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Discussion paper

# Addressing equity in the Global Stocktake

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**Abstract: Addressing equity in the Global Stocktake**

The principle of equity plays an important role in the Global Stocktake under the Paris Agreement. Equity is considered in the assessment of where Parties stand collectively, and the Global Stocktake informs Parties how they can increase ambition and address equity in their new Nationally Determined Contributions (NDCs).

This paper discusses several concepts which can guide the distribution of mitigation efforts, adaptation actions, and means of implementation and support, namely the concepts of responsibility, capabilities, egalitarianism and sufficientarianism. The application of one concept only may not be sufficient to ensure equitable and ambitious climate action. In all areas of climate action, it is critical to take into account individual capabilities, which are different from country to country. It is important to use all available capabilities and opportunities and to increase them. Support plays a critical role in enhancing and facilitating the use of available capabilities.

The outputs and outcomes of the Global Stocktake should address the importance of building trust and making a convincing case that a Party's response to climate change, including its new NDC, is fair and ambitious. In their new NDC targets, Parties should take into account their contribution to climate change, e.g., measured in greenhouse gas emissions per capita. In addition, Parties with high capabilities (e.g., measured in gross domestic product per capita) should make use of their resources to pursue ambitious climate action and to provide support to Parties with limited capabilities.

**Kurzbeschreibung: Gerechtigkeit in der Globalen Bestandsaufnahme**

Der Grundsatz der Gerechtigkeit spielt in der Globalen Bestandsaufnahme unter dem Übereinkommen von Paris eine wichtige Rolle. Gerechtigkeit wird bei der Bewertung des kollektiven Fortschritts der Vertragsparteien berücksichtigt, und die Globale Bestandsaufnahme informiert die Vertragsparteien darüber, wie sie ihre Ambitionen erhöhen und Gerechtigkeit in ihren neuen national festgelegten Beiträgen (NDCs) berücksichtigen können.

In diesem Papier werden mehrere Konzepte erörtert, welche die Verteilung von Minderungsmaßnahmen, Anpassungsmaßnahmen und Mitteln zur Durchführung und Unterstützung anleiten können, nämlich die Konzepte der Verantwortlichkeit, der Fähigkeiten und Möglichkeiten, der Egalitarismus und der Genügsamkeit. Die Anwendung eines einzelnen Konzepts reicht möglicherweise nicht aus, um gerechte und ehrgeizige Klimaschutzmaßnahmen zu gewährleisten. In allen Bereichen des Klimaschutzes ist es entscheidend, die individuellen Fähigkeiten und Möglichkeiten zu berücksichtigen, die von Land zu Land unterschiedlich sind. Es ist wichtig, alle verfügbaren Fähigkeiten und Möglichkeiten zu nutzen und sie zu erweitern. Unterstützung spielt eine entscheidende Rolle dabei, die Nutzung der verfügbaren Fähigkeiten und Möglichkeiten zu verbessern und zu erleichtern.

Die Ergebnisse der Globalen Bestandsaufnahme sollten darauf eingehen, wie wichtig es ist, Vertrauen zu schaffen und überzeugend darzulegen, dass die Maßnahmen einer Vertragspartei gegen den Klimawandel, einschließlich ihres neuen NDCs, fair und ehrgeizig sind. In ihren neuen NDC-Zielen sollten die Vertragsparteien ihren Beitrag zum Klimawandel berücksichtigen, z. B. gemessen an den Treibhausgasemissionen pro Kopf der Bevölkerung. Darüber hinaus sollten Vertragsparteien mit hohen Kapazitäten (z. B. gemessen am Bruttoinlandsprodukt pro Kopf) ihre Ressourcen nutzen, um ehrgeizige Klimaschutzmaßnahmen zu verfolgen und Länder mit begrenzten Kapazitäten zu unterstützen.

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## List of abbreviations

<b>AGN</b>	African Group of Negotiators
<b>AOSIS</b>	Alliance of Small Islands States
<b>AR6</b>	Sixth Assessment Report (of the IPCC)
<b>CAN</b>	Climate Action Network
<b>CBDR/RC</b>	Common but differentiated responsibilities and respective capabilities
<b>CMA</b>	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>GDP</b>	Gross Domestic Product
<b>GHG</b>	Greenhouse gas
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>LTTG</b>	Long-term temperature goal
<b>LTS</b>	Long-term strategy
<b>NDC</b>	Nationally Determined Contribution
<b>SYR</b>	Synthesis Report (of the Sixth Assessment Report of the IPCC)
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change

## Summary

During the Global Stocktake, Parties to the Paris Agreement assess the collective progress towards achieving the purpose and the long-term goals of the Paris Agreement. According to Article 14(1) of the Agreement, the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) shall do so ‘in the light of equity and the best available science’.

With each Party using its own understanding of ambitious and equitable climate action in its Nationally Determined Contributions (NDC), the Global Stocktake plays an important role in assessing where Parties stand collectively, and in informing Parties how they can increase ambition and address equity in their new NDCs. Improving the way equity is addressed in the next NDCs is particularly important because ambitious collective action is possible only if all are seen to contribute their fair share. Parties have the dual responsibility of increasing their own ambition and explaining convincingly how their contribution is fair, in order to encourage others to follow suit.

### Levels at which equity can be addressed

According to the definition used by the Intergovernmental Panel on Climate Change (IPCC), equity is ‘a basis for understanding how the impacts and responses to climate change, including costs and benefits, are distributed in and by society in more or less equal ways’. It is important to consider the distribution of impacts and responses at several levels, namely between countries or groups of countries; between areas within a country; between different groups (such as income groups) within a country; between individuals; and between generations.

### Concepts for the distribution of efforts

For the distribution of mitigation efforts, as well as adaptation actions and means of implementation and support, several competing concepts have been proposed. Depending on the concept which is followed, action or support may be distributed in different ways between countries, between groups or between individuals. In this paper four equity concepts are discussed:

- ▶ **Responsibility:** Historical and/or current responsibility is taken into account in the distribution of efforts to address climate change.
- ▶ **Capabilities approach:** Different capabilities between countries are taken into account when addressing climate change.
- ▶ **Egalitarianism:** Greenhouse gas emissions or a remaining emissions budget are distributed evenly on a per-capita basis.
- ▶ **Sufficientarianism / right to subsistence emissions:** This concept ensures that climate action does not compromise living conditions under a certain threshold.

Each of these concepts has advantages and drawbacks, and the application of one concept only may not be sufficient to ensure equitable and ambitious climate action. In all areas of climate action, it is critical to take into account individual capabilities, which are different from country to country. It is important to use all available capabilities and opportunities and to increase them. Support plays an important role in enhancing and facilitating the use of available capabilities.

Conversely, inequality can prevent countries and individuals from taking climate action. It can reinforce socio-political lock-in and political and economic barriers. No matter whether mitigation or adaptation action is taken, one has to take into account that equitable transformation is context- and society-specific. Overall, a lack of mitigation action will result in increasing climate change impacts which affect vulnerable communities disproportionately.

**Reflecting equity in the outputs and outcomes of the Global Stocktake**

The outputs and outcomes of the Global Stocktake should point out the importance of building trust and making a convincing case that a Party's response to climate change, including its new NDCs, is fair and ambitious.

Some egalitarian approaches would result in greenhouse gas emission increases in countries with historically low greenhouse gas emissions – at a scale which would not make it possible to keep the 1.5°C goal within reach. Support can help these countries in contributing more to climate change mitigation than an egalitarian approach would require.

Inequalities do not only exist between countries, but also between income groups within countries, and Parties need to address such inequalities. In addition, it is important to consider equity between generations.

In the outputs of the Global Stocktake, these aspects could, for example, be included in a CMA decision which gives guidance to Parties for the preparation of their new NDCs. Besides guidance on increasing ambition, such a CMA decision could also provide guidance on how to better address equity in the new NDCs.

**Reflecting outputs related to equity in new NDCs**

A fair NDC target has to take into account a country's historic or present contribution to climate change, e.g., measured in greenhouse gas emissions per capita. In addition, Parties with high capabilities (e.g., measured in gross domestic product per capita) should make use of their resources to pursue ambitious climate action and to provide support to Parties with limited capabilities. International cooperation and support can thus be used to help economic and social development by leap-frogging the fossil fuel phase and moving to a sustainable economic model with its associated benefits.

## Zusammenfassung

Im Rahmen der globalen Bestandsaufnahme beurteilen die Vertragsparteien des Übereinkommens von Paris den gemeinsamen Fortschritt bei der Erreichung des Zwecks und der langfristigen Ziele des Übereinkommens. Gemäß Artikel 14(1) des Übereinkommens soll die Konferenz der Vertragsparteien, die als Tagung der Vertragsparteien des Pariser Abkommens dient (CMA), dies "im Lichte der Gerechtigkeit und der besten verfügbaren wissenschaftlichen Erkenntnisse" tun.

Da jede Vertragspartei ihrem national festgelegten Beitrag (NDC) ihr eigenes Verständnis von ehrgeizigen und gerechten Klimamaßnahmen zugrunde legt, spielt die globale Bestandsaufnahme eine wichtige Rolle bei der Beurteilung, wo die Vertragsparteien gemeinsam stehen, und bei der Information der Vertragsparteien darüber, wie sie in ihren neuen NDCs ehrgeizigere Ziele verfolgen und das Thema der Gerechtigkeit berücksichtigen können. Gerechtigkeit in den nächsten NDCs besser zu berücksichtigen ist deshalb besonders wichtig, weil ehrgeizige kollektive Maßnahmen nur möglich sind, wenn alle ihren fairen Beitrag leisten. Die Vertragsparteien haben die doppelte Aufgabe, ihre eigenen Ambitionen zu steigern und überzeugend zu erklären, inwiefern ihr Beitrag gerecht ist, um andere zu ermutigen, ihrem Beispiel zu folgen.

### Ebenen, auf denen Gerechtigkeit angesprochen werden kann

Nach der Definition des IPCC ist Gerechtigkeit "eine Grundlage für das Verständnis dafür, wie die Auswirkungen und Reaktionen auf den Klimawandel, einschließlich der Kosten und des Nutzens, in und durch die Gesellschaft mehr oder weniger gleich verteilt werden". Es ist wichtig, die Verteilung der Auswirkungen und Reaktionen auf mehreren Ebenen zu betrachten, nämlich zwischen Ländern oder Gruppen von Ländern, zwischen Gebieten innerhalb eines Landes, zwischen verschiedenen Gruppen (z. B. Einkommensgruppen) innerhalb eines Landes, zwischen Einzelpersonen und zwischen Generationen.

### Konzepte für die Verteilung der Anstrengungen

Für die Verteilung der Anstrengungen zur Minderung des Klimawandels sowie der Anpassungsmaßnahmen und der Mittel zur Durchführung und Unterstützung wurden mehrere konkurrierende Konzepte vorgeschlagen. Je nachdem, welches Konzept verfolgt wird, können Maßnahmen oder Unterstützung auf unterschiedliche Weise zwischen Ländern, zwischen Gruppen oder zwischen Einzelpersonen verteilt werden. In diesem Papier werden vier Gerechtigkeitskonzepte diskutiert:

- ▶ Verantwortung: Bei der Verteilung der Anstrengungen zur Bewältigung des Klimawandels wird die historische und/oder aktuelle Verantwortung berücksichtigt.
- ▶ Fähigkeiten und Möglichkeiten: Die unterschiedlichen Fähigkeiten und Möglichkeiten der einzelnen Länder werden bei der Bewältigung des Klimawandels berücksichtigt.
- ▶ Egalitarismus: Die Treibhausgasemissionen oder ein verbleibendes Emissionsbudget werden gleichmäßig pro Kopf verteilt.
- ▶ Genügsamkeit / Recht auf existenzsichernde Emissionen: Dieses Konzept stellt sicher, dass Klimaschutzmaßnahmen die Lebensbedingungen unterhalb einer bestimmten Schwelle nicht beeinträchtigen.

Jedes dieser Konzepte hat Vor- und Nachteile, und die Anwendung eines einzelnen Konzepts reicht möglicherweise nicht aus, um gerechte und ehrgeizige Klimaschutzmaßnahmen zu gewährleisten. In allen Bereichen des Klimaschutzes ist es von entscheidender Bedeutung, die

individuellen Möglichkeiten zu berücksichtigen, die von Land zu Land unterschiedlich sind. Es ist wichtig, alle verfügbaren Fähigkeiten und Möglichkeiten zu nutzen und sie zu erweitern. Unterstützung spielt eine wichtige Rolle dabei, die Nutzung der verfügbaren Fähigkeiten und Möglichkeiten zu verbessern und zu erleichtern.

Umgekehrt kann Ungleichheit Länder und Einzelpersonen davon abhalten, Klimaschutzmaßnahmen zu ergreifen. Sie kann sozio-politische Festlegung sowie politische und wirtschaftliche Hindernisse verstärken. Unabhängig davon, ob Minderungs- oder Anpassungsmaßnahmen ergriffen werden, muss berücksichtigt werden, dass eine gerechte Transformation kontext- und gesellschaftsspezifisch ist. Insgesamt wird ein Fehlen von Minderungsmaßnahmen zu zunehmenden Auswirkungen des Klimawandels führen, von denen besonders gefährdete Bevölkerungsgruppen unverhältnismäßig stark betroffen sind.

### **Berücksichtigung der Gerechtigkeit in den Ergebnissen der Globalen Bestandsaufnahme**

Die Ergebnisse der Globalen Bestandsaufnahme sollten deutlich machen, wie wichtig es ist, Vertrauen zu schaffen und überzeugend darzulegen, dass die Maßnahmen einer Vertragspartei gegen den Klimawandel, einschließlich ihres neuen NDCs, fair und ehrgeizig sind.

Einige Ansätze, die auf Egalitarismus beruhen, würden in Ländern mit historisch niedrigen Treibhausgasemissionen zu einem Anstieg der Treibhausgasemissionen führen – in einem Ausmaß, das es verunmöglichen würde, das 1,5 °C-Ziel in Reichweite zu halten. Unterstützung kann diesen Ländern helfen, mehr zur Minderung des Klimawandels beizutragen, als der Ansatz des Egalitarismus erfordern würde.

Ungleichheiten bestehen nicht nur zwischen den Ländern, sondern auch zwischen Einkommensgruppen innerhalb von Ländern, und die Vertragsparteien müssen sich mit diesen Ungleichheiten auseinandersetzen. Darüber hinaus ist es wichtig, Gerechtigkeit zwischen den Generationen zu berücksichtigen.

Im Rahmen der Ergebnisse der globalen Bestandsaufnahme könnten diese Aspekte beispielsweise in einen CMA-Beschluss einfließen, der den Vertragsparteien Leitlinien für die Ausarbeitung ihrer neuen NDCs gibt. Ein solcher CMA-Beschluss könnte nicht nur Leitlinien zur Steigerung der Ambitionen enthalten, sondern auch Hinweise darauf, wie die Gerechtigkeit in den neuen NDCs besser berücksichtigt werden kann.

### **Berücksichtigung von Ergebnissen in Bezug auf Gerechtigkeit in neuen NDCs**

Ein faires NDC-Ziel muss den historischen oder aktuellen Beitrag eines Landes zum Klimawandel berücksichtigen, z. B. gemessen an den Treibhausgasemissionen pro Kopf. Darüber hinaus sollten Vertragsparteien mit hohen Kapazitäten (z. B. gemessen am Bruttoinlandsprodukt pro Kopf) ihre Ressourcen nutzen, um ehrgeizige Klimaschutzmaßnahmen zu verfolgen und Länder mit begrenzten Kapazitäten zu unterstützen. Internationale Zusammenarbeit und Unterstützung kann somit genutzt werden, um die wirtschaftliche und soziale Entwicklung zu fördern, indem die Phase der fossilen Brennstoffe übersprungen und zu einem nachhaltigen Wirtschaftsmodell mit den damit verbundenen Vorteilen übergegangen wird.

# 1 Introduction

During the Global Stocktake, Parties to the Paris Agreement assess the collective progress towards achieving the purpose and the long-term goals of the Paris Agreement. According to Article 14(1) of the Agreement, the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) shall do so ‘in the light of equity and the best available science’ (UNFCCC 2015).

## Equity and related concepts in the IPCC’s Sixth Assessment Report

Neither the Paris Agreement nor the United Nations Framework Convention on Climate Change (UNFCCC) include a definition of equity, but the glossary of the Intergovernmental Panel on Climate Change (IPCC)’s Sixth Assessment Report (AR6) provides such a definition (IPCC 2022a; 2022c). According to the IPCC, equity is the ‘principle of being fair and impartial, and a basis for understanding how the impacts and responses to climate change, including costs and benefits, are distributed in and by society in more or less equal ways.’ The AR6 distinguishes between distributive equity (equity in the consequences, outcomes, costs and benefits of actions or policies), gender equity (equity between women and men with regards to their rights, resources and opportunities, and inter-generational equity (equity between generations) (IPCC 2022a; 2022c).

Equity is sometimes used interchangeably with fairness, which, according to the IPCC, is the ‘impartial and just treatment without favouritism or discrimination in which each person is considered of equal worth with equal opportunity’. Similarly, the term equality is ‘a principle that ascribes equal worth to all human beings, including equal opportunities, rights, and obligations, irrespective of origins.’ Finally, the concept of justice is concerned with ‘ensuring that people get what is due to them, setting out the moral or legal principles of fairness and equity in the way people are treated [...]’ (IPCC 2022a; 2022c).

## 1.1 Equity in the Convention and Paris Agreement

The UNFCCC (UNFCCC 1992) addresses equity in its Article 3 on principles, stating that the ‘Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities’. In Article 3, the concept of common but differentiated responsibilities and respective capabilities (CBDR/RC) is mentioned together with equity. Respecting CBDR/RC is a central principle under the Convention, which helps enhance equity between countries in addressing climate change. However, CBDR/RC is not synonymous with equity. The concept of CBDR/RC is mainly used under the Convention to emphasise that developed countries have a historic responsibility for their contribution to climate change, and that developing countries have limited capabilities to respond to the impacts of climate change.

Capabilities are not necessarily static and can evolve over time. This is addressed under the Paris Agreement, where the principle of CBDR/RC again plays an important role but is supplemented by the element ‘in the light of different national circumstances.’ The addition of this element indicates that with evolving national circumstances, the capabilities and common but differentiated responsibilities may evolve as well (cf. Rajamani et al. (2021)).

The Paris Agreement does not formally differentiate between countries with different capabilities in the same way the Convention does. Rather, the Paris Agreement requires each of its Parties to communicate its own Nationally Determined Contribution, which is to reflect its highest possible ambition, reflecting CBDR/RC in the light of different national circumstances.

Under the Paris Agreement, each Party is responsible for defining an ambitious and equitable response to climate change. This shift in responsibility towards each Party is a consequence of the difficulties encountered with implementing ambitious climate action using a top-down approach under the Convention (as exemplified by the failure to come to a comprehensive global agreement at the Conference of the Parties in Copenhagen in 2009).

## 1.2 Role of the Global Stocktake

With each Party using its own understanding of ambitious and equitable climate action in its NDC, the Global Stocktake plays an important role in assessing where Parties stand collectively, and in informing Parties how they can increase ambition and address equity in their next NDCs. Improving the way equity is addressed in the upcoming NDCs is particularly important because ambitious collective action is possible only if all are seen to contribute their fair share. Parties have the dual responsibility of increasing their own ambition and explaining convincingly how their contribution is fair, in order to encourage others to follow suit.

Equity is addressed in the Global Stocktake in several ways:

- ▶ The Global Stocktake focuses on collective, rather than individual progress. Nevertheless, the assessment carried out during the technical phase of the Global Stocktake highlights that progress has been uneven and that there are imbalances, for instance, in the distribution of mitigation efforts, or in the capacities to adapt to the adverse effects of climate change.
- ▶ Equity has to be taken into account in the process of the Global Stocktake (its technical and political phase), inter alia by organising it in an inclusive, fair and impartial way and by providing room for Parties and non-Party stakeholders to raise their voices.
- ▶ The outputs of the global stocktake ‘should summarize opportunities and challenges for enhancing action and support in the light of equity and the best available science (paragraph 13 of decision 19/CMA.1, UNFCCC 2018a). In other words, the outcomes of the Global Stocktake should help Parties and non-Party stakeholders in enhancing equity in their response to climate change. In particular, the outcomes should inform Parties how they can plan, communicate and implement their future climate action included in their new NDCs in a way that fosters equity.

The first point, equity in the current status of collective progress, has been addressed, inter alia, in the Sixth Assessment Report of the IPCC (IPCC 2022b) and in the synthesis reports by the UNFCCC Secretariat (UNFCCC 2022b).

The second point, the process of the Global Stocktake, has been addressed, inter alia, by submissions by Parties to the Global Stocktake<sup>1</sup>. In addition, it was addressed in the summary reports of the Technical Dialogue<sup>2</sup> and Winkler (2020) discussed how equity is integrated in the information collection, technical assessment and consideration of outputs phase.

The third point, the question how the outcomes of the Global Stocktake can inform future climate action, in particular the planning and implementation of new NDCs, is a key point to be addressed in the Global Stocktake in 2023. It is important that its outcomes provide guidance on

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<sup>1</sup> Submissions to the Global Stocktake are available at: [https://unfccc.int/topics/global-stocktake/information-portal?f%5B0%5D=type\\_gst%3A4509](https://unfccc.int/topics/global-stocktake/information-portal?f%5B0%5D=type_gst%3A4509)

<sup>2</sup> The summary reports of the technical dialogue meetings under the Global Stocktake are available at <https://unfccc.int/topics/global-stocktake>



how actions by Parties can increase both ambition and equity in their efforts to address climate change.

This paper focuses on this third aspect of equity in the Global Stocktake. We discuss various concepts for equity in the context of climate change, and how they could be used in the formulation of outputs of the Global Stocktake.

### **1.3 Structure of the paper**

In chapter 2 of this paper, an overview of main concepts for equity in the context of climate change is provided. In chapter 3, these concepts are related to the main thematic areas of the Global Stocktake, including mitigation, adaptation, and means of implementation and support.

Chapter 4 discusses how these concepts could be taken up in the outcomes of the Global Stocktake, in order to help Parties and non-Party stakeholders enhance equity in their actions. Finally, chapter 5 discusses how Parties could address this issue specifically in their new NDCs.

## 2 Understanding of equity in the climate change context

For this discussion paper, a wide range of literature addressing equity related to climate change was reviewed. The literature includes scientific papers and submissions made by Parties and non-Party stakeholders. In the following, an overview of the main concepts of equity is presented. More information on the reviewed literature is available in the appendix.

### 2.1 Levels at which equity can be addressed

According to the definition provided by the IPCC, equity is ‘a basis for understanding how the impacts and responses to climate change, including costs and benefits, are distributed in and by society in more or less equal ways.’ It is important to consider the distribution of impacts and responses at several levels:

- ▶ Between countries or groups of countries;
- ▶ between areas within a country;
- ▶ between different groups (such as income groups) within a country;
- ▶ between individuals; and
- ▶ between generations.

While equity is often considered between countries (e.g., Rajamani et al. (2021)), equity within countries, also known as intranational equity, is discussed, inter alia, by Holz et al. (2019). They point out that ‘stocktaking exercises can make important contributions by highlighting the risks that failure to attend to salient inequalities can pose to the implementation of climate measures.’ Such inequalities may exist between different regions, income groups or individuals within a country.

The Synthesis Report of the AR6 (IPCC 2023) mentions inequity resulting from historical and ongoing colonialism and governance as development challenges that determine substantial vulnerability differences among and within regions. Furthermore, the failure to address climate change has disproportionate impacts on vulnerable communities.

As an example of the consideration of equity between generations in the area of climate action, the German Federal Constitutional Court in 2021 held that the provisions of the Federal Climate Change Act were incompatible with fundamental rights, and that the legislator should have taken precautionary steps to mitigate major burdens in periods after 2030 in order to safeguard the freedom guaranteed by fundamental rights (German Federal Constitutional Court 2021). Following the court’s order, the Federal Climate Change Act was strengthened considerably for the nearer term, requiring a -65 % greenhouse gas emissions reduction by 2030 compared to 1990.

### 2.2 Concepts of equity in the context of addressing climate change

Several recent papers address equity in the mitigation of climate change (cf. literature summarised in appendix A.1). They point out the historic and current unequal distribution of greenhouse gas emissions between countries and individuals, and they discuss possible ways of distributing the carbon budget remaining to keep the temperature goal of the Paris Agreement within reach. For the distribution of mitigation efforts, as well as adaptation actions and means of implementation, several competing concepts have been proposed. Depending on the concept which is followed, action or support may be distributed in different ways between countries,

between groups or between individuals. In this paper we distinguish between four equity concepts, as shown in the following box.

**Concepts of equity in the context of addressing climate change**

**Responsibility:** Historical and/or current responsibility is taken into account in the distribution of efforts to address climate change. Cumulative historical greenhouse gas emissions are often used as an indicator (Rajamani et al. 2021).

**Capabilities approach:** Different capabilities between countries are taken into account when addressing climate change. Gross Domestic Product (GDP) per capita may be used as one indicator to measure capability (Rajamani et al. 2021).

**Egalitarianism:** Greenhouse gas emissions or a remaining carbon budget are distributed evenly (Baatz and Ott 2015). For the distribution of carbon budgets between countries or between individuals, several options have been proposed, including equal shares per capita of the remaining budget (van den Berg et al. 2020).

**Sufficientarianism / right to subsistence emissions:** Ensuring that climate action does not compromise living conditions under a certain threshold (Gesang 2011).

Besides the concepts listed here, the concepts of ‘grandfathering’ and ‘cost optimal allowances’ have also been suggested for the distribution of greenhouse gas emissions (van den Berg et al. 2020). However, we do not address them here because these approaches generally lead to high shares of greenhouse gas emissions for countries with historically high emissions, which cannot be seen as equitable (Rajamani et al. 2021). In general, it should be noted that equitable effort sharing is a normative matter and that many proposed approaches to quantify fair contributions are not value-neutral (Dooley et al. 2021).

### 3 Concepts of equity in the thematic areas of the Global Stocktake

The literature summarised in chapter 2 addresses various concepts relating to equity which can be used to address one or several thematic areas of the Global Stocktake. We distinguish between the following thematic areas:

- Mitigation, which is explicitly mentioned in Article 14(1) of the Paris Agreement, and which is directly related to the Paris Agreement's long-term temperature goal.
- Adaptation, which is explicitly mentioned in Article 14(1) of the Paris Agreement, and which is directly related to the Paris Agreement's adaptation goal.
- Means of implementation and support, which is explicitly mentioned in Article 14(1) of the Paris Agreement. Means of implementation and support are closely related to the 'finance flows' long-term global goal mentioned in Article 2.1(c) of the Paris Agreement, and hence to the assessment of collective progress under the Global Stocktake.

In addition to the three thematic areas of the Global Stocktake, we discuss the following two topics which were introduced in the decision on the modalities of the Global Stocktake (Decision 19/CMA.1):

- Efforts that address the social and economic consequences and impacts of response measures: This topic is related to mitigation. It also implies addressing disadvantages that developing countries with fossil fuel resources face because they cannot use these resources for the economic development of their societies. Such efforts within countries are often summarised under the terms 'just transition of the workforce' and 'economic diversification'.
- Efforts that avert, minimize and address loss and damage associated with the adverse effects of climate change. This topic is not included as a long-term global goal of the Paris Agreement but is addressed under a specific article.

For each of these thematic areas/topics, we discuss which concepts of equity (as introduced in the box in chapter 2) may be applicable to them. Table 1 provides an overview which concepts are relevant, or partly relevant, to the various thematic areas.

**Table 1: Thematic areas of the Global Stocktake and concepts of equity**

Thematic area/topic	Responsibility	Capabilities	Egalitarianism	Sufficientarianism
Mitigation	X	X	X	X
Adaptation	(X)	X		(X)
Means of implementation and support	X	X	X	X
Efforts that address social and economic consequences and impacts of response measures	(X)	X		X
Efforts that avert, minimize and address loss and damage associated with the adverse effects of climate change	(X)	X		(X)

X ... The principle is relevant for the thematic area/topic. (X) ... The principle is partly relevant for the thematic area/topic.

### 3.1 Concepts of equity in the area of mitigation

In the thematic area of mitigation, the selection of concepts to address equity affects how efforts to mitigate greenhouse gas emissions are distributed – between countries, but also between individuals within countries or between generations. As stated in the summary for policymakers of the Synthesis Report (SYR) of the AR6 (IPCC 2023), ‘individuals with high socio-economic status contribute disproportionately to emissions, and have the highest potential for emissions reductions’.

When applying the concept of **responsibility** to address equity in climate change mitigation, the historic and/or current contributions to climate change are taken into account. Such an approach was brought forward, inter alia, in the submission by Argentina, Brazil and Uruguay, which suggested that ‘issues regarding historical cumulative greenhouse gas emissions as well as historical human-caused surface warming assessed by the IPCC’s Working Group I should also be part of the operationalization of equity’. Such an approach would require relatively small mitigation contributions from developing countries, and support could be used to help these countries in increasing their contributions. The specific distribution among countries is strongly dependent on whether historic greenhouse gas emissions are taken into account in addition to current emissions, and if so, over which time period. As a start year for this time period, e.g., 1850 could be chosen to represent the start of the industrial revolution, 1970 to represent the beginning of the decade in which publications about global warming increased, or 1990, when the IPCC documented for the first time that human activity was the cause of global warming (van den Berg et al. 2020).

The concept of **capabilities** is of central importance in distributing mitigation efforts. This principle is rooted in the Convention, and Article 4(3) of the Paris Agreement requires each Party’s successive NDC to ‘reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances’. As capabilities differ widely between countries, mitigation efforts will also differ. Recent literature pointed out the importance of all countries using their full mitigation potential, and the role of support to countries with limited capabilities to mitigate climate change (e.g. Höhne und Wachsmuth 2020).

According to the concept of **egalitarianism**, equity in mitigation efforts would be achieved if the greenhouse gas emissions budget which remains to achieve a specific mitigation goal were distributed evenly between individuals. Individuals and countries with currently high greenhouse gas emissions would have to reduce their emissions faster than those with currently low emissions. In addition, countries with fossil fuel resources, in particular oil-exporting countries, would not be able to exploit these resources for economic development and employment and would be disadvantaged in comparison to other countries which made use of such resources in the past.

Recent literature (e.g. Ganti et al. 2023) pointed out that it may not be possible for countries with currently high greenhouse gas emissions to reduce their emissions fast enough. This would require large negative emissions or, alternatively other countries to forgo part of their emission budget in order to keep the temperature goal of the Paris Agreement within reach. As pointed out in this literature, means of implementation and support will be central in helping these countries in contributing more than they would need according to the concept of egalitarianism.

Finally, if **sufficientarianism** is applied in the area of mitigation, it has to be ensured that mitigation actions do not compromise living conditions under a certain threshold. This means that the larger burden of a transformation towards a low-greenhouse gas emission economy should be borne by the well-off. However, it does not necessarily mean that mitigation efforts are

limited if sufficientarianism is applied. If mitigation focuses on actions that pose no burden or even provide co-benefits, ambitious mitigation is possible, nonetheless. In addition, mitigation does not necessarily imply a larger burden for the poor and vulnerable as it offers many synergies and co-benefits for livelihoods and the quality of life.

### 3.2 Concepts of equity in the area of adaptation

As stated in the summary for policymakers of the AR6 SYR (IPCC 2023), vulnerability is exacerbated by inequity, and adaptation outcomes for the most vulnerable are enhanced through approaches focusing on equity, inclusivity and rights-based approaches.

The concept of **responsibility** requires more ambitious actions from those with a higher historic and/or current contribution to climate change. It has to be taken into account that countries or individuals with the highest adaptation needs are often different from those with the highest contributions to climate change. Hence, under the concept of historical and/or current responsibility, the latter group has to provide means of implementation and support to help others adapt to the adverse impacts of climate change.

The concept of **capabilities** seems to constitute a useful approach in the area of adaptation. Capabilities to adapt to the adverse effects of climate change vary widely between individuals and between countries, and these different capabilities have to be taken into account when planning and implementing adaptation actions. In addition, providing means of implementation and support to individuals and countries with limited capabilities is central, and ambitious mitigation helps that climate change impacts do not go beyond the adaptive capabilities of those affected. In fact, ambitious mitigation is needed to limit climate change to a range in which adaptation is still possible. As pointed out by the IPCC, ‘adaptation options that are feasible and effective today will become constrained and less effective with increasing global warming’ (IPCC 2023).

Of the concepts used in this paper, **egalitarianism** does not seem to be well placed to address equity in adaptation, because the adaptation to climate change is highly dependent on individual and national circumstances. There does not seem to be a measure for egalitarian adaptation. However, adaptation actions – if they are designed well – can reduce inequalities.

If the concept of **sufficientarianism** is applied in the area of adaptation, it means that any adaptation action does not compromise the living conditions of those living under a certain threshold. As any adaptation action aims at securing or improving the living conditions of those affected, it can be argued that sufficiency is usually fulfilled in adaptation actions. However, these actions need to be designed in a way that avoids maladaptation.

### 3.3 Concepts of equity in the area of means of implementation and support

As already mentioned above, the provision of means of implementation and support is closely linked to mitigation and adaptation action. In particular, support to vulnerable countries and those with limited capabilities can help make mitigation and adaptation more equitable. Support can help fill mitigation gaps which become apparent if the concept of **responsibility**, **egalitarianism** or **sufficientarianism** is followed. In addition, support is key in increasing the **capabilities** of countries or individuals to mitigate or adapt to climate change.

### 3.4 Concepts of equity in the area of social and economic consequences of response measures

As stated in the summary for policymakers of the AR6 SYR (IPCC 2023), ‘ambitious mitigation pathways imply large and sometimes disruptive changes in economic structure, with significant

distributional consequences, within and between countries'. In order to enhance equity, it is particularly important to address the social and economic consequences and impacts of response measures. These consequences and impacts are highly dependent on national and individual circumstances. In order to help minimize the impacts of the transition towards low greenhouse gas emission economies, the concepts of capabilities and sufficientarianism may be useful. Any mitigation action should take into account the **capabilities** of the countries and individuals affected by this action, and the **sufficientarianism** approach can help ensure that those whose living conditions are under a certain threshold are not compromised.

### 3.5 Concepts of equity in the area of loss and damage

The ability to avert, minimize and address loss and damage associated with the adverse effects of climate change varies widely between countries. Like in the area of adaptation, it is central to take into account individual and national **capabilities**. Means of implementation and support are critical for increasing these capabilities.

The concept of **responsibility** can also be applied to the area of loss and damage. This concept requires those with a higher historic and/or current contribution to climate change to contribute more to averting, minimising and addressing loss and damage.

The concept of **sufficientarianism** may also be applied in this area. However, it may not be possible to ensure that any action does not compromise living conditions (e.g., in case a relocation is needed to avert loss and damage).

### 3.6 Linkages between the thematic areas/topics

Following this brief discussion of equity in each of the various thematic areas, it is important to note the linkages between them.

First, there are limits to mitigation based on egalitarianism alone. If countries and individuals with current low greenhouse gas emissions increase their greenhouse gas emissions based on considerations of egalitarianism, the temperature goal of the Paris Agreement may no longer be within reach. The provision of support could help such countries and individuals limit and reduce their greenhouse gas emissions.

Second, support is also central for enhancing equity in adaptation and in averting, minimizing and addressing loss and damage. This is because the most vulnerable people and systems are observed to be disproportionately affected by the adverse impacts of climate change (IPCC 2022e).

Adaptation and the addressing of loss and damage are linked to mitigation because adaptive capacity can only be preserved, and loss and damage minimised if bold mitigation action is taken. As pointed out by the IPCC, near-term actions that limit global warming to close to 1.5°C would substantially reduce projected losses and damages related to climate change (IPCC 2022e).

Finally, when planning and implementing mitigation actions, it is central to take into account the social and economic consequences of response measures. Transformative mitigation actions can only be successful if they are perceived as fair and are accepted by those affected by them.

### 3.7 Conclusions on the concepts of equity and the thematic areas

In all areas of climate action, it is critical to take into account individual capabilities, which are different from country to country. It is important to use all available capabilities and

opportunities and to increase them. Support plays an important role in facilitating the use of available capabilities.

Conversely, inequality can prevent countries and individuals from taking climate action. It can reinforce socio-political lock-in and political and economic barriers. No matter whether mitigation or adaptation action is taken, one has to take into account that equitable transformation is context- and society-specific.

In view of the urgency of responding to climate change, the highest possible ambition of all Parties, in line with the Paris Agreement, is needed to protect the most vulnerable from the worst impacts. Although historical per-capita emissions of developed countries are generally much larger than those of developing countries, a sharing of efforts between all countries is needed to limit future emissions to the remaining carbon budget. For countries with currently low greenhouse gas emissions, this can mean the pursuit of carbon-free development by leap-frogging the fossil fuel phase and moving directly to a sustainable economic model with associated benefits, such as green jobs and access to clean energy.



## 4 Equity in the outputs and outcomes of the Global Stocktake

The Global Stocktake assesses collective progress towards the goals of the Paris Agreement, but it also needs to provide specific guidance to Parties on how they can individually enhance their ambition. To do so, the Global Stocktake should provide guidance on how to best make use of available capacities and opportunities to increase ambition, while reducing inequality.

More specifically, according to paragraph 13 of decision 19/CMA.1 (UNFCCC 2018a), the outputs of the components of the global stocktake ‘should summarize opportunities and challenges for enhancing action and support in the light of equity and the best available science, as well as lessons learned and good practices [...]’.

The term ‘outputs’ in the context of the Global Stocktakes refers to the result of the discussions under the various elements of the stocktake, such as the summary reports of the meetings of the technical dialogue or a possible CMA decision to be adopted at the end of the Global Stocktake. The term ‘outcomes’ is used here in a broader sense. It includes the wider political consequences of the Global Stocktake, which are inspired by the outputs of the Global Stocktake. The outcomes include enhanced climate action and the development of more ambitious NDCs.

In this chapter, we discuss specific opportunities and challenges to equitable climate action, which may be addressed in the ‘consideration of outputs’ component of the Global Stocktake, and we discuss how equity can be reflected in the outputs and outcomes of the Global Stocktake.

### 4.1 Challenges

One main challenge, as discussed in chapter 3, is that greenhouse gas emissions are distributed unequally. While this distribution has significantly changed since the establishment of the Convention in 1992, there are limits to making this distribution more equal within the timescale remaining to keep the temperature goal of the Paris Agreement within reach.

Furthermore, countries with fossil fuel resources need to leave them unexploited and thus cannot benefit economically and socially from these resources as other countries have in the past. Some of these countries claim the ‘right to development’ based on fossil fuels.

In addition, the capacities to address climate change vary between countries. Many developing countries have limited capacities to mitigate greenhouse gas emissions, to adapt to the adverse effects of climate change, and to avert, minimize and address loss and damage associated with these effects. This is also linked to historical and ongoing patterns of inequity resulting from colonialism or governance constraints.

Finally, there are different concepts of equity which may be used in addressing climate change. It depends on the chosen concept whether the distribution of mitigation or adaptation efforts, or the distribution of support is perceived as fair and impartial. Hence, it is an additional challenge when turning the outputs of the Global Stocktake into specific action and support – to make a convincing case that a Party’s contribution is both fair and ambitious.

### 4.2 Opportunities

As mentioned in chapter 3, recent literature has shown that there is mitigation potential in countries with low historical greenhouse gas emissions. Mitigation contributions from these countries are central in keeping the temperature goal of the Paris Agreement within reach. It will be important to provide support to help increase mitigation ambition in these countries.

The thematic areas of the Global Stocktake should not be seen in isolation. Rather, synergies between the thematic areas should be used to address equity across thematic areas. As an example, means of implementation and support can be provided to help make mitigation actions more equitable. International cooperation and support can also be used to help economic and social development by leap-frogging the fossil fuel phase and moving directly to a sustainable economic model with all the associated benefits. If equity aspects are taken into account in the planning and implementation of mitigation actions, negative social and economic consequences and impacts can be minimised.

### **4.3 Reflecting equity in the outputs and outcomes of the Global Stocktake**

Issues relating to equity have been discussed in the technical dialogue under the Global Stocktake, and it can be expected that they will be raised again in the consideration of outputs component of the Global Stocktake. Based on the challenges and opportunities mentioned above, it will be important to consider the following points when Parties and other stakeholders reflect equity in the consideration of outputs phase, and when they shape the broader outcomes of the Global Stocktake:

- ▶ Acknowledge that different concepts of equity exist. Point out the importance of building trust and making a convincing case that a Party's response to climate change, including its new NDCs, is fair and ambitious.
- ▶ Take into account a country's historic and current contribution to climate change as well as its capabilities for climate action. Explore countries' capabilities for supporting others in taking action.
- ▶ Point out that some egalitarian approaches would result in greenhouse gas emission increases in developing countries at a scale which would not make it possible to keep the 1.5 °C goal within reach. Encourage developing countries to make use of available mitigation capabilities. Point out the importance of providing support to these countries to help them make use of such capabilities.
- ▶ Acknowledge that inequalities do not only exist between countries, but also between income groups within countries, and Parties need to address such inequalities. Highlight the importance of equity between generations and that, as a consequence, each Party needs to reflect its highest possible ambition in the short-to medium term, including in its new NDCs.
- ▶ Acknowledge that patterns of inequity exist between and within countries that are linked to historical and ongoing colonialism, and governance challenges. Make a convincing case that these inequalities can be addressed in a manner that is perceived as fair and ambitious by providing sufficient support and by highlighting the co-benefits of low-carbon, sustainable development, e.g., for access to clean energy and health.
- ▶ Point out the importance of exploring all opportunities to address climate change, many of which entail significant co-benefits for sustainable development, and of facilitating equal access to these opportunities in all countries.

In the outputs of the Global Stocktake, these aspects could, for example, be included in a CMA decision which gives guidance to Parties for the preparation of their new NDCs. Besides guidance on increasing ambition, such a CMA decision could also provide guidance on how to better address equity in the new NDCs.

As far as the broader outcomes are concerned, it will be important that Parties take equity aspects into account when starting the process of preparing their new NDCs and when pursuing other initiatives which are a result of the findings of the Global Stocktake (such as increased mitigation or adaptation actions, or initiatives for support, in the short term).

## 5 Equity in Nationally Determined Contributions

As discussed in chapter 4, the outputs of the Global Stocktake should provide specific suggestions to Parties how to include and enhance equity in climate action and support. These suggestions should help Parties in the preparation of new NDCs by 2025.

In this chapter, we discuss how the outputs of the Global Stocktake can be reflected in these new NDCs. We also discuss how Parties could consider equity in the section of the NDCs which explains how the NDC is considered to be fair and ambitious.

### 5.1 Reflecting outputs related to equity in new NDCs

In the articles of the Paris Agreement which address NDCs (mainly Articles 3 and 4, and also Articles 6 and 13), equity is mentioned only once. According to Article 4.1, ‘Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty’. In short, Article 4.1 states that Parties’ mitigation actions are taken, *inter alia*, on the basis of equity.

While the elaboration on equity in Article 4 of the Paris Agreement is rather unspecific, the outputs of the Global Stocktake could provide helpful additional guidance to Parties on how they can put equity into practice in their new NDCs.

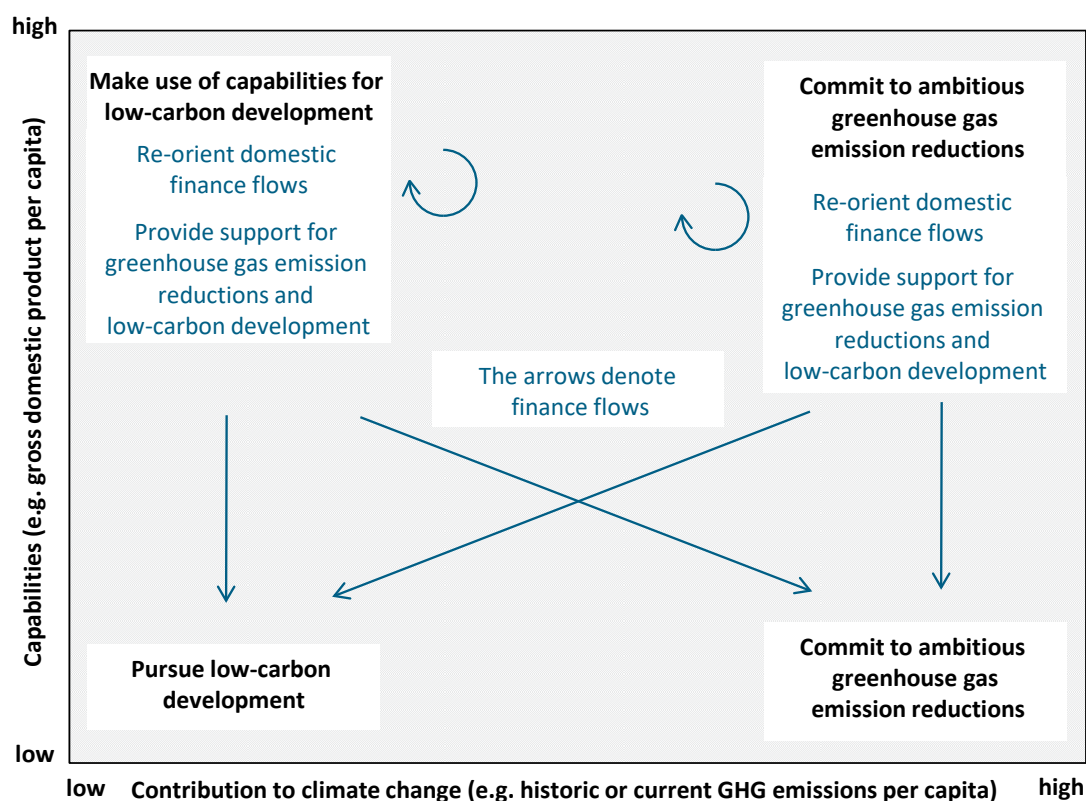
### 5.2 Taking fairness and ambition into account in the setting of NDC targets

In chapter 4, the importance of fairness and ambition in climate action and in new NDCs was discussed. A fair NDC target has to take into account a country’s historic and current contribution to climate change, e.g. measured in greenhouse gas emissions per capita. Countries with high capabilities (e.g. measured in GDP per capita) have wider opportunities for climate action in their own countries. They also have resources which allow them to provide support to those with lower capabilities. Figure 1 shows in a schematic way where the focus of new NDCs could be, depending on how a Party can be characterized with respect to capabilities and contributions to climate change.

As depicted in the figure, countries with a high contribution to climate change should commit to ambitious greenhouse gas emission reductions. Those with limited capabilities should be supported in their efforts. Countries with a low contribution to climate change should focus on a low greenhouse gas emission development. They should make use of available capacities and/or be supported in their efforts.

As also depicted in the figure, the provision of support is not the only relevant finance flow. It will be central for countries to mobilise additional support and to re-orient domestic finance flows in line with the goals of the Paris Agreement.

**Figure 1:** Possible focus in new NDCs, depending on capabilities and contributions to climate change



Source: Own illustration, Öko-Institut

### 5.3 Explanation of fairness and ambition in new NDCs

According to the 'information to facilitate clarity, transparency and understanding of NDCs' (Annex I to Decision 4/CMA.1, UNFCCC 2018b), Parties shall explain in their NDCs how they consider that their NDCs are fair and ambitious in light of their national circumstances. They shall also provide information on fairness considerations, including reflecting on equity.

Although this information was not mandatory for first and updated first NDCs, almost all Parties already provided such information (UNFCCC 2022b). However, Rajamani et al. (2021) pointed out that some NDCs contain indicators for fairness and ambition that are not anchored in the principles of international environmental law, including simply pointing to a small share of global emissions, least cost pathways, emissions per GDP, the progression of own effort, or being in line with own targets.

In the new NDCs which Parties will prepare by 2025, it will be important to more thoroughly explain how equity has been taken into account and why their NDC is considered fair and ambitious in the light of their national circumstances. For this, it is not only important to explain why the own NDC is fair, but also to explain what the application of the same principles would mean for NDC targets of other countries' NDC. Hence, countries should explore and communicate what their individual action would mean for collective action.

Among the concepts discussed above, the following could be considered for the explanation of fairness in new NDCs:

- **Responsibility:** For countries with relatively high per-capita greenhouse gas emissions, a fair NDC taking into account historical responsibility requires deep reductions in greenhouse

gas emissions. If the principle of historical responsibility is applied by itself, some countries may find it practically impossible to reduce emissions fast enough, while others could argue that they can still increase their emissions.

- **Capability:** If the concept of historical responsibility is supplemented by capability considerations, additional mitigation potential can be used. Countries with additional capabilities can commit to more ambitious mitigation.

As the capabilities of many countries are limited, and as some countries may find it difficult to reduce their greenhouse gas emissions in line with their responsibilities, these countries could explain how the provision of support helps making their NDC more equitable.

The inclusion of these considerations in the preparation of new NDCs, and in general a clearer communication on equity aspects, can help increase trust among Parties and hence help making the responses to climate change as ambitious as possible.

## A Appendix

This appendix contains a brief overview of literature on equity and climate change (A.1) and a summary of submissions to the Global Stocktake which addressed equity (A.2).

In addition, the appendix contains summaries and main messages from:

- ▶ research papers addressing equity and climate change (A.3);
- ▶ general literature on equity (A.4); and
- ▶ submissions to the technical dialogue under the Global Stocktake (A.5 and A.6).

### A.1 Overview of literature on equity and climate change

Rooted in contemporary western philosophy and other disciplines, there is a huge body of literature on equity (for a very selective overview, see Table 2 in section A.4.1). As equity is a decisive focus within the climate negotiations, different schools of thought that play a role should be highlighted when discussing equity under the Global Stocktake. Approaching the issue of equity, first of all, equity is an empty concept that needs to be filled with considerations, assumptions, values and norms (O'Callaghan Lewis et al. 2021). Filling the concept, a normative and conceptual space is created in which one can move and be delimited, but thereby also has limits in each case. Equity is a central point of ethics. In the context of climate change, climate justice is at the centre of climate ethics involving an indissoluble heterogeneity of competing concepts of justice. Concepts applied in the climate negotiations are mainly rooted in egalitarianism, sufficientarianism and prioritarianism (cf. Table 2 in section A.4.1). Justice is an intrinsic value to Parties and there are currently different views of how equity can be put into practice in the climate change context.

#### Indigenous approaches

**Indigenous approaches** to equity vary among different Indigenous communities, but they address well-being that encompasses social, cultural, spiritual, and environmental dimensions. Some examples of indigenous approaches to equity are recognition of sovereignty and self-determination, inter-generational equity, reciprocity, environmental stewardships as well as restorative justice. There are several **approaches to equity with origins in the Global South**. An example of equity debates from South America would be the concept of *buen vivir*. It emphasizes the importance of community well-being, respect for diversity, and a sustainable relationship with the environment. The connection between the individual and its cultural-natural environment lies in the centre of well-being and not the individual in itself. *Buen vivir* thus offers an alternative to the dominant development paradigm that prioritizes economic growth and individualism at the expense of social justice and environmental sustainability. *Buen vivir* can also inspire new approaches to policymaking that prioritize the well-being of people and the planet over economic growth. Overall, *buen vivir* can be a vision for a more equitable and sustainable future for South America and beyond (Salazar 2015). In this regard, there are also efforts to promote legal rights for ecosystems parallel to the rights of human beings. This approach also attempts to depart from the idea of nature as an object to property rights, and instead making it a legal subject with its own rights (Global Alliance for the Rights of Nature 2023).

## Gender aspects

Furthermore, equity is a critical concept in **gender studies related to climate change**, as women and marginalized gender groups often face disproportionate impacts from climate change due to social and economic inequalities. Gender studies aim to understand how gender roles and power relations shape vulnerability and resilience to climate change and how climate policies can address gender inequities. Equity is also essential in ensuring that women and marginalized gender groups have equal access to resources, decision-making processes, and benefits from climate action. Gender equity promotes social justice and sustainability by empowering women and marginalized gender groups to participate in climate adaptation and mitigation, which ultimately benefits the wider society (Nagel 2015). These approaches call for the consideration of various ideas and metrics that should guide the fight against climate change and can also make a difference in the design of the Global Stocktake.

## Equity in mitigation of climate change

Several recent papers address **equity in the mitigation of climate change**. They point out the historic and current unequal distribution of greenhouse gas emissions between countries and individuals, and they discuss possible ways of distributing the carbon dioxide emission budget remaining to keep the temperature goal of the Paris Agreement within reach. However, recent research shows that – if the remaining carbon budget is distributed among countries according to historic or current greenhouse gas emissions, many countries with historically high emissions may not be able to reduce their greenhouse gas emissions and increase their sinks as fast as it is needed to stay within the 1.5 °C temperature goal because emission budgets based on historic or current greenhouse gas emissions would be depleted within a few years (Höhne und Wachsmuth 2020; Rajamani et al. 2021; Ganti et al. 2023). These papers point out that in order to achieve this temperature goal, developing countries would have to implement more ambitious mitigation actions than what would be their fair share. They suggest that developed countries should provide support to developing countries to help fill the mitigation gap. Related to this, IIASA (2022) discusses various schemes for **sharing greenhouse gas emission reduction efforts between countries**.

Other literature points out the importance of **addressing needs at country level**, but also searching for **potential for more ambitious action at country level** (iGST Equity Working Group 2022b; 2022a).

## Equity in the process of the Global Stocktake

Among the papers that discuss **equity in the process of the Global Stocktake**, Winkler (2020) provides an overview of the provisions related to equity in the Convention, the Paris Agreement and the modalities for the global stocktake (the ‘Paris rulebook’, decision 19/CMA.1, UNFCCC 2018a). Holz et al. (2019) discuss standards of equity information, the role of support to developing countries, **intranational equity** and procedural aspects of the Global Stocktake.

## A.2 Submissions by Parties addressing equity and climate change

Parties and non-Party stakeholders submitted their views under i) the first Technical Dialogue and ii) the consideration of outputs component of the first Global Stocktake<sup>3</sup>. A number of these submission addressed equity aspects. Some focused on the current status of equity in addressing climate change, or on equity of the global stocktake process. These aspects are not the focus of

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<sup>3</sup> Submissions by Parties and non-Party stakeholders can be found on the following website: <https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx> by entering the term *stocktake* in the search field.



this paper. But several submissions provided suggestions on how to take equity into account in the outputs and outcomes of the Global Stocktake.

### A.2.1 Submissions to the technical dialogue

Parties and non-Party stakeholders were asked to submit their views ahead of each session of the technical dialogue under the Global Stocktake in 2022 and 2023. The submissions by China and Norway, for example, pointed out that a **just transition** of the workforce is a key aspect of equity in addressing climate change.

Norway also mentioned the **equal access to opportunities** that lies in zero-emission pathways, the **engagement of stakeholders** in climate policy making, and the importance of the results of IPCC work, e.g. **remaining carbon budgets**.

The Climate Action Network (CAN), among others, addressed the **equitable provision and distribution of means of implementation**. CAN suggested developing proper **resource mobilisation benchmarks**. Related to this, the African Group of Negotiators (AGN) suggested that the outcomes of the global stocktake on support should be based on just transition pathways. The AGN also suggested that the Global Stocktake should revisit the question **what constitutes a 'fair and ambitious'** contribution, and Kenia pointed out that to drive a transition that is equitable, the **needs** of developing countries must be responded to in an inclusive, fair and just manner."

The submission by AOSIS pointed out that from a fairness and equity lens, the Global Stocktake should identify **opportunities to address loss and damage** and provide recommendations to be taken into account. China mentioned **the increasing of resilience** to the impacts of climate change, and also the **equitable sharing of benefits and burden of mitigation**.

According to the submission by the Stockholm Environment Institute, **inequality reinforces** socio-political lock-in and political economic **barriers** to change, and it undermines social trust, which is essential to ambitious and cooperative climate mobilization. According to the SEI, the nature of a low-carbon and resilient transformation that is equitable is highly **context- and society-specific**.

### A.2.2 Submissions to the consideration of outputs phase

Parties and non-Party stakeholders were also asked to submit their views on the approach to the consideration of outputs component of the by February 2023 in due time for the preparation of the political phase of the first Global Stocktake.

South Africa discusses the role of **trust in the negotiation process** and argues that trust has been eroded as developed countries inadequately delivered on their commitments (mobilization of climate finance), failure of leadership (inadequate 2020 mitigation outcome) and advancing a mitigation-centric approach to implementation (destabilizing the careful balance of the Paris Agreement) marginalizing critical areas of implementation for developing countries. In this context, South Africa states that equity needs to be operationalized and applied in practice and in recommendations emerging from the Global Stocktake.

Furthermore, Brazil on behalf of ABU states the need to **operationalize equity** and points to the reports of the three IPCC AR6 working groups (IPCC 2022d), in particular to consider historical cumulative greenhouse gas emissions and historical human-caused surface warming. **Stressing**

**responsibility**, the submission flags outputs of the Second Periodic Review as relevant output components of the Global Stocktake (Decision 21/CP.27, UNFCCC 2022a) which also notes different responsibilities, national circumstances and capabilities, unevenly distributed impacts and risks, need for enhanced efforts, taking into account ambition, equity, just transition and the best available science. The link between science, equity and just transition is put forward by several submissions.

China states that the outcome of the Global Stocktake **shall not open the window for shifting responsibilities**. The principles of the Convention and the Paris Agreement should be effectively operationalized. Equity, CBDR/RC should serve as the benchmark reflecting different **historical responsibilities, legal obligations, and national capabilities and circumstances** between developed countries and developing countries.

Algeria on behalf of the Arab States argues in a similar direction: **‘Historic responsibility for climate change and the existing disparities in terms of capacities and national circumstances are essential aspects that have to be addressed when dealing with the enhancement of the implementation of the Paris Agreement and the achievement of its purpose’**. Adding a normative note the **‘need to deal correctly with the issues of equity and just transition’** is stressed.

Australia recognizes in its submission that Parties are at different stages of development and enjoy the right to nationally determined development pathways. However, Australia considers that ‘keeping 1.5 degrees within reach requires an approach to equity which supports, rather than constrains, ambition. In this light, Australia considers that **equity take into account capability**. Major emitters in command of significant economic power have the capacity to make significant contributions to climate action’.

In Australia’s view, ‘the outcomes of the Global Stocktake must adopt a consideration of equity that supports all parties to make contributions that **reflect their highest possible ambition**, including for those parties not currently undertaking economy-wide absolute emissions reduction targets’. In addition, Australia points out that ‘international cooperation to build capabilities for low carbon development in all countries is a vital part of any serious approach to addressing climate change and this must be recognised by the outcomes of the first Global Stocktake’.

### A.3 Summaries and main messages from research papers addressing equity and climate change

#### A.3.1 Ganti et al. (2023): Uncompensated claims to fair emission space risk putting Paris Agreement goals out of reach

<https://iopscience.iop.org/article/10.1088/1748-9326/acb502>

Several large developing regions with low historical contributions to global warming have a strong moral claim to a large proportion of the remaining carbon budget. This paper assesses the potential tension between the moral claim to the remaining carbon space by large developing regions with low per capita emissions, and the collective obligation to achieve the goals of the Paris Agreement.

- “We find that there are two possible outcomes across all scenarios, even when developed regions minimize their ongoing carbon dioxide (CO<sub>2</sub>) emissions—either the Paris Agreement’s long-term temperature goal (LTTG) is breached, or other developing regions need to minimize

*their CO<sub>2</sub> emissions as well to compensate for the gap between maximum developed regions emission reductions observed in the AR6 WG III scenarios and the 1.5 °C LTTG.”*

- ▶ *“A failure to provide adequate levels of financial support to compensate large developing regions to emit less than their moral claim will put the Paris Agreement at risk.”*

### **A.3.2 iGST Equity Working Group (2022): The Equity Landscape**

<https://www.climateworks.org/report/equity-landscape-international-climate-governance/>

This paper outlines a set of key issues that should be included in the technical assessment of the formal GST to address the equity challenge. Critical issues with regards to the equity challenge (i.e. mitigation, adaptation, loss and damage, support and finance, capacity building) are discussed with the intention of clarifying where potential opportunities exist to overcome the current impasse in the climate negotiations. In particular, the paper stresses the importance of not only looking at ambition at the aggregate level in the GST but also at the level of country efforts in order to fully take into account fairness in reaching a more ambitious outcome.

- ▶ *“Our world is fundamentally defined by unequal development, by rich and poor and North and South, and it is precisely because of this that the very rapid and disruptive transition that is now so necessary threatens us with seemingly impossible deadlocks. A very rapid phaseout of coal would seem, to many powerful Indians, to promise only catastrophe, and yet it must happen. And the same can be said about oil and powerful Americans. And so on. The challenges abound.”*
- ▶ *“Rapid decarbonization will be impossible unless the effort to achieve it is shared fairly and seen as being shared fairly. This means that nations (and actors within nations) must undertake efforts at a scale at least plausibly consistent with the demands of justice, which can and will be debated in terms of equity principles and their quantitative implications. This means many things. One of them is that high capacity, high responsibility countries must act very strongly in the short term ± universal, long-term (e.g., 2050) net-zero targets will only be achievable if such countries translate them into immediate (e.g., 2030) targets.”*

### **A.3.3 iGST Equity working Group (2022): A Needs-based Approach to Assessment and Stocktaking**

<https://unfccc.int/documents/624844>

The paper summarises the key messages emerging from a workshop attended by a range of different stakeholders involved in the GST process that discussed how a needs based assessment could be used to guide the GST and support efforts to achieve the key objectives of the Paris Agreement.

- ▶ *“In the interest of advancing toward a climate regime and global efforts that are “fit for purpose” with respect to achieving our commonly agreed climate goals, we propose that the GST take a concrete, bottom-up, needs-based approach to collective assessment, one that holds the notions of adaptive capacity and mitigative capacity at its core.”*
- ▶ *“From an equity perspective, a needs-based approach prioritizes the protection of those vulnerable to climate change, highlights the specific contextual factors facing Parties, and recognizes that there will be differential requirements for support to build adaptive and mitigative*

*capacity and thereby enable the depth and ambitiousness of climate action required to meet the objectives of the UNFCCC and the Paris Agreement.”*

#### **A.3.4 IIASA (2022): A fair climate**

<https://iiasa.ac.at/policy-briefs/nov-2022/fair-climate>

The briefing provides an overview of key results from the Exploring National and Global Actions to Reduce Greenhouse Gas Emissions (ENGAGE) Project, which evaluates the potential impacts of effort-sharing schemes based on a range of ethical principles such as the Ability to pay, Immediate Emissions Per Capita, Per-capita convergence, Grandfathering and Greenhouse Development Rights via the use of integrated assessment models.

- ▶ *“Fairness is affordable. Most effort-sharing schemes lead to only a very slight reduction in 2050 global GDP (well under 1% compared with cost-optimal scenarios).”*
- ▶ *“Fairness-based emissions trading can cut costs further. However, the scale of international transfers may make this unfeasible.”*
- ▶ *“A climate club can bring the best of both worlds. If a large enough group of willing nations makes extra effort, then the world can achieve low-cost, fair mitigation with limited financial transfers.”*
- ▶ *“Developing nations are likely to benefit from any of these approaches. India, Indonesia, Mexico, South Africa, and Thailand face lower mitigation effort in all these ethics-based schemes than in cost-optimal scenarios.”*
- ▶ *“We still need to do more in the short term. In all effort-sharing schemes explored so far, countries need to increase their nationally determined contributions in order to meet the Paris goals.”*

#### **A.3.5 UNFCCC (2022): Nationally determined contributions under the Paris Agreement – Synthesis report by the secretariat.**

<https://unfccc.int/documents/619180>

This report collects and presents information from the 166 latest available nationally determined contributions communicated by 193 Parties to the Paris Agreement and recorded in the registry of nationally determined contributions as of 23 September 2022.

- ▶ *“Taking into account implementation of NDCs up until 2030, projected global mean temperatures are subject to significant uncertainty owing to the range of emission levels estimated for 2030 resulting from implementation of NDCs (including whether conditional elements are implemented or not), the range of illustrative emission extensions beyond 2030 and inherent climate system uncertainties. The best estimate of peak temperature in the twenty-first century (projected mostly for 2100 when temperature continues to rise) is in the range of 2.1–2.9 °C depending on the underlying assumptions.”*
- ▶ *“In the context of the carbon budget consistent with 50 per cent likelihood of limiting warming to 1.5 °C (500 Gt CO<sub>2</sub>), cumulative CO<sub>2</sub> emissions in 2020–2030 based on the latest NDCs would likely use up 86 per cent of the remaining carbon budget, leaving a post-2030 carbon budget of*

*around 70 Gt CO<sub>2</sub>, which is equivalent to approximately two years of projected total global CO<sub>2</sub> emissions by 2030.”*

### **A.3.6 Rajamani et al. (2021): National ‘fair shares’ in reducing greenhouse gas emissions within the principled framework of international environmental law**

<https://www.tandfonline.com/doi/full/10.1080/14693062.2021.1970504>

This paper examines the extent to which the states’ NDCs refer to the principles of international environment law in relation to national fair shares (i.e. special circumstances, common but differentiated responsibilities and equity). The research identified that 73 % of the 168 NDCs that were reviewed referred explicitly to special circumstances whereas this figure was lower for both common but differentiated responsibilities (35 %) and equity (30 %). Following this review, a sub-set of approaches to the quantification of national fair share emission targets were selected from the literature that excluded any approach based on cost or grandfathering. The range of national fair shares were then narrowed further based on principles such as harm prevention and precaution and the normative pillars of the climate change regime (i.e. progression, highest possible ambition) such that the sum of individual contributions is collectively compatible with the long-term temperature goal of the Paris Agreement. Key findings from this assessment are directly referred to below:

- ▶ *“Developed states that have high historic responsibility, high GDP per capita, etc. end up with a 1.8°C or 1.5°C consistent emissions level in 2030 that is around zero (USA, Japan) or net-negative (e.g. Germany, France, UK). This means that these states have already used their fair share of emissions space and should stop emitting by 2030. If such a level is not reachable with domestic emission reductions, these states will need to correspondingly scale up the support they offer to others to reduce their emissions, based on the principle of cooperation.”*
- ▶ *“Of the G20 states, only India and Indonesia can increase their emissions relative to 2010. The Paris Agreement temperature goal requires global emissions in 2030 to be well below 2010 levels, so only a few selected states can temporarily increase their emissions, as such increases have to be compensated for by other states. Around half the G20 states have moved in the wrong direction over the 2010s, and those decreasing emissions have done so too slowly.”*

### **A.3.7 Winkler (2020): Putting equity into practice in the global stocktake under the Paris Agreement**

<https://ideas.repec.org/a/taf/tcpox/v20y2020i1p124-132.html>

This paper discusses how equity is relevant to all themes of the Global Stocktake (i.e. mitigation, adaptation, loss and damage etc.) and will be an essential part of the outcome of the global stocktake informing countries as they propose their next NDCs.

- ▶ *“Critical inputs on equity for the GST include fairness considerations in NDCs, voluntary submissions by Parties and IPCC reports.”*
- ▶ *“Consideration of equity in the GST process can lead to more equitable outcomes, enabling stronger collective ambition.”*

**A.3.8 H hne and Wachsmuth (2020): Fair contributions versus fastest possible reductions**

<https://newclimate.org/resources/publications/fair-contributions-versus-fastest-possible-reductions>

This paper synthesizes the results from previous work in the literature that compares the need for fair contributions with the need for low cost emission reductions that can be implemented rapidly given the urgency of the climate emergency. The synthesis paper provides recommendations related to this topic for the further development of nationally determined contributions (NDCs) and long-term strategies (LTS), both required under the Paris Agreement.

- *“The concept of a fair contribution applied only to domestic emissions may either stop the discussion before it started for developed countries (requiring net zero emissions within a decade) or suggesting that an increase in emissions is in line with the Paris Agreement for some developing countries for a longer period of time (while it is actually not).”*
- *“To make the stringent global mitigation pathways possible, emissions in all countries have to be reduced as fast as possible. Whether a national emission pathway itself is in line with the responsibility and capability of that country becomes less relevant. It is now more a question of who pays for the transition, not where it is happening.”*
- *It is therefore fundamental that all countries explore their full mitigation potential, also considering global cost effectiveness or the “highest possible ambition” as it is termed in the Paris Agreement.”*

**A.3.9 Van den Berg et al. (2020): Implications of various effort-sharing approaches for national carbon budgets and emission pathways**

<https://link.springer.com/article/10.1007/s10584-019-02368-y>

This paper analyses how country-level emission targets and carbon budgets can be derived based on equity considerations. Six effort sharing approaches are discussed: Per capita convergence, equal cumulative per capita emissions, ability to pay, greenhouse development rights, grandfathering, and cost-optimal allocation.

- *“Some approaches lead to extreme outcomes, which is a consequence of our staying as closely as possible to the equity principle underlying the effort-sharing approach. Although this represents a full range of outcomes, it means that some of the outcomes are clearly impossible to achieve by domestic emission reductions alone.”*
- *“Although mitigation in countries to achieve the reduction targets could be supported by a mixture of financing, emissions trading and other mechanisms (which could be explored in future research), the outcomes of the approaches should in any way not be regarded as top-down calculated targets and budgets for countries.”*
- *“Instead, they are meant to inform the discussions on ratcheting-up of mitigation efforts, also in view of the upcoming UNFCCC Global Stocktake, in particular with regard to the different notions of fairness, equity and efficiency of the distribution of effort across countries. This implies that in terms of practical implementation, deliberative discussions are needed between policy-makers to share the effort of closing the emissions gap fairly.”*
- *“In general, effort-sharing approaches that (i) calculate required reduction targets in carbon budgets (relative to baseline budgets) and/or (ii) take into account historical emissions when*



*determining carbon budgets can lead to (large) negative remaining carbon budgets for developed countries.”*

### A.3.10 Holz et al. (2019): Equity in the Global Stocktake and Independent Global Stocktake

[https://www.climateworks.org/wp-content/uploads/2020/05/Equity-in-the-Global-Stocktake-and-Independent-Global-Stocktake\\_iGST\\_CERP.pdf](https://www.climateworks.org/wp-content/uploads/2020/05/Equity-in-the-Global-Stocktake-and-Independent-Global-Stocktake_iGST_CERP.pdf)

This paper discusses the issue of equity in relation to several subject areas including the scope of the equity challenge in Global Stocktake activities, transparency and standards of equity information and benchmarks, climate finance, including means of implementation and support, intranational equity, and procedural equity.

- ▶ *“The explicit mandate to conduct the GST “in the light of equity” represents an opportunity to maximize the ambition raising potential and promise of the GST as well as strengthen its overall legitimacy and the legitimacy and fairness of the overall response to the climate challenge, and consequently its adequacy.”*
- ▶ *“In addition to equity being a “good” in and of itself, there are important instrumental dynamics that potentially make equity a strong enabler of ambition. These include: 1) climate change is a commons problem where only if actors see others striving towards their fair share will they do likewise, 2) the “the money is in the wrong place” problem; that is, any truly ambitious transition will demand substantial amounts of international support, for the simple reason that much of the world’s mitigation potential and adaptation need is located in countries and communities that do not have the money to address them, or that have pressing national economic and development needs that in many cases take priority to investing in a global-scale challenge, and 3) extreme inequality is a social poison the world over and can be (and has been) exploited by opponents of climate action to stall or stop climate policy.”*

## A.4 Summaries and main messages from general literature on equity

### A.4.1 Table of equity concepts

**Table 2: Overview of main concepts regarding equity and climate justice / basic principles of distributive justice**

Concept/Theory	Main Contributors	Fundamental argument	Criticism	Concept in view of the climate regime
Egalitarianism	Ernst Tu- gendhat  Stefan Gosepath  John Broome	Everyone deserves equal resources as everyone has equal humanity. Mostly translated into the same level of wealth. The wealth of individuals is seen in a relation to each other.	Different interpretations on wealth and resources. What entity will it be compared to (complicated on a global scale)? This also has normative implications and needs to be considered in regard to the climate budget	Emissions egalitarianism starting point: fixed limit on greenhouse gas emissions budget associated with a given temperature increase. How can these emissions be divided? Equal share of emissions per capita (as everybody enjoys equal humanity and no differentiation

Concept/ Theory	Main Con- tributors	Fundamental argument	Criticism	Concept in view of the climate regime
			hypothetical scenario of 'leveling down': As the highest good is overarching equality, and a high level of wealth cannot be achieved, should a lower level of wealth for everyone be considered?	can be made on this basis/on any moral theory).
Sufficien- tarianism	Harry G. Frankfurt  Lukas Meyer	Basic needs must be met by all individuals. More about the misery of the worse-off, and not the inequality in itself. A certain threshold is defined and must be met by all individuals. Above this threshold, resources are best allocated via the free market, below the threshold, via the state. Equity serves as the avoidance of misery.	Difficulties to formulate and define the threshold, especially on a global scale. The distribution of resources above the threshold can develop into new considerations of justice, and the concept is not helpful for distributive considerations which deal with equity issues which are above the threshold. How to define basic needs (differentiation between a need and a wish)? And, on a practical note, if they are too high, they might be too expensive to realize.	Exempting developing countries from costly climate action as long as these actions would be at the costs of their citizens whose living conditions is under the threshold. Keeping citizens above the threshold is the greater good. Necessity: Aligning the threshold with the climate budget and (scarce) resources. But how to ensure that beyond the threshold resources are not overused?
Prioritar- ianism	Wilfried Beckermann  Joanna Pa- sek  Derek Parfit	Incremental improvements in the well-being of people who are not well-off has a greater moral value than the same incremental improvement to a person's well-being that has a higher baseline well-being. Equity serves as the avoidance of misery but: Value to equality: A given total of wellbeing is more valuable the more equally it is distributed with this approach and with view on the climate impacts, ambitious climate action can be justified.	Prioritarianism can serve as a justification for (resource intensive) development. Here, equity is not seen as an intrinsic value. There is no formulation of what is 'enough'. People who are not well-off get incremental improvements even if they are above a certain threshold.	Focus on the social welfare function. Considering the unequal distribution of other resources, a great number of (if not all) emission permits need to go to developing countries as their citizens are less well off.

Own compilation based on O'Callaghan Lewis et al. (2021) and Gesang (2011).



#### A.4.2 O’Callaghan Lewis (2021): Exploring equity

<https://www.sciencedirect.com/science/article/pii/S2590198221000397>

This paper uses concepts and theories from the research fields of social psychology, philosophy, and economics in order to understand and clarify the concept of equity within the field of transportation.

- ▶ *“The concept of equity is expansive. This article covered a subset of predominantly western, contemporary philosophical theories of equity. Most are specified assuming physical capital; while physical capital is a critical component of the transportation resource (i.e. you need money to pay for buses, bus stops, and their various operations costs), so is human capital (i.e. you need knowledgeable professionals to operate the system in a manner that efficiently utilizes available physical capital).”*
- ▶ *“Additionally, the transportation resource impacts physical, human, and social capital. Transport justice, mobility justice, and spatial justice present transportation-specific ethical theories that account for this unique, complex nature of transportation as a resource.”*

#### A.4.3 Guy and McCandless (2012): Social equity: Its Legacy, Its Promise

<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1540-6210.2012.02635.x>

This paper explains the roots of the concept of social equity, its current understandings and how its relevance to emerging issues.

- ▶ *“Social equity is rooted in the idea that each person is equal and has inalienable rights. Because of America’s unique blend of social, religious, economic, and political characteristics, we value this concept despite, or perhaps because of, the simultaneous tensions of a capitalist economy, which requires inequality, set within a democratic constitutional system, which assumes equality.”*
- ▶ *“The impossibility of simultaneously achieving inequality and equality produces episodic “corrections.” This was the case in the tumultuous 1960s, a period when the usually tame notion of equity gave rise to heated debate and resulted in calls for social change. Now, tumult in the form of economic inequality, unemployment, and globalization is a harbinger of renewed interest.”*

#### A.4.4 Equity considerations in the Global South

Ideas and discussions on equity with regard to climate change are omnipresent. The concept of *buen vivir* is an example of equity debates from South America. It emphasizes the importance of community well-being, respect for diversity and a sustainable relationship with the environment. The connection between the individual and its cultural-natural environment lies in the centre of well-being and not the individual in itself. *Buen vivir* thus offers an alternative to the dominant development paradigm that prioritizes economic growth and individualism at the expense of social justice and environmental sustainability. *Buen vivir* can also inspire new approaches to policymaking that prioritize the well-being of people and the planet over economic growth. Overall, *buen vivir* can be a vision for a more equitable and sustainable future for South America and beyond (Salazar 2015). In this regard, there are also efforts to promote legal rights for ecosystems parallel to the rights of human beings. This approach also attempts to depart

from the idea of nature as an object to property rights, and instead making it a legal subject with its own rights.

Furthermore, equity is a critical concept in gender studies related to climate change, as women and marginalized gender groups often face disproportionate impacts from climate change due to social and economic inequalities. Gender studies aim to understand how gender roles and power relations shape vulnerability and resilience to climate change and how climate policies can address gender inequities. Equity is also essential in ensuring that women and marginalized gender groups have equal access to resources, decision-making processes, and benefits from climate action. Gender equity promotes social justice and sustainability by empowering women and marginalized gender groups to participate in climate adaptation and mitigation, which ultimately benefits the wider society (Nagel 2015). These approaches call for the consideration of different ideas and metrics that should guide climate action and can also make a difference in the process and outputs of the Global Stocktake.

## **A.5 Summaries and main messages from submissions to the second session of the technical dialogue**

Submissions by Parties and non-Party stakeholders can be found on the following website: <https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx> by entering the term *stocktake* in the search field.

### **A.5.1 Submission by Norway**

This submission contains a separate section on “equity considerations in the technical dialogue”. In this section, considerations are presented which should be discussed during the technical dialogue.

- ▶ *“When it comes to how equity should be reflected in the technical dialogue, we believe we need to treat equity more broadly, and thus go beyond historical and burden sharing aspects. The following equity perspectives should be added to the discussion:*
  - *Equal access to the opportunities that lies in a zero-emission pathway.*
  - *Engaging and involving different stakeholders in climate policy making at local, national, regional and international levels.*
  - *Just transition of the workforce and the creation of decent work and quality jobs.”*
- ▶ *“Another aspect linked to equity is the developmental co-benefits one can achieve when carrying out climate policy. For example, according to the IPCC WG III report the low-emission energy sector transitions also will have multiple co-benefits, including improvements in air quality and health. We need to discuss how these opportunities can benefit everyone, for the transition to a zero-emissions society to leave no one behind.”*

### **A.5.2 Submission by AOSIS**

This submission contains a separate section on “Fairness considerations, including equity to inform the GST outcomes/outputs and process”. In this section, considerations are presented which should be discussed during the technical dialogue.

- ▶ *“From a fairness and equity lens, the GST outcome should identify opportunities to address loss and damage and provide recommendations to be taken into account given the current and potential future loss and damage that countries on the frontlines, such as small island developing states, will face.”*
- ▶ *“Focus on redressing the disproportionate impacts of climate change on SIDS including through support for loss and damage and a just transition. Related to that, AOSIS list criteria relevant for considering how the outcome of the GST will address the needs of vulnerable countries.”*
- ▶ *AOSIS is of the view that equity considerations for the GST should cover the following:*
  - i. *Redressing the disproportionate impacts of climate change on SIDS, including through support for loss and damage;*
  - ii. *Preventing further inequitable climate impacts and hardship on SIDS;*
  - iii. *SIDS effective participation in the GST process;*
  - iv. *Strengthening SIDS’ ability to implement GST recommendations and utilize the GST outcomes in developing their next round of NDCs.*

### **A.5.3 Submission by the G-77 and China**

This submission contains a separate section on “Key issues for consideration during the GST: The science-policy interface, equity, and means of implementation”. In this section, considerations are presented which should be discussed during the technical dialogue.

- ▶ *“Equity and just transitions can enable deeper ambitions for accelerated mitigation. Applying just transition principles and implementing them through collective and participatory decision-making processes is an effective way of integrating equity principles into policies at all scales, in different ways depending on national circumstances. Financial/support gaps mentioned in context of equity and IPCC mitigation options.”*
- ▶ *“There are priority issues that are of key interest to developing countries that have not been given adequate treatment or balanced treatment. These include equity in both outcome and process, adaptation, means of implementation (separately for finance, technology transfer, and capacity building), response measures, loss and damage, technology development and transfer, and transformational change. These issues should be given more detail and focus to elicit from Parties and other contributors of inputs to the process more holistic, crosscutting, equity-oriented, backward and forward-looking information inputs that would be needed to enable the GST to carry out its purpose.”*
- ▶ *“Consideration of ethics and equity can help address the uneven distribution of adverse impacts associated with 1.5°C and higher levels of global warming, in all societies. Consideration of climate justice can help to facilitate shifting development pathways towards sustainability, including through equitable sharing of benefits and burdens of mitigation, increasing resilience to the impacts of climate change, especially for vulnerable countries and communities, and equitably supporting those in need.”*

#### A.5.4 Submission by Climate Action Network

This submission contains a separate section on “Reflections on equity and the GST”. In this section, considerations are presented which should be discussed during the technical dialogue.

- ▶ *The GST can help answer such questions in terms that emphasize the importance of equity. This is possible precisely because the GST is a stocktake, an accounting of where and how current practices are falling short – particularly with respect to the equitable provision and distribution of means of implementation – and thus it necessarily highlights current inequities. Without equity any adequately ambitious drive for a rapid global climate transition will trigger disastrous disruptions, and is more likely to increase distrust than to enhance cooperation.*
- ▶ *As for the deeper challenges – sustainable development, fair shares, true climate justice – the GST can set a new stage. Proper resource mobilization benchmarks can orient larger debates, and send strong signals about the scale and nature of the just transition framework we actually need. And if, in a time of rising nationalism and weakening democratic governance, the GST can also help us to think collectively and internationally, and to understand that we really are in this together, on one very small planet, so much the better.*

#### A.5.5 Submission by the iGST

This submission contains a separate section on “equity and the GST”. In this section, the following links are provided to express their position on the issue of equity and the GST, which we have already summarised in the previous section:

- ▶ *Holz, C., Athanasiou, T., & Kartha, S. (2019). Equity in the Global Stocktake and Independent Global Stocktake. Climate Equity Reference Project. Available at: [https://www.climate-works.org/wp-content/uploads/2020/05/Equity-in-the-Global-Stocktake-and-Independent-Global-Stocktake\\_iGST\\_CERP.pdf](https://www.climate-works.org/wp-content/uploads/2020/05/Equity-in-the-Global-Stocktake-and-Independent-Global-Stocktake_iGST_CERP.pdf)*
- ▶ *iGST Equity Working Group. (2021). The Equity Landscape. Equity Working Group of the independent Global Stocktake. Available at: <https://www.climateworks.org/report/equity-landscape-international-climate-governance>*

### A.6 Summary and main messages from submissions to the first session of the technical dialogue

#### A.6.1 Submission by the African Group of Negotiators

This submission contains a separate section on “African Group priorities and expectations for the GST”. In this section, considerations are presented which should be discussed during the technical dialogue.

- ▶ *“GST should revisit the question of what constitutes a “fair and ambitious” contribution (criteria)”*
- ▶ *“GST outcomes on support should be based on just transition pathways for Africa – increasing access to investment flows tied to the global low-emissions shift - thus enhancing positive economic growth while minimizing the debt burden on countries.”*

### A.6.2 Submission by the LMDC

This submission contains a separate sub-section on “equity”. In this section, considerations are presented which should be discussed during the technical dialogue.

- ▶ *“Equity, as provisioned under A. 2.2 of the PA, is an important aspect of the GST. The operationalization of Equity and CBDR therefore needs to be understood in the following light, especially with respect to GST.”*
  - *“First, Equity and CBDR-RC must be the basis for all climate change actions, i.e. mitigation, adaptation, and means of implementation and support in terms of finance, technology development and transfer and capacity building.”*
  - *“Second, such efforts at protecting the climate and combating issues pertaining to and arising from climate change must be in accordance with common but differentiated responsibilities.”*
  - *“Third, the efforts of individual Parties will depend on their national circumstances and respective capabilities.”*

### A.6.3 Submission by Kenya

This submission contains a separate section on “just transition to low carbon economies”. In this section, considerations are presented which should be discussed during the technical dialogue.

- ▶ *“Pursuing a low carbon development pathway places additional burden on developing countries like Kenya that have inadequate technology, capacity and finance. This limits the extent to which these nations pursue the pathway in the wake of many urgent pressing needs for development. This is however not the case for developed countries. To drive a transition that is equitable, the needs of developing countries must be responded to in an inclusive, fair and just manner.”*

### A.6.4 Submission by Norway

This submission contains a separate section on “fairness considerations”. In this section, considerations are presented which should be discussed during the technical dialogue.

- ▶ *“Norway’s approach to consider the fairness principles (Art 4PA) is to assess how its NDC contributes to meeting the global long-term goal of the Paris Agreement, with weight on limiting the global warming to 1.5 degree increase, taking into account fairness and equity.”*
- ▶ *“The most important basis for such an assessment is the IPCC reports. For example, by taking into account the remaining global carbon dioxide emission budget and the need for deep reductions in other greenhouse gases consistent with achieving the temperature goal of the Paris Agreement.”*

### A.6.5 Submission by CarbonCare InnoLab

This submission contains a separate section on “mitigation” advocating for a rapid phase out of fossil fuels as part of a just transition to a low carbon economy. In this section, considerations are presented which should be discussed during the technical dialogue.

- ▶ *“CCIL takes a just energy transition very seriously. Although Parties signed the Glasgow Climate Pact at COP26, committing to reducing greenhouse gas emissions and phasing down fossil fuels, the energy crisis due to the Russia-Ukraine war, coupled with rising energy prices may risk a pause in the energy transition and reductions in greenhouse gas emissions, or even a return to fossil fuels.”*
  - *“CCIL strongly recommends that all Parties collectively reflect on what a just energy transition should look like through roundtables and dialogues;”*
  - *“CCIL called on the UNFCCC to assess governments’ climate action plans pushing for phasing out, rather than phasing down, fossil fuels and massively scaling up renewable energy;”*
  - *“CCIL also recommends tracking divestments and closures of all fossil fuel financing, production and expansion at the same time.”*

#### **A.6.6 Submission by C2ES and EDF**

This submission provides a high-level, initial description of issues that decision-makers may wish to take into account—and elaborate further as needed— when deciding how to organize the work of the GST.

- ▶ C2ES and EDF have developed an ‘opportunities framework’ that may be helpful in adding further structure to the information gathering and technical analysis under the GST, as well as toward generating clear outputs. This framework comprises:
  - *“three landscape analyses, or surveys, of promising opportunities that could provide substantial, near-term, scalable, enhanced climate action, ambition, and support in the context of the Paris Agreement’s long-term goals.”*
  - *“a set of considerations to support the effective organization and distillation of clear signals from the GST. These considerations can help assess collective progress and make key messages more accessible and reflective of the broad range of circumstances of Parties.”*

#### **A.6.7 Submission by Climate Action Network International**

This submission views the GST as an improvements and solutions provider on a range of topics that are still facing challenges to be fully covered and implemented in climate policies and strategies.

- ▶ *“The Global Stocktake is the core of the Paris Agreement’s ambition mechanism. It should drive ambition on all three Paris goals and reflect on their state of affairs, but must also seek to identify ways to address existing gaps for reaching the Paris goals. In doing so, considerations of equity, social and gender justice, intergenerational justice, the protection and promotion of human rights, just transition, and environmental integrity should be at the front of mind. Successful climate action prioritises the needs of the most vulnerable, and holds those who caused climate change accountable. It positively contributes to sustainable development, and to the reduction of both poverty and inequality, whilst addressing the nature crisis, protecting ecosystems and biodiversity.*



- *“Ambitious action on sustainable climate change solutions in line with the Paris Agreement will not only reduce health impacts, but offers health co-benefits including cleaner air, healthier diets and improved physical activity. To achieve this, fossil fuels must be phased-out fast, while dangerous, harmful and questionable climate solutions should be avoided such as nuclear power, geoengineering, and unsustainable biomass use.”*

#### **A.6.8 Submission by FAO**

This submission presents the work of the FAO in assessing progress made with regards to the topics of mitigation, adaptation, finance flows and means of implementation, social and economic consequences and impacts of response measures, loss and damage and other crosscutting themes within land use and agricultural sectors.

- *“Humankind is facing a perfect storm of climate change, biodiversity loss and multiple forms of malnutrition coexisting in the same country, community, household and even individual. Turning it around, requires to adopt an agrifood-systems perspective – from the ecosystems supporting food production to the actual production, processing, distribution, preparation and consumption of food. Doing so, can help to identify key policies and actions needed to address the challenges of climate change, biodiversity loss and nutrition and clarify their health, environment, social equity and economic impacts. FAO has identified entry points and recommendations for concrete actions by key stakeholders – governments, academia, civil society, private sector, and development partners –to build resilient, inclusive, and sustainable agrifood systems.”*

#### **A.6.9 Submission by the International Labour Organization (ILO)**

This submission presents the views of the ILO outlining the challenges and opportunities associated with a just transition to a low carbon economy.

- *“Earlier analysis by the ILO suggested that continued global warming leading to heat stress could result in losses of 2.2 per cent of total working time by 2030, the equivalent of 80 million full time jobs. Lower-middle- and low-income countries are expected to suffer the worst, particularly as many of them are highly exposed to heat stress and have fewer resources to adapt effectively to increased heat. If international support to adapt is not sufficient, heat stress and overall climate change could become an additional driver of forced human mobility and migration, both internal and across borders.”*
- *“By contrast, if properly managed with meaningful social dialogue at all levels, climate action can lead to more and better jobs warranting that no one is left behind, as well as ensuring better complementarity between employment, social protection and skills development policies. In fact, taking action to address climate change in the energy sector has the potential to deliver some 24 million new jobs by 2030. Both adaptation to climate change and measures to mitigate greenhouse gas (GHG) emissions offer opportunities to create new jobs, while securing existing ones.”*

#### **A.6.10 Submission by the International Committee of the Red Cross (ICRC)**

This submission presents the views of the ICRC outlining the particular vulnerability to climate change of populations affected by conflict or violence.

- ▶ *“Despite being particularly vulnerable to climate change because of their limited adaptive capacity and readiness, population of countries affected by conflict or violence tend to be neglected by climate action and finance. In line with article 9.4, such countries should be adequately supported to cope with and adapt to the adverse effects of climate change. Considerations on equity in climate action and support to people in vulnerable situations are at the core of this submissions. They discuss five dimensions, in line with the guiding questions developed by the SB Chairs for the Technical Assessment component of the first Global Stocktake”:*
  - *“I. Scaling up the response to the growing humanitarian impacts of climate risks and strengthening climate adaptation in countries enduring conflict or violence.”*
  - *“II. Gaps in the provision and mobilization of scaled-up climate finance in conflict and violence-affected settings.”*
  - *“III. Barriers to adequate support to climate adaptation in conflict settings.”*
  - *“IV. The ICRC’s contribution to achieving the purpose and long-term goals of the Paris Agreement.”*
  - *“V. Recommendations to strengthen the implementation of the Paris Agreement and ensuring that no one is left behind.”*

#### **A.6.11 Submission by the International Trade Union Confederation**

This submission presents the views of the International Trade Union Confederation outlining the need for adaptation support for the workforce in a just transition towards a low carbon economy.

- ▶ *“There is a clear need for better understanding of the adverse impacts on developing countries of response measures undertaken by developed countries aimed at mitigating climate change. The GST is an important moment for developing countries to report on these negative impacts. As these negative impacts are affecting working, their families and communities there is the urgency to respond with just transition policies and measures to mitigate these negative impacts.”*

#### **A.6.12 Submission by the Partnership on Sustainable Low Carbon Transport (SLoCaT)**

This submission presents the views of the Partnership on Sustainable Low Carbon Transport outlining the need for enhanced mitigation action in the transport sector.

- ▶ *In order to meet Paris Agreement targets and to keep the rise in the average global temperature below 1.5 degrees Celsius (°C), transport emissions will need to drop two-thirds below 2019 levels (or by 8 gigatonnes (Gt) of CO<sub>2</sub>) by 2050. Therefore, the temporary reduction in transport emissions experienced during the pandemic in 2020 is roughly equal to the reductions needed annually to meet 2050 targets and to close the transport emissions gap. However, as of May 2021, only 15% of the 54 second-generation Nationally Determined Contributions submitted by countries under the framework of the Paris Agreement included a specific target for reducing transport emissions, showing limited progress towards meeting key goals.*



- ▶ *“The pandemic has underscored the need for policy makers to take bold steps to address catastrophic impacts to transport and mobility systems. However, while some leaders and practitioners – often at the local level – have demonstrated willingness to take short-term action on mobility to increase access and well-being (e.g., by reallocating road space and supporting public transport), others have hesitated to take bold steps. These mixed responses have catalysed renewed commitments from policy makers and activists to stabilise the climate while increasing equity, inclusion and social justice, through climate strikes and other actions.”*
- ▶ *“Pandemic recovery packages so far have proven a mixed bag for climate action in the transport sector. While a number of national recovery packages have firmly embraced a goal to “build back better” (e.g., by promoting electric vehicles or shifting from air travel to rail), many have upheld the status quo (e.g., by backtracking on fossil fuel subsidy reform or providing unconditional airline bailouts) rather than adopting green and equitable recovery strategies for transport systems. The pandemic has also led to severe budget cuts in some national aid programmes, threatening to widen social and economic divides between the Global North and South and to push meaningful climate action even further into the future.”*

#### **A.6.13 Submission by the Stockholm Environment Institute**

This submission presents the views of the Stockholm Environment Institute advocating a systemic view on adaptation / radical transformation needs that are centred on social equity and justice.

- ▶ *“A total of 136 countries, covering 90 % of global GDP and 88 % of greenhouse gas emissions, have adopted net zero emissions targets. However, many net zero targets lack important details around scope, policy planning, and requirements for near-term action. Achieving global net zero will require more deliberate coordination based on equity, with particular attention paid to avoiding both the climate and equity risks that could come with an over-reliance on land-based removals and negative emission technologies”.*
- ▶ *“The equity of our global society’s response to the climate crisis is linked to its effectiveness. Those most responsible for GHG emissions are not those most vulnerable to their consequences; in other words, those most highly motivated to reduce the pressures we place on our environment and those exerting these pressures are two different groups. Inequality reinforces socio-political lock-in and political economic barriers to change. It also undermines social trust, which is essential to ambitious and cooperative climate mobilization. The nature of a low-carbon and resilient transformation that is equitable – and the lessons learned on how to implement it – are highly context- and society-specific. But beyond solutions, an equitable transition requires a change in existing processes, including how climate research is conducted and who is involved in shaping the research agenda and proposed solutions.”*

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