlighted as a key attributor to social trust. For some actors, that is government representatives, this is sufficient to build social trust, whilst for others, that is observer representatives, shared values are deemed decisive for building trust. Such different views on country commitments (leaders and laggards), less so on trustworthiness, are also documented in the literature (see, for example, Dröge, 2010; Wurzel et al., 2018).

Countries are trusted or not for different reasons. One developing country interviewee trusts the EU for its size and because it negotiates "collectively through a long process", so are speaking honestly when saying they could be more ambitious. The small island states are trusted for the same reasons and because "they are screwed" (Gov-1/m-As). Similarly, "the US is one of the few countries I trust in what they are saying. [...] The negotiators are given very certain mandates on how and what to negotiate. As such they are very transparent" (Gov-1/m-As). Trust is thus based on authenticity for these government representatives. A contrary perspective is raised by an observer representative: "I would put Saudi Arabia at the top of that list [of which country is not so trustworthy], maybe the US is at top of that list" (Org-1/m-NA). These statements show that trust can be broken based on lack of integrity or shared goals/values for an observer representative. This might be due to their generally more morally motivated standpoint, which observers bring to the negotiations, but historical and social conditions could have played into this as well.

5.2.3 | UN agencies

A key social trust attribute for this actor group is level of neutrality as well as the qualities of agency leadership, which has been found to be decisive in the literature as well (Saerbeck et al., 2020).

One interviewee from a UN agency stated that "the UN agencies by and large are trusted by parties" (Int-1/m-E), and, in particular, the UNFCCC Secretary General, "because her mandate is to be neutral" and that "People might think she is not following any personal interests like some delegates or business representatives or NGOs" (Org-2/f-E). Former Secretary General Figueres (2022) was



highlighted repeatedly as particularly trustworthy; “You could trust Figueres, because she was an amazing thinker and she would get everyone together” (Org-5/f-E). It was also said that “the UNFCCC works very hard on [...] behalf of non-party stakeholders to improve participation and transparency” (Org-4/f-E). This is an example where trust is built based on people and then extends to the institution, specifically the particularly trustworthy demeanour of former Secretary General Figueres (2022) that built trust in the institution she led.

5.2.4 | COP presidencies

Several interviewees and academic studies have found transparent COP presidencies to be key to trust building (Depledge, 2007; Walker & Biedenkopf, 2020). Contrarily, a lack transparency on behalf of presidencies has broken trust in the past, most notably at COP-15 in Copenhagen.

COP Presidencies use the year prior to the COP to build trust and aim “to be seen as an honest broker” (Int-2/m-AfME). Different countries have done this in different ways. In the case of the French Presidency of COP-21, the French Foreign Minister, Laurent Fabius recognised the importance of trust-building. “He would listen to all sides, take everything on board, not succumb to pressure, including from his own constituency, and produce something acceptable to all” (Int-2/m-AfME). In contrast, in Copenhagen at COP-15, “trust was totally lost in the last days when things were happening behind closed doors [...]”. The manifestation of the lack of transparency was when President Obama had a press conference and said we have a deal, where the people who believe they are the decision makers did not know what he was talking about” (Int-2/m-AfME). This clearly shows the extent to which transparent action and inclusiveness play a role in trust-building.

5.2.5 | NGOs

NGOs are perceived by several interviewees as lacking transparency and pushing certain agendas, whilst recent scholarship is rather silent on this issue.

NGOs are not viewed favourably by government, intergovernmental or observer representatives: “I would not say the NGOs are my most trusted constituency” (Gov-1/m-As) and “for those trying to conduct negotiations, there is a mixed feeling around NGOs” (Org-1/m-NA), as “many NGOs are seen as pushing certain agendas for reasons that are not transparent” (Int-1/m-E). “There is certainly a discomfort with some strategies or positions taken by NGOs” (Org-1/m-NA), based on some of their untransparent political agendas.

5.2.6 | Corporations

Their politics of deception and secrecy weaken social trust in this group. Some of the biggest culprits, including pharma, fashion, steel and cement (Belkhir & Elmeligi, 2019; Brewer, 2019) are still able to hide behind scapegoat industries such as aviation, meat and oil.

There is a “mistrust of the corporate sector” (Org-4/f-E) and the “representatives of businesses and companies” (Org-2/f-E), in particular “corporations that are now far more powerful than whole countries, richer than whole countries”, making it obvious that “ways to corner those large, hidden emitters” need to be found (Int-2/m-AfME). Moreover, “There is a lot of mistrust against the BINGOs (the business and industry NGOs). There are people who actually want to exclude fossil fuel companies from the negotiations. To me that reflects a deep mistrust of those actors and what they are doing there” (Org-1/m-NA). Furthermore, “The biggest offenders are steel and cement. Very nicely hidden behind oil companies [...]. The poor aviation industry, which gets the biggest trouble, they are the most heavily taxed already, are responsible for far less than many others”, suggesting that “information and data” be made available to “consumers and shareholders to take the right decisions” (Int-2/m-AfME).

5.2.7 | Billionaires

There is also mounting awareness of the excessively high carbon footprint of the world's super-rich (Barros & Wilk, 2021; Kenner, 2019) and ignoring this group is also a source of lack of trust.

The world's billionaires could be pressured much more to “offset or reduce their emissions” (Int-2/m-AfME), given that “the 2280 billionaires emit twice as much as the aviation industry”. The flaw has been the “focus on the national level throughout” (Int-2/m-AfME). This lack of engagement with a critical group of people in terms of power and emissions reflects adversely on the trust in institutions that target the wrong actors.

5.2.8 | Scientist, youth and faith groups

These less political actors that derive their legitimacy from ethical grounds (Wamsler et al., 2020) are seen as more trustworthy by the interviewees and in academic studies. This was clearly expressed by one interviewee from a governmental organisation who stated that, “Everyone trusts scientists” (Gov-2/f-As), including the IPCC, because “science is a communal and transparent process” (Gov-1/m-As). Youth and faith are similarly well trusted: “I think the youth voice has been a profound shift in part because it's more moral and less political. And I think the faith groups also have an under-utilised power on that level too because they are also seen as less political and everybody in every country can relate to some kind of faith communities, so it touches something” (Org-2/f-E).

5.3 | Political: Trusting institutions, structures and processes

Trust in UNFCCC institutions, structures and processes is, as the limited but insightful interview data demonstrates, much more broken than trust in people and organisations. Table 4 below highlights interviewees' perception on political trust building and insights from the

TABLE 4 Summary of respondents' perceptions of what promotes political trust-building and what strengthens or weakens political trust, broken down by structural elements.

Structural elements	Factors that strengthen political trust	Factors that weaken political trust
The UNFCCC process	# Informal space can enhance space for decision-making "behind closed doors"	# Political nature & structure: country delegates represent interests of their states rather than aiming for broader global objectives # The current negotiation structures foster a lack of honesty and a sense of falling short or are ineffective # Lack of or unequal representation of the least privileged # Clash of interests due to lack of common values and goals
The North-South divide	# Deliver on promises (Global North)	# Power asymmetries: Finances # Lack of commitment # Disproportionate representation of the unprivileged by the privileged
The patriarchal structure		# Gender imbalance in distribution # Lack of social fabric
The market		# Social paradigm of a growth economy and ever-present focus on market forces
The scientific process	# Scientific method and processes of the IPCC # A way to generate knowledge and learn	# Lack of action on this trust on science
Trust-building processes	# Distinct formats for trust-building: Talanoa Dialogue # Institutionalisation of social interaction # Informal spaces for social bonding	

Abbreviation: UNFCCC, United Nations Framework Convention on Climate Change.

literature shows different structural elements that strengthen or weaken political trust. A major factor that weakens political trust is the sheer nature of the negotiating process itself that was laid out by the Convention in 1992 as well as the realist and neo-liberal paradigms it is embedded in. Beyond the UNFCCC process, structural elements related to the international climate negotiations that were identified as fuelling this lack in political trust include the market, the North-South divide and the broader patriarchal structure. The

scientific process and trust-building processes started with the Paris Agreement were commented on more positively across interviewee groups.

5.3.1 | The UNFCCC process

The process itself has been riddled with paradoxes and conflicts of interest. These include representing and thus prioritising the interests of the powerful over the wellbeing for all of humanity and nature at large and spending so much time and resource on procedural elements to render the process ridiculous and destructive (Rietig et al., 2023).

Most importantly, the nature of the UNFCCC process itself is such that it makes trust building difficult. As expressed by one interviewee, "We have governments negotiating on behalf of their countries to solve the global problem. And these governments are elected to serve their own countries, not to save the world. And so, in serving their country, [...] if they are prioritising their country's wellbeing over the global goal, then that is perceived as lack of trust" (Int-2/m-AfME). The "agenda fights" that take place at the beginning of each COP are also seen as rooting in distrust: The question of what "we are actually speaking about is often the subject of two days of negotiations [...]. There are these big fights about can we talk about this? And it's immediately a subject of a trade" (Int-3/m-E), resulting in an unhelpfully overloaded agenda. And whilst countries are busy fighting this out, the world and nature are not represented; The voice that comes the closest might be the "indigenous voice" (Org-2/f-E), which the recently established Local Communities and Indigenous Peoples Platform has helped to elevate (Shawoo & Thornton, 2019).

Another structural hurdle is that "all negotiators are taught to negotiate in the same way. And that same way means you cannot be honest from Day 1. Don't reveal all your cards or you'll be taken advantage from" (Int-2/m-AfME). This is seen as "an expression of deep mistrust because when you are on the record, when everybody is listening you are basically pushing out your maximum position. And it's all about [...] not giving up anything too early, which is also why these COPs run ridiculously overtime" (Int-3/m-E). And "if one country holds out, then nothing can happen", plus "you have a myriad of issues that need to be resolved and they are often [...] discussed in parallel" (Int-1/m-E). This leads to the problem that "For many smaller countries that's mission impossible", meaning "they will always feel that there is a lot happening that they don't understand" because they cannot participate, leading "to a general unease" (Int-1/m-E). There is also a lack of "grounding of why we're here in terms of asking ourselves with each decision, how does this influence the wellbeing of people and nature? What are the core values on which our decisions are made? And that can sound idealistic, but you can see how [without it] we're left to basically money and the decision of cost continues to be about finances rather than cost to nature, species extinction, etc., including our own" (Org-2/f-E).

Plenary sessions are seen as "appalling and a grotesque waste of very expensive time. You have a big room full of 180 delegations [...]"



and people go on with what is blatantly bla bla. [...] It does not look to me like a good process” (Int-1/m-E). The High-level Segment typically lasts several days and has each delegation and constituency present their position, and “all of these statements are just stating the obvious. Well, I mean it is not a surprise if every developing country comes again and again and again with we want to have a hundred billion a year as of 2020. [...] But the feeling is if I don't repeat it this time then it will be noticed, and people will basically understand it as a signal that I am giving up on my position” (Int-3). It can be seen as particularly “grotesque” given the many negotiations and deals “that happen behind closed doors” (Int-1/m-E). In other words, as a whole “the negotiations have got to a point where they're so ridiculous they are destructive” (Org-2/f-E).

5.3.2 | The North-South divide

The divide between former colonial victims and perpetrators still perpetuates mistrust between the two groups of countries, playing out especially on the issue of climate finance (Ciplet et al., 2022; Roberts & Park 2006).

Finances are seen as a core underlying cause for the North-South divide and resulting mistrust between the two camps, where perhaps “both sides are incorrect in their perception of the intentions of the other side” (Int-2/m-AfME). From the perspective of the South, “the North has made promises it never delivered. The famous 100 billion [...]. What would really build trust is doing what they promise to do, that concerns mostly the North [...]. They say yes to something for the sake of an agreement, so the heads of governments don't stand there empty at the end of a meeting. But these promises are then difficult to keep” (Int-1). This perpetuates a fear among developing country representatives “that we're just being sucked into the wealthy advantage again” (Org-2/f-E). Hence, “there is a massive level of mistrust on finance in particular. And it borders on matters of worldview” (Int-2/m-AfME). But “there is also a feeling on the side of OECD countries that quite often people are arguing basically and defending themselves with the misery of the people they are speaking for while those who actually do speak live an international jet set life, well-paid delegates”. This and the “very deeply rooted distrust of developing countries versus developed countries” demonstrates the “invisible divide in the room between the ex-colonial masters and the ex-colonial servants” (Int-3/m-E).

5.3.3 | The patriarchal structure

Perception of male domination and a reductionist focus on carbon that spans across the Convention, the Kyoto Protocol and the Paris Agreement are further sources of distrust (Maguire et al., 2023).

Only one interviewee highlights the way in which the process is patriarchal in its structure in a negative kind of way and how the focus on is carbon reductionistic, but this view is also held in the literature (see, for example, Hulme, 2023; Høyer, 2010; Hultman &

Anshelm, 2017). The interviewee remarked that “the negotiations are so male, primarily male-dominated not just in that you have to be male but in the whole way of thinking”, and “they have this whole way of exhausting people – you know, it's the classic kind of male approach” (Org-2/f-E). A related point is that “there isn't that sense of unity” and. [...]“so often we just talk about reducing carbon and it takes away the heart and soul of what's at stake” (Org-2/f-E), or, in other words, the social fabric of the process.

5.3.4 | The market

Similarly, the market-driven solution approach that again spans across the three agreements is mentioned as a source of mistrust by one interviewee as well as in the literature (Blum, 2019; Lohmann, 2011).

The dominant social paradigm of a growth economy and ever present focus on market forces is raised by one interviewee: “My sense is that the focus on the market base, the economic efficiency of it all has been a huge setback on all environmental fronts” and “The belief the market would do this best and at the lowest possible cost was very simplistic and ideological thinking behind it that led us to where we are now” (Int-1/m-E).

5.3.5 | The scientific process

The more objective process of science, including the IPCC, are broadly trusted by interviewees as non-scientists. The academic literature is not entirely trusting of the IPCC process (Henderson, 2007), alluding also to a “dominant discourse of science” (Lahsen 2007: 173) and pointing to a “lack of transparency in integrated assessment models” and resulting credibility questions (Robertson 2021).

The scientific process is seen favourably: “I think the highest level of trust is in the science, in the IPCC process” (Int-2/m-AfME) and “I think research is also something people feel they can trust. So, they can get an objective vision, to be educated and take the right decision.” And, “to build that trust, they created the IPCC, where there were very broadly representatives of countries, negotiations, Western science and then it goes through the rehearsal with the policy summary that is actually approved by governments before it then becomes the basis for negotiations, which of course from a science point of view it is a problematic process, but it has ensured that what is in the report is not questioned as the factual basis” (Int-1/m-E). Yet, “they trust science, but they don't actually follow the guidelines. Weird kind of trust” (Org-5/f-E).

5.3.6 | Trust-building processes

Institutional responses to trust building based on an institutionalisation of social interactions are already being developed (Mar et al., 2023). Trust building here is squarely based on an institutionalisation of social interaction.

In terms of trust-building processes, the Talanoa Dialogue hosted by the Fijian presidency is highlighted as having been very positive (Org-2/f-E). Also, “the monthly informal consultations that the two presidencies are currently facilitating, they call it the Road to COP” are mentioned as “good for building trust” (Org-2/f-E), as are “Initiatives of having breakfast or dinner with different negotiators so that they start knowing each other and having conversations, so that’s building trust” (Org-5/f-E).

6 | RELATIONAL DYNAMICS BETWEEN SOCIAL AND POLITICAL TRUST

Our analysis shows how institutional trust needs to be accompanied with lived social trust for any political arrangement to be functional. It also shows clear differences in how the three agreements shape trust and that the recognition of the role of trust in steering climate negotiations is slowly increasing over time.

The liberal-leaning approach to trust in institutions, in particular the market economy, is implicit in all UNFCCC agreements, but particularly in the 1992 Convention itself with its focus on process and explicitly embedding it in a sustainable development context. The UNFCCC appears to be aiming for building and requiring political trust (“trusting institutions”). However, our interview data shows that trust in institutions among participants is limited due to certain inert elements of the process itself, the long-standing North–South divide, the underlying patriarchal structure and an unwavering faith in the market.

The realist view of trust in no one comes out in the 1997 Kyoto Protocol’s approach to centrally negotiated, legally binding targets and timetables for developed countries and an easily escapable compliance mechanism. The Kyoto Protocol seems to suggest that (dis)trust is not a variable to count on. Thus, social and political trust would be either irrelevant or simply not present. Our interview data suggests that social trust exists to some degree. But the logic of everyone against everyone is present and shapes the felt experience of conference attendees in a performative kind of way, thus hindering trust to play a positive role.

The constructivist view is most strongly represented in the 2015 Paris Agreement with its approach of inviting contributions from individual parties toward the mutual goals of mitigation, adaptation and finance that can be nationally determined, implemented and strengthened over time. It is based on the trust that these contributions added up would gradually move toward meeting the agreement’s stated objectives. Non-party stakeholders are given an explicit role in implementation. The Paris Agreement thus has a more encompassing take on trust as being built via shared actions and common fate and sense-making. The strong role of social trust found in the interviews underlines this view on trust.

We see limited social trust and low political trust in the interview data, which would be no surprise to regular COP participants. Regarding the latter, this is evident in the power imbalances and unequal distribution of representatives during the negotiations given the vastly

different delegation sizes (Schroeder et al., 2012) and also in that the adoption of the agenda or any decisions requires consensus, meaning they can be very lengthy processes and subjected to procedural manipulations. States with significant vested interests either do not deliver what they promise or block the negotiations because they represent (financial) state interests. Political manoeuvrings reinforce a sense of mistrust through a lack of transparency and honesty. These structures promote predominant trust characteristics in which people trust their own groups (intra-group trust) but not others (inter-group trust). Building trust would require more informal spaces for exchange, a timely delivery of promises to the Global South, delivery of robust science and introduction of additional trust-building formats.

On a personal level, this barrier of political mistrust can be overcome when people work together by spending informal time with each other, creating social bonds or sharing experiences (Wamsler et al., 2022). Honesty, transparency and authenticity are qualities that strengthen trust on a personal level. And, sometimes, simply long negotiations in which all negotiators realise that they are in the same boat, experiencing sleepless nights or sharing humorous human moments, the ‘they’ transitions into a ‘we’. Similarly, this can happen when a common understanding of values and goals is created, as desired by individual interview partners: “it is a certain level of confidence that their values and actions will be aligned with yours” (Org-2/f-E).

7 | DISCUSSION AND CONCLUSION

Since the Paris Agreement, the role of trust has slowly become more recognised in the international climate negotiations, influencing (non)action on climate change adaptation and mitigation. Diving into the analysis of trust designs and perceptions, we can summarise that, first, the liberal view of *trusting in institutions*, in particular the market economy, is implicit in all UNFCCC agreements, particularly the Convention itself with its focus on institutional process (stronger political trust). Second, the realist view of *trust in no one* is implicit in the Kyoto Protocol’s introduction of legally binding targets and timetables for developed countries. This includes a compliance mechanism that penalised non-compliant countries in the following commitment period, if they remained onboard. As no countries remained, overall political trust is weak. Third, the constructivist view is most strongly visible in the Paris Agreements’ approach. Here, contributions toward the mutual goals of mitigation, adaptation and finance are nationally determined and implemented by each party to the agreement, trusting that they will add up to achieving the overall objectives (stronger political trust). The verdict on whether a constructivist approach with a stronger trust base a la Paris Agreement will be more productive long term is still out, however. We conclude that the three agreements emphasise different roles of trust and thereby produce different levels of political trust. We see a multifaceted picture of both the institutional designs and implicit roles of trust as well as the actual experience of trust and distrust among conference participants.

Our analyses thus show tensions and contradictions between human agency and intention, on the one hand, and political agency and process, on the other. These tensions and contradictions are such that, although delegates at the COPs do at least in part trust each other, they meet in a context marked by lack of political trust. Despite these hindering political conditions delegates are capable of meeting as humans in trusted, safe spaces and developing trust in each other (Wamsler et al., 2020), which can facilitate exchange and joint action on difficult matters. Yet, without changing the factors influencing political trust, there is limited possibility to harness the fruits of the existing social trust base (Wamsler et al., 2022). A substantial showing of trust was the agreement on the Paris Agreement architecture, which puts the responsibility in the hands of countries through the NDCs architecture, though the resulting modest emissions reductions have shown that this trust has not yet been earned.

Through our interview data, we come to understand that social trust is stronger in less politically motivated interactions, and political trust can be weak or strong regardless of social trust. If taken out of a fabric of social trust, at its worst, negotiators can seem like empty, remote-controlled vessels bound by the dictates of their government's demands and competing for maximum gain, rather than working together for the benefit of current and future generations and the wellbeing of humankind. Our evidence illustrates this and is consistent with other scholars such as Feola et al. (2021) and Bluwstein (2021) in that the incentives behind this behaviour are rooted in our general capitalist economic culture and dominant social paradigm. Leventon et al. (2024) argue that interventions such as providing structures and designs for building trust are hampered by these broader social paradigms. Transformative change will then require these paradigms and norms to be balanced with more inclusive and nurturing approaches. Without this, it is not a surprise that trust is not more prevalent, and it can be concluded that distrust is a healthier option compared to blind trust.

Even though we recognise the limitation of our data set, evidence from the interview analysis suggests further research into the presence of deception in negotiation practices, such as that a delegation's cards cannot be revealed until the end and that negotiators (Int-2/m-AfME). In addition, more systematic studies on trust could be conducted in the future to determine the extent to which the composition and distribution of participation pose challenges to trust. Within the UNFCCC process, there are obvious shortcomings in the inclusion of nature and younger and future generations in the negotiations (Org-2/f-E; Thew et al., 2021). Further shortcomings arise from ongoing tensions between the Global North and the Global South and from structural inequity creating disadvantages for smaller, poorer countries in that they do not have the (human) resources to follow all parallel meetings simultaneously (Schroeder et al., 2012).

Moving forward, to shift these shortcomings that create mistrust in the UNFCCC process, we ultimately need to change elements of the UNFCCC institutional design. This is no small task, as there is clearly a lack of political trust for good reasons. To support a process toward deliberation on the deeper changes needed, we suggest, as an interim step, the following three ways to create institutional

structures for building social trust: Emphasise safe and brave exchanges, foster relationship building and use facilitation practices.

In line with Article 18.1 of the Paris Agreement that explicitly mentions the goal of building trust, we recommend building on several tested spaces and dialogues: First, the Cartagena Dialogue for Progressive Action engaged in discussions to better understand one another's negotiating positions and find middle ground. Second, the Durban Alliance brought the global North and South together to address the North–South divide (Blaxekjær & Nielsen, 2015). These two examples brought together industrialised and industrialising countries. Two further efforts implemented in recent COPs are the Talanoa Dialogue and the Co-Creative Reflection and Dialogue Space. The former was carried out as a state-level effort in 2018–19 and has been continued as an effort spearheaded by interfaith communities at the beginning of recent COPs in Glasgow (2021), Sharm El-Sheikh (2022) and Dubai (2023) (Dagnet et al., 2021; Mundaca et al., 2019). The latter was implemented as a transdisciplinary research-based intervention to understand and foster communication at the COPs in Katowice (2018), Madrid (2019), Glasgow, Sharm El-Sheikh and Dubai (Fraude et al., 2021; Lawrence et al., 2022; Mar et al., 2023; Wamsler et al., 2020).

(In)formal spaces where different opinions, worldviews and interests can be exchanged should also be included in political negotiations to develop mutual trust via social interaction and learning (Beyers & Leventon, 2021) as well as to link inner and outer dimensions of transformation mentioned earlier (Ives et al., 2023; Wamsler et al., 2020, 2021; Ruzicka and Keating 2015; Woiwode et al., 2021). Institutional designs should promote structures and conditions in which informal (or inner) concerns such as personal stories, worldviews and narratives, emotions or fears can be shared in (in)formal spaces and not only (related outer) facts are discussed by stakeholder representatives. This way, personal relationships can emerge that transcend stakeholder boundaries to tackle challenges together (Beyers, 2024), and experiences of a shared humanity and compassion can address the underlying root causes of disconnection from self and others (Rosa, 2019).

A small body of work explores facilitative practices, principles and structures that aim to build social trust (Mar et al., 2023; Wamsler et al., 2020). Reflection and dialogue-oriented formats use principles and methods that can contribute to establishing pathways toward a trusting communication culture by engaging with people's beliefs, values, worldviews, emotions and motivations (Fraude et al., 2021). The outcome could be the creation of an enabling environment for action and the development of networks for system change, through challenging current unsustainable norms, cultures and structures (Mar et al. 2023) and by supporting collaboration and relationality (Mar et al. 2023; Walsh et al., 2021). More research is, however, needed to understand how such formats can be upscaled (Schäpke et al. 2023) and implemented in the negotiation processes. This includes the important question of how issues of power and politics can be better considered in the context of building trust. In a nutshell, the tension between politics and trust is what needs resolving if there is to be a safe (Bruhn et al., 2024) and productive future for the UNFCCC.

ACKNOWLEDGEMENTS

The authors would like to thank the interviewees who generously offered their time and expertise. The work of the Research Institute for Sustainability–Helmholtz Centre Potsdam is funded by the German Federal Ministry for Education and Research (BMBF) and the State of Brandenburg Ministry for Science, Research and Culture (MWFK). The work of Christine Wamsler was supported by two projects funded by the Swedish Research Council Formas: (i) Mind4Change (grant number 2019-00390; full title: Agents of Change: Mind, Cognitive Bias and Decision-Making in a Context of Social and Climate Change), and (ii) TransVision (grant number 2019-01969; full title: Transition Visions: Coupling Society, Well-being and Energy Systems for Transitioning to a Fossil-free Society).

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ORCID

Heike Schroeder  <https://orcid.org/0000-0003-2342-2030>

REFERENCES

- Aidam, K. (2024). COP28 and the global stocktake: A weak attempt to address climate change. *Frontiers in Sustainability*, 5, 1388266.
- Alexander, E. R. (2005). Institutional transformation and planning: From institutionalization theory to institutional design. *Planning Theory*, 4(3), 209–223.
- Barros, B., & Wilk, R. (2021). The outsized carbon footprints of the super-rich. *Sustainability: Science, Practice and Policy*, 17(1), 316–322.
- Belkhir, L., & Elmeligi, A. (2019). Carbon footprint of the global pharmaceutical industry and relative impact of its major players. *Journal of Cleaner Production*, 214, 185–194.
- Beyers, F. (2024). Collaborative governance and personal relationships for sustainability transformation in the textile sector. *Scientific Reports*, 14(1), 13347.
- Beyers, F., & Leventon, J. (2021). Learning spaces in multi-stakeholder initiatives: The German partnership for sustainable textiles as a platform for dialogue and learning? *Earth System Governance*, 9, 100113.
- Blaxekjær, L. Ø., & Nielsen, T. D. (2015). Mapping the narrative positions of new political groups under the UNFCCC. *Climate Policy*, 15(6), 751–766.
- Blum, M. (2019). The legitimization of contested carbon markets after Paris—Empirical insights from market stakeholders. *Journal of Environmental Policy & Planning*, 22(2), 226–238.
- Bluwstein, J. (2021). Transformation is not a metaphor. *Political Geography*, 90, 102450.
- Böhringer, C. (2003). The Kyoto protocol: A review and perspectives. *Oxford Review of Economic Policy*, 19(3), 451–466.
- Braithwaite, V., & Levi, M. (Eds.). (1998). *Trust and governance*. Russell Sage Foundation.
- Brewer, M. K. (2019). Slow fashion in a fast fashion world: Promoting sustainability and responsibility. *Laws*, 8(4), 24.
- Bruhn, T., Schöpke, N., Fraude, C., Bendlin, L., Dirar, A., Fang, M., Finn, K., Goodman, M., Simon, L., Kunkel, S., Mandal, S., Mangondo, N., Mar, K. A., Peringer, C., Schroeder, H., Siegel, J. A., Tronchon, J., Tsuyuki-Tomlinson, C., Virah-Sawmy, M., ... Lawrence, M. G. (2024). Safe spaces in unsafe environments—Experiences from COP26 about hosting inclusive spaces for deep encounters and reflection. In *Transdisciplinarity for transformation: Responding to societal challenges through multi-actor, reflexive practices* (pp. 193–224). Springer International Publishing.
- Brun, A. (2016). Conference diplomacy: The making of the Paris agreement. *Politics and Governance*, 4(3), 115–123.
- Ciplet, D., Falzon, D., Uri, I., Robinson, S.-A., Weikmans, R., & Roberts, J. T. (2022). The unequal geographies of climate finance: Climate injustice and dependency in the world system. *Political Geography*, 99, 102769.
- Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, 13, 3–21.
- Dagnet, Y., Simeonova, K., Cogswell, N., Holt, M., La Vina, T., & Warszawski, N. (2021). *Toward more effective implementation of the Paris agreement: Learning from 30 years of experience*. Working Paper. World Resources Institute. <https://doi.org/10.46830/wriwp.20.00069>
- Depledge, J. (2007). A special relationship: Chairpersons and the secretariat in the climate change negotiations. *Global Environmental Politics*, 7(1), 45–68.
- Dimitrov, R. S. (2016). The Paris agreement on climate change: Behind closed doors. *Global Environmental Politics*, 16(3), 1–11.
- Dröge, S. (2010). International climate policy: Priorities of key negotiating parties. In *SWP research paper*, No. RP 2/2010. Stiftung Wissenschaft und Politik (SWP).
- Earle, T. C., & Cvetkovich, G. T. (1995). *Social trust: Towards a cosmopolitan society*. Praeger.
- Eek, D., & Rothstein, B. (2005). Exploring a Causal Relationship between Vertical and Horizontal Trust. https://gupea.ub.gu.se/bitstream/2077/39200/1/gupea_2077_39200_1.pdf
- Evans, H. C., & Musvipwa, R. (2017). The sustainable development goals, the Paris agreement and the Addis agenda: Neo-liberalism, unequal development and the rise of a new imperialism. In T. Halvorsen, H. Ibsen, H.-C. Evans, & S. Penderis (Eds.), *Knowledge for justice*. African Minds and The Southern African-Nordic Centre.
- Feola, G., Koretskaya, O., & Moore, D. (2021). (Un)making in sustainability transformation beyond capitalism. *Global Environmental Change*, 69, 102290.
- Figueres, C. (2022). Solving climate change requires a new social contract. *Time Magazine* <https://time.com/6140430/climate-change-trust/>
- Fraude, C., Bruhn, T., Stasiak, D., Wamsler, C., Mar, K., Schöpke, N. A., Schroeder, H., & Lawrence, M. (2021). Creating space for reflection and dialogue: Examples of new modes of communication for empowering climate action. *GAI-ecological Perspectives for Science & Society*, 30(3), 174–180.
- Gambetta, D. (1988). Can we trust trust? In D. Gambetta (Ed.), *Trust: Making and breaking cooperative relations* (pp. 213–237). Blackwell.
- Gunia, B., Brett, J., & Nandkeolyar, A. K. (2014). Trust me, I'm a negotiator: Diagnosing trust to negotiate effectively, globally. *Organizational Dynamics*, 43(1), 27–36.
- Gupta, J. (2016). Climate change governance: History, future, and triple-loop learning? *WIREs Climate Change*, 7(2), 192–210.
- Henderson, D. (2007). Unwarranted trust: A critique of the IPCC process. *Energy & Environment*, 18(7), 909–928.
- Henry, A. D., & Dietz, T. (2011). Information, networks, and the complexity of trust in commons governance. *International Journal of the Commons*, 5(2), 188–212.
- Holmberg, J., & Larsson, J. (2018). A sustainability lighthouse—Supporting transition leadership and conversations on desirable futures. *Sustainability*, 10(11), 3842.
- Høyer, C. G. (2010). Seven theses on CO₂-reductionism and its interdisciplinary counteraction. In R. Bhaskar, C. Frank, K. G. Høyer, P. Naess, & J. Parker (Eds.), *Interdisciplinarity and climate change* (pp. 19–30). Routledge.
- Hulme, M. (2023). *Climate change Isn't everything: Liberating climate politics from alarmism*. Polity.

- Hultman, M., & Anshelm, J. (2017). Masculinities of global climate change: Exploring ecomodern, industrial and ecological masculinity. In M. Griffin Cohen (Ed.), *Climate change and gender in rich countries* (pp. 17–33). Routledge.
- Ives, C. D., Schöpke, N., Woiwode, C., & Wamsler, C. (2023). IMAGINE sustainability: Integrated inner-outer transformation in research, education and practice. *Sustainability Science*, 18, 2777–2786.
- Kenner, D. (2019). *Carbon inequality: The role of the richest in climate change*. Routledge.
- Keohane, R. O., & Victor, D. G. (2011). The regime complex for climate change. *Perspectives on Politics*, 9(1), 7–23.
- Kuyper, J., Schroeder, H., & Linnér, B.-O. (2018). The evolution of the UNFCCC. *Annual Review of Environment and Resources*, 43, 343–368.
- Lahsen, M. (2007). *Distrust and participation in international science and environmental decision making: Knowledge gaps to overcome*. The social construction of climate change (pp. 173–196). Ashgate Publishing Limited.
- Lahsen, M. (2016). Trust through participation? Problems of knowledge in climate decision making. In *The social construction of climate change* (pp. 173–196). Routledge.
- Lawrence, M., Williams, S., Nanz, P., & Renn, O. (2022). Characteristics, potentials and challenges of transdisciplinary research. *One Earth*, 5, 44–61.
- Lawrence, M. G., & Schäfer, S. (2019). Promises and perils of the Paris agreement. *Science*, 364(6443), 829–830.
- Leventon, J., Buhr, M., Kessler, L., Rodriguez Aboytes, J. G., & Beyers, F. (2024). Processes of sustainability transformation across systems scales: Leveraging systemic change in the textile sector. *Sustainability Science*, 19, 469–488.
- Lohmann, L. (2010). Uncertainty markets and carbon markets: Variations on Polanyian themes. *New Political Economy*, 15(2), 225–254.
- Lohmann, L. (2011). The endless algebra of climate markets. *Capitalism Nature Socialism*, 22(4), 93–116.
- Maguire, R., Carter, G., Mangubhai, S., Lewis, B., & Harris Rimmer, S. (2023). UNFCCC: A feminist perspective. *Environmental Policy and Law*, 53(5–6), 369–383.
- Mar, K. A., Schöpke, N., Fraude, C., Bruhn, T., Wamsler, C., Stasiak, D., Schroeder, H., & Lawrence, M. G. (2023). Learning and community building in support of collective action: Toward a new climate of communication at the COP. *WIREs Climate Change*, 14, e832. <https://doi.org/10.1002/wcc.832>
- Marion Suiseeya, K. R., Elhard, D. K., & Paul, C. J. (2021). Towards a relational approach in global climate governance: Exploring the role of trust. *WIREs Climate Change*, 12(4), e712.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *The Academy of Management Review*, 20(3), 709–734.
- Mundaca, L., Sonnenschein, J., Steg, L., Höhne, N., & Ürges-Vorsatz, D. (2019). The global expansion of climate mitigation policy interventions, the Talanoa dialogue and the role of behavioural insights. *Environmental Research Communications*, 1, 061001.
- Neumann, I. B., & Sendig, O. J. (2007). 'The international' as governmentality. *Millennium*, 35(3), 677–701.
- Newton, K. (2009). Social and political trust. In R. J. Dalton & H.-D. Klingemann (Eds.), *The Oxford handbook of political behavior*. Oxford Academic.
- Newton, K., Stolle, D., & Zmerli, S. (2018). Social and political trust. In E. Urslaner (Ed.), *The Oxford handbook of social and political trust* (pp. 37–56). Oxford University Press.
- Obergassel, W., Bauer, S., Hermwille, L., Aykut, S. C., Boran, I., Chan, S., Fraude, C., Klein, R. J., Mar, K. A., Schroeder, H., & Simeonova, K. (2022). From regime-building to implementation: Harnessing the UN climate conferences to drive climate action. *Wiley Interdisciplinary Reviews: Climate Change*, 13(6), e797.
- Oberthür, S., & Lefeber, R. (2010). Holding countries to account: The Kyoto Protocol's compliance system revisited after four years of experience. *Climate Law*, 1(1), 133–158.
- Ostrom, E., & Ahn, T. K. (2003). Introduction. In *Foundations of social capital*. Edward Elgar Publishing.
- Putnam, R. D. (1993). What makes democracy work? *National Civic Review*, 82, 101–107.
- Rathbun, B. C. (2011). The 'magnificent fraud': Trust, international cooperation, and the hidden domestic politics of American multilateralism after world war II. *International Studies Quarterly*, 55, 1–21.
- Rathbun, B. C. (2018). Trust in International Relations. In E. M. Uslaner (Ed.), *The Oxford handbook of social and political trust* (pp. 687–706). Oxford University Press.
- Rietig, K., Peringer, C., Theys, S., & Censoro, S. (2023). Unanimity or standing aside? Reinterpreting consensus in United Nations framework convention on climate change negotiations. *International Environmental Agreements: Politics, Law and Economics*, 23, 221–234.
- Roberts, J. T., & Parks, B. (2006). *A climate of injustice: Global inequality, north-south politics, and climate policy*. MIT Press.
- Robertson, S. (2021). Transparency, trust, and integrated assessment models: An ethical consideration for the intergovernmental panel on climate change. *Wiley Interdisciplinary Reviews: Climate Change*, 12(1), e679.
- Rosa, H. (2019). *Resonance: A sociology of our relationship to the world*. John Wiley & Sons.
- Rotter, J. B. (1967). A new scale for the measurement of interpersonal trust. *Journal of Personality*, 35, 651–665.
- Ruzicka, J., & Keating, V. C. (2015). Going global: Trust research and international relations. *Journal of Trust Research*, 5(1), 8–26.
- Saerbeck, B., Well, M., Jörgens, H., Goritz, A., & Kolleck, N. (2020). Brokering climate action: The UNFCCC secretariat between parties and non-party stakeholders. *Global Environmental Politics*, 20(2), 105–127.
- Schöpke, N., Beyers, F., Fraude, C., Mar, K. A., Schroeder, H., Voggenreiter, V., Herzog, N., Wamsler, C., Bruhn, T., & Lawrence, M. G. (2023). Research and practice to scale co-creation and reflection: How can we strengthen a relational culture of communication for climate action at COP28 in Dubai? RIFS Discussion Paper.
- Schroeder, H., Boykoff, M., & Spiers, L. (2012). Equity and state representations in climate negotiations. *Nature Climate Change*, 2(12), 834–836.
- Schroeder, H., & N.C. González, P. (2019). Bridging knowledge divides: The case of indigenous ontologies of territoriality and REDD+. *Forest Policy and Economics*, 100, 198–206.
- Shawoo, Z., & Thornton, T. F. (2019). The UN local communities and indigenous peoples' platform: A traditional ecological knowledge-based evaluation. *Wiley Interdisciplinary Reviews: Climate Change*, 10(3), e575.
- Sillitoe, P. (2010). Trust in development: Some implications of knowing in indigenous knowledge. *Journal of the Royal Anthropological Institute (N.S.)*, 16, 12–30.
- Thew, H., Middlemiss, L., & Paavola, J. (2021). Does youth participation increase the democratic legitimacy of UNFCCC-orchestrated global climate change governance? *Environmental Politics*, 30(6), 873–894.
- UNEP. (2022). Emissions gap report 2022: The closing window—Climate crisis calls for rapid transformation of societies. <https://www.unep.org/emissions-gap-report-2022>
- Uslaner, E. M. (Ed.). (2018). *The Oxford handbook of social and political trust*. Oxford University Press.
- van der Meer, T., & Hakhverdian, A. (2016). Political trust as the evaluation of process and performance: A cross-National Study of 42 European countries. *Political Studies*, 65(1), 81–102.
- Vogler, J. (2010). The institutionalisation of trust in the international climate regime. *Energy Policy*, 38(6), 2681–2687.
- Walker, H., & Biedenkopf, K. (2020). Why do only some chairs act as successful mediators? Trust in chairs of global climate negotiations. *International Studies Quarterly*, 64(2), 440–452.

- Walsh, I., Holton, J. A., Bailyn, L., Fernandez, W., Levina, N., & Glaser, B. (2015). What grounded theory is. A critically reflective conversation among scholars. *Organizational Research Methods*, 18(4), 581–599.
- Walsh, Z., Böhme, J., & Wamsler, C. (2021). Towards a relational paradigm in sustainability research, practice, and education. *Ambio*, 50, 74–84.
- Wamsler, C., Mundaca, L., & Osberg, G. (2022). Rethinking political agency: The role of individuals' engagement, perceptions and trust in transitioning to a low-carbon transport system. *Journal of Cleaner Production*, 360, 132197.
- Wamsler, C., Osberg, G., Osika, W., Hendersson, H., & Mundaca, L. (2021). Linking internal and external transformation for sustainability and climate action: Towards a new research and policy agenda. *Global Environmental Change*, 71, 102373.
- Wamsler, C., Schöpke, N., Fraude, C., Stasiak, D., Bruhn, T., Lawrence, M., Schroeder, H., & Mundaca, L. (2020). Enabling new mindsets and transformative skills for negotiating and activating climate action: Lessons from UNFCCC conferences of the parties. *Environmental Science & Policy*, 112, 227–235.
- West, S., Haider, L. J., Stålhammar, L. S., & Woroniecki, S. (2020). A relational turn for sustainability science? Relational thinking, leverage points and transformations. *Ecosystems and People*, 16(1), 304–325.
- Woiwode, C., Schöpke, N., Bina, O., Veciana, S., Kunze, I., Parodi, O., Schweizer-Ries, P., & Wamsler, C. (2021). Inner transformation to sustainability as a deep leverage point: Fostering new avenues for change through dialogue and reflection. *Sustainability Science*, 16, 841–858.
- Wurzel, R. K. W., Liefferink, D., & Torney, D. (2018). Pioneers, leaders and followers in multilevel and polycentric climate governance. *Environmental Politics*, 28(1), 1–21.
- Yamagata, Y., Yang, J., & Galaskiewicz, J. (2013). A contingency theory of policy innovation: How different theories explain the ratification of the UNFCCC and Kyoto protocol. *International Environmental Agreements: Politics, Law and Economics*, 13(3), 251–270.
- Young, O. R. (1994). *International governance: Protecting the environment in a stateless society*. Cornell University Press.

How to cite this article: Schroeder, H., Beyers, F., Schöpke, N. A., Mar, K. A., Wamsler, C., Stasiak, D., Lueschen, T., Fraude, C., Bruhn, T., & Lawrence, M. (2024). The role of trust in the international climate negotiations. *Environmental Policy and Governance*, 1–16. <https://doi.org/10.1002/eet.2144>

APPENDIX A

Interview guide:

Introductory questions:

1. What is your current role? How long have you been in this role?
2. What is your personal motivation for working on climate change issues?

Theme 1: Role of trust in the UNFCCC climate negotiations process:

1. What is your understanding of trust?
2. How important is trust in the UNFCCC climate negotiations process? Why?
3. At UNFCCC meetings, which participants or groups do you think others tend to trust most and least (e.g., UN/UNFCCC staff; political / state representatives; scientists; corporate sector representatives; environmental and other NGOs; other)?
4. Which participants do you trust most and least?

Theme 2: Whether current procedures are enabling or constraining trust between participants / stakeholders:

1. How do the existing negotiation structures support or constrain trust between participants?
2. In what way has this changed over time i.e., improved / declined / stayed the same?
3. Are there particular areas where trust is particularly good?
4. Are there particular areas where trust is particularly poor?

Theme 3: How the climate negotiations process could be improved to increase trust and generate effective action on climate change:

1. Are you aware of any efforts by the UNFCCC secretariat, parties or observers to help build trust?
2. Could these and potentially further efforts to build trust positively affect real action on climate change (going beyond the negotiation outcomes)? If yes, which and how?
3. In your view, what is the most urgent aspect of climate change to be addressed in the negotiations (e.g. practical impacts on the ground; the need for political cooperation and action; changing the way humans relate to nature; other)?
4. What tools or approaches should governments, businesses and other stakeholders prioritise for use in addressing the Paris Agreement goals (e.g., laws and regulations; market-based tools; lifestyle changes; other)?

APPENDIX B

Interviewees and their affiliations and backgrounds:

Abbreviation	Country background	Gender	Sector	COP experience
Gov 1–3	1 Latin America (LA) and 2 Asia (As), 1 from developed and 1 from developing countries	2 m, 1 f	All with both government and either private sector or academic experience	Long standing to moderate
Int 1–3	2 from developed countries (Europe–E) and 1 from a developing country (Africa/Middle East–AfME)	3 m	UNFCCC Secretariat and another UN agency	Long standing to moderate
Org 1–5	All from either North America (NA) or Europe (E)	1 m, 4 f	Academic, farming, faith, youth	Long standing to limited

Abbreviation: UNFCCC, United Nations Framework Convention on Climate Change.