

# Global stocktake

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*Keynote presentation*

*LCS-RNet 16th Annual Meeting*

*10 Years Since the Paris Agreement: Progress and Challenges in Climate Action*

*Advancing the Global Stocktake by Bridging Science and Decision-Making, and Strengthening Research and Capacity Development Across the Global South and North*

*19 December 2025*

# Overview

- Global stocktake (GST) central to Paris Agreement **ambition and implementation cycles**
- GST assess collective progress towards achieving Agreement's **six long-term goals**
- **Broad scope:** considering mitigation (including response measures), adaptation (including Loss & Damage), and means of implementation and support (finance, technology, and capacity-building)
- Cross-cutting: **Ambition** and **equity**, based on the best available **science**
- **Designed as evidence policy-making:** information and technical assessment informing political component
- GST outcomes inform preparations of next **NDCs** and **enhanced international cooperation**



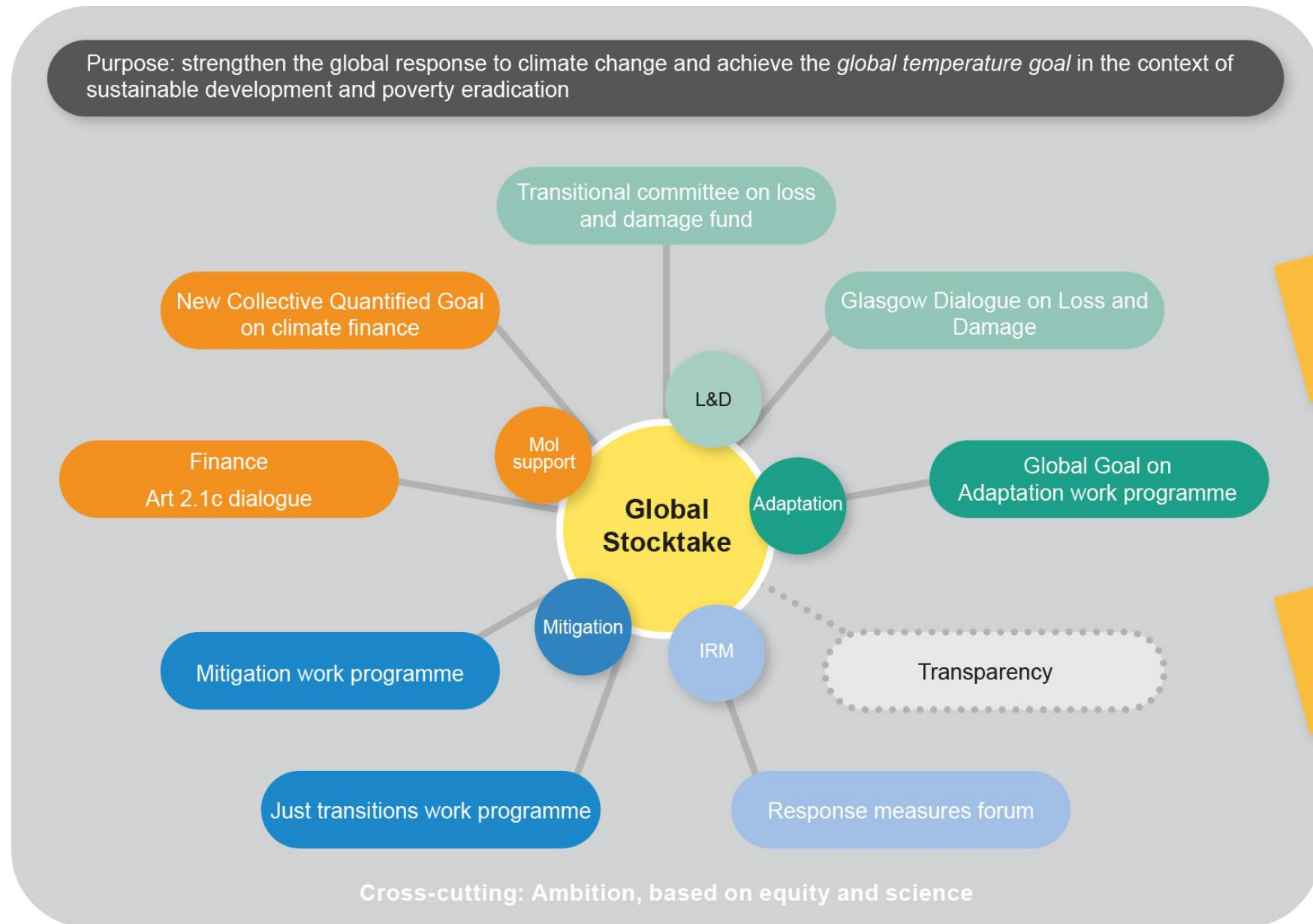
# Article 14 of Paris Agreement

1. “The Conference of the Parties serving as the meeting of the Parties to this Agreement shall periodically **take stock of the implementation** of this Agreement to **assess the collective progress** towards achieving the **purpose** of this Agreement and its **long-term goals** (referred to as the “global stocktake”). It shall do so in a comprehensive and facilitative manner, considering mitigation, adaptation and the means of implementation and support, and in the light of **equity** and the best available science.
2. The Conference of the Parties serving as the meeting of the Parties to this Agreement shall undertake **its first global stocktake in 2023 and every five years thereafter** unless otherwise decided by the Conference of the Parties serving as the meeting of the Parties to this Agreement.
3. The **outcome** of the global stocktake shall inform Parties in updating and enhancing, in a **nationally determined manner**, their **actions and support** in accordance with the relevant provisions of this Agreement, as well as in enhancing **international cooperation** for climate action.”

Article 14, emphasis added



GST has broad scope – all action and support, not only mitigation, progress towards six global goals



Source: Winkler, Harald, Charlene Watson, and Preety M Bhandari. 2024. "Connecting Global Stocktake Outcomes and COP28 Workstreams." Finance Working Group, iGST. <https://odi.org/en/publications/connecting-gst-outcomes-and-cop28-workstreams/>

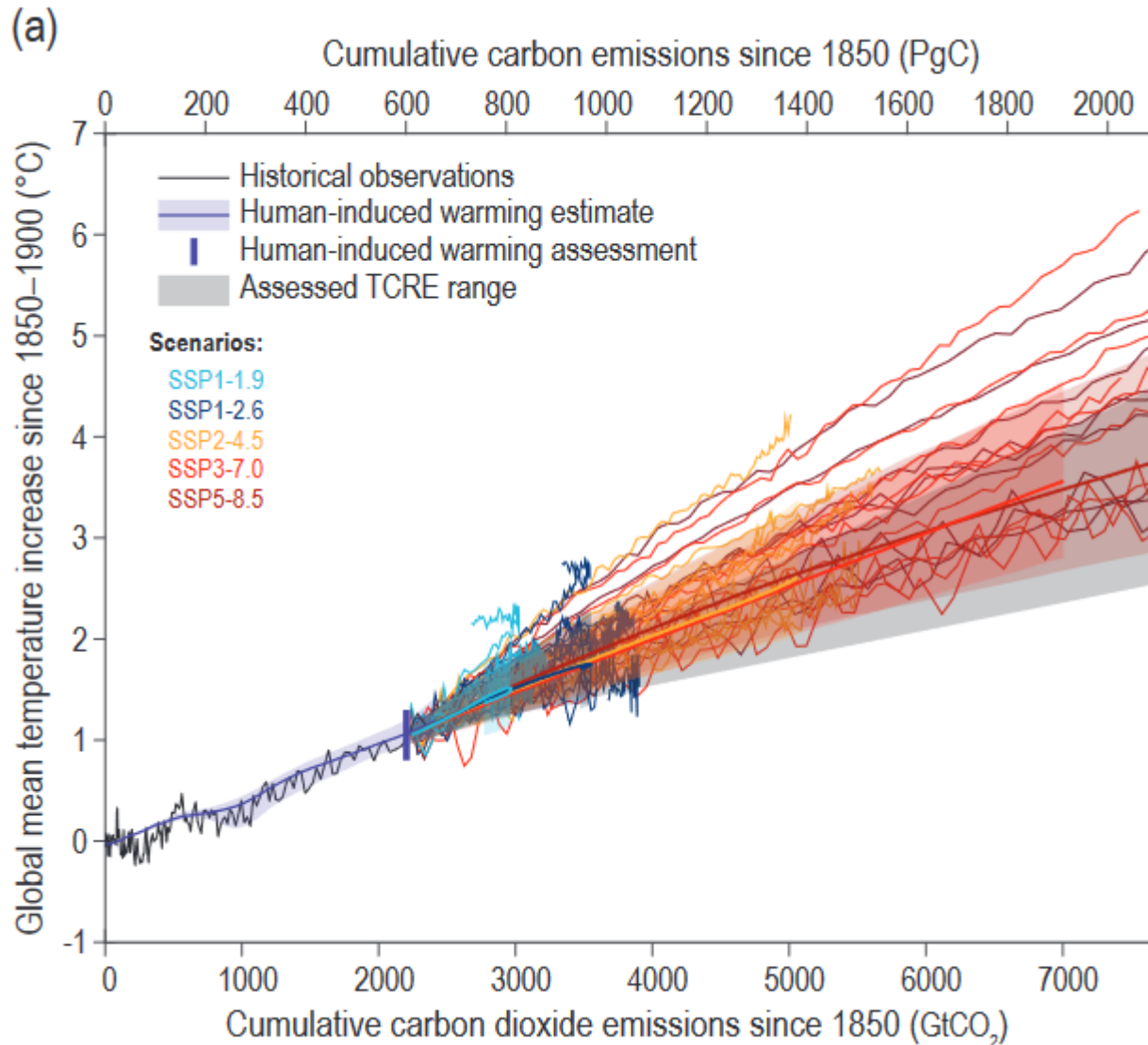




*= An eager or strong desire to achieve something, such as fame or power.*

*= motivation or a strong urge to achieve something.*

# Best available science



Source: IPCC WGI 2022, Figure TS.18

- There is “*a near-linear relationship between cumulative anthropogenic CO<sub>2</sub> emissions and the global warming they cause*” (IPCC WGI).
- Warming in 2100 thus depends on global emissions (from all actors, so **spatial** scale matter) over **time** (past and future).
- How a carbon budget is distributed is a matter of **equity**

# Best available science

- Global carbon budget (GCB)
- Total = historical + future
- Historical GCB spent: 2390 Gt  $\approx$  1.07 °C
- Remaining future GCB (choose °C and % chance to exceed)  $\approx$  0.43 °C
- No direct relation between individual countries emissions and 1.5 °C
- Labelling one countries mitigation pathway as “1.5” is meaningless, questionable at best
- Must consider time, space and equity

Global warming between 1850–1900 and 2010–2019 (°C)	Historical cumulative CO <sub>2</sub> emissions from 1850 to 2019 (GtCO <sub>2</sub> )
1.07 (0.8–1.3; <i>likely range</i> )	2390 ( $\pm$ 240; <i>likely range</i> )

Approximate global warming relative to 1850–1900 until temperature limit (°C)* <sup>(1)</sup>	Additional global warming relative to 2010–2019 until temperature limit (°C)	Estimated remaining carbon budgets from the beginning of 2020 ( <i>GtCO<sub>2</sub></i> )					Variations in reductions in non-CO <sub>2</sub> emissions* <sup>(3)</sup>
		<i>Likelihood of limiting global warming to temperature limit*<sup>(2)</sup></i>					
		<i>17%</i>	<i>33%</i>	<i>50%</i>	<i>67%</i>	<i>83%</i>	
1.5	0.43	900	650	500	400	300	Higher or lower reductions in accompanying non-CO <sub>2</sub> emissions can increase or decrease the values on the left by 220 GtCO <sub>2</sub> or more
1.7	0.63	1450	1050	850	700	550	
2.0	0.93	2300	1700	1350	1150	900	

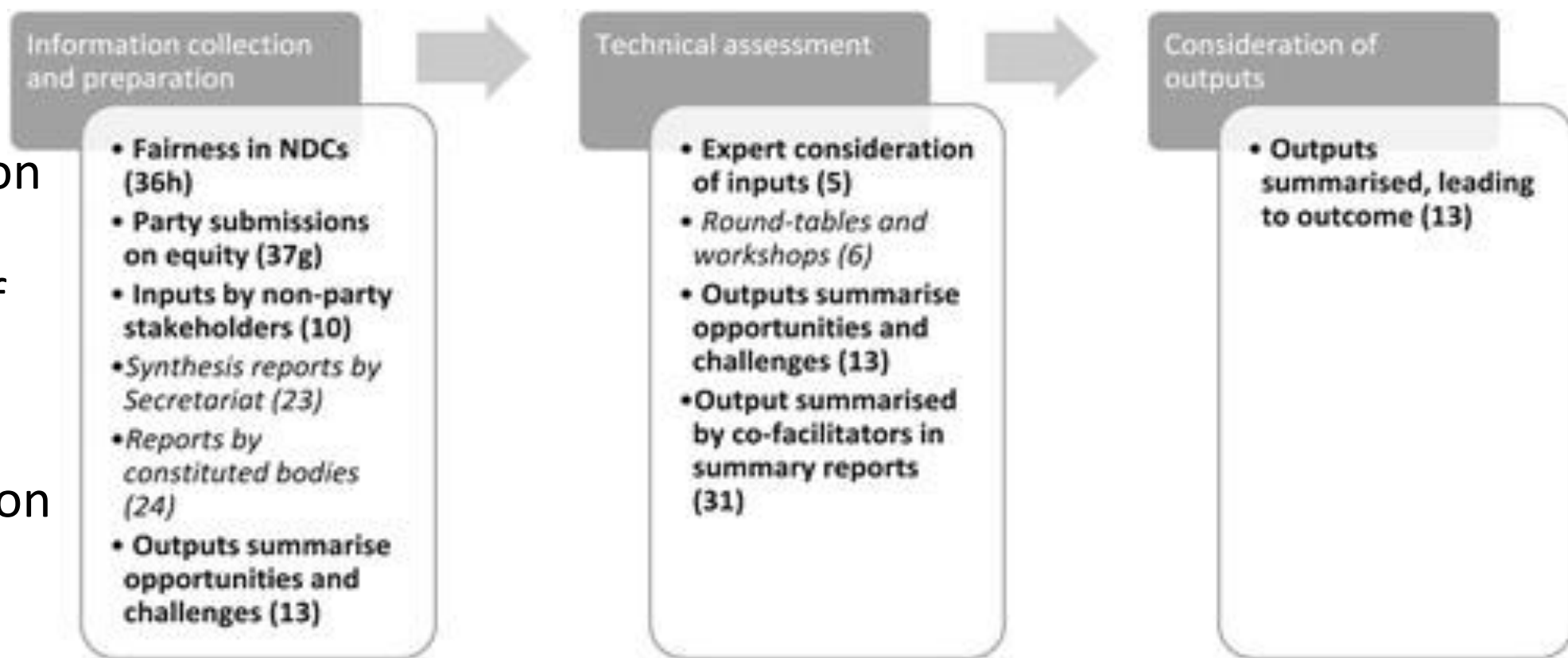
Source: IPCC WGI 2022, Table SPM.2: **Estimates of historical CO<sub>2</sub> emissions and remaining carbon budget**

Source: Lecocq, F. & Winkler, H.. 2025. “Questionable at Best: Why Links between Mitigation by Single Actors and Global Temperature Goals Must Be Made More Robust.” *Climate Policy* 25 (2): 283–90.  
<https://doi.org/10.1080/14693062.2024.2362847>

# Equity in GST: why and where

## Why equity?

- to reach agreement
- increase ambition
- transparency of relative levels of effort
- In Art 14.1, and
- Long-term goal on mitigation (Art 4.1)
- Civil society holds countries accountable

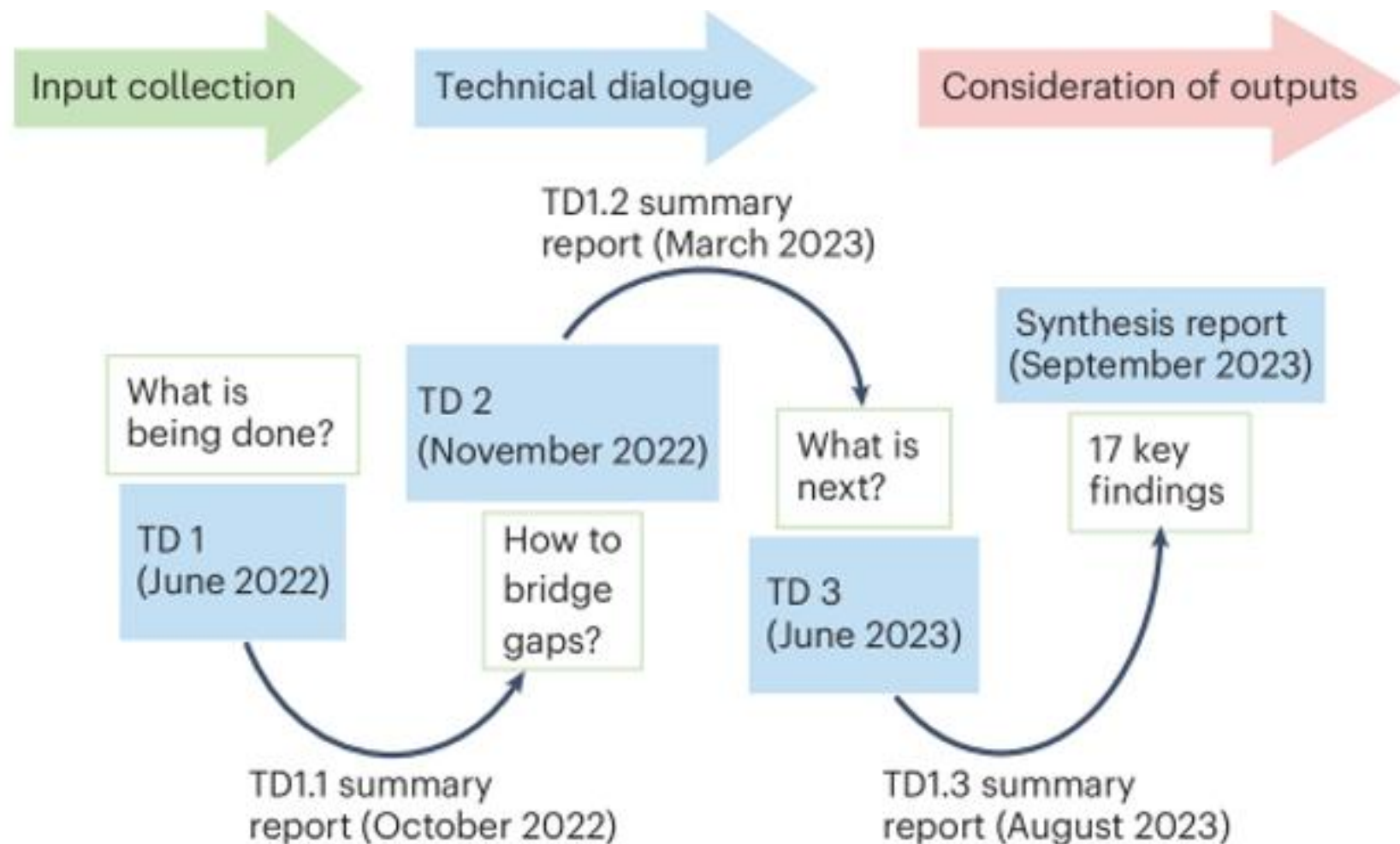


Numbers in brackets refer to paras in decision 19/CMA.1

Source: Winkler, Harald. 2020. "Putting Equity into Practice in the Global Stocktake under the Paris Agreement." *Climate Policy* 20 (1): 124–32. <https://doi.org/10.1080/14693062.2019.1680337>



# GST designed as evidence- based policy- making



Source: Winkler, Harald, and Farhan Akhtar. 2025. "Navigating the Technical Dialogue of the First Global Stocktake from Process to Findings." *Nature Climate Change* 15 (1): 37–43. <https://doi.org/10.1038/s41558-024-02220-x>

# GST TD synthesis report – some key findings

3 Systems transformations open up many opportunities, but rapid change can be disruptive. A focus on inclusion and equity can increase ambition in climate action and support.

6. Achieving net zero CO<sub>2</sub> and GHG emissions requires systems transformations across all sectors and contexts, including scaling up renewable energy while phasing out all unabated fossil fuels, ending deforestation, reducing non-CO<sub>2</sub> emissions and implementing both supply- and demand-side measures.

7. Just transitions can support more robust and equitable mitigation outcomes, with tailored approaches addressing different contexts.

13. Support for adaptation and funding arrangements for averting, minimizing and addressing loss and damage need to be rapidly scaled up from expanded and innovative sources, and financial flows need to be made consistent with climate-resilient development to meet urgent and increasing needs.

14. Scaled-up mobilization of support for climate action in developing countries, entails strategically deploying international public finance, which remains a prime enabler for action, and continuing to enhance effectiveness, including access, ownership and impacts.

15. Making financial flows - international and domestic, public and private - consistent with a pathway toward low greenhouse gas emissions and climate resilient development entails creating opportunities to unlock trillions of dollars and shift investments to climate action across scales

*Full set of 17 key findings and supporting information:*

*Source: UNFCCC. 2023. “Technical Dialogue of the First Global Stocktake. Synthesis Report by the Co-Facilitators on the Technical Dialogue.*

*FCCC/SB/2023/9.” Bonn: United Nations Framework Convention on Climate Change ` <https://unfccc.int/documents/631600>*



JUNE 2023  
SB58, Bonn

The need to Strengthen Key Messages

of the GST

TERM ADAPTATION

LONG

Loss & Damage

Inclusion

Nature Based Solutions

UK

European Union

**Cryosphere & marine ecosystems  
Iceland**

equal access to LED funding

we have adapted for centuries • millennia

International Indigenous Peoples' Forum on Climate Change

walk with us

Lesotho on behalf of  
LDCs

pathway **ACCELERATING**  
**ACTION & SUPPORT**  
**Argentina** on behalf of

COP 28

## Inclusivity

SCIENCE  
GAP  
Data, Metrics

### Graphic Recording by

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saloli

④



# Politics determines what is possible

Politics → negotiations, not negotiations → politics

GST decision (1/CMA.5) – drew on evidence to some extent,  
but ultimately political outcome

# GST decision as part of UAE Consensus

## **Mitigation**

- Acknowledged progress, e.g. NDCs, but more domestic mitigation measures needed
- Cited IPCC ranges, calls on Parties to take wide range of policies and measures (PAMs)
  - Transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science .
  - Also: 3x renewables, 2 x energy efficiency, many other technologies and PAMs
- Equity: just transitions towards net zero emissions by 2050 (also – JTWP)

## **Adaptation**

- UAE Framework for Global Climate Resilience (GCRF)
- Set global targets by theme (sectors and topics) and iterative adaptation cycle (implementation)
- Acknowledges adaptation finance gap – but to be resolved in NCQQ



# GST decision as part of UAE Consensus

## **Means of Implementation and Support**

- Integrated view on finance obligations and (broader) flows
- Finance obligations: Progress towards \$100 billion/year target – finally; only in 2024 set New Collective Quantified Goal on finance
- Finance flows consistent with pathway to climate resilient and low emissions development: Continued dialogue on Art 2.1c

## **Loss and Damage**

- Establishment of the L&D Fund (separate decision)
- Done by Transitional Committee, five meetings during 2023 – decision on Day 1

## **Response Measures**

- Focus on economic diversification and just transitions.

# Outcomes of GST inform NDCs and EIC



- NDCs  $\leftrightarrow$  GST
  - Nationally determined contributions (NDCs) are key inputs to GST
  - One reason for GST is that sum of NDC is insufficient, impacts increasing
  - Outcome of GST informs countries in preparing next round of NDCs , AND
- EIC: enhanced international cooperation
  - **to find innovative forms of international cooperation** for climate action.
- Ultimately, GST is seeking to address – ‘**ratcheting up**’ ambition, in the light of science and equity, across all action and support

# Implementation of GST1 contested in negotiations

- **Fossil fuels:** Transitioning away from fossil fuels in a just, orderly and equitable manner
- **Finance:** Finance obligation and flows
- more progress on other issues, e.g.
  - adaptation – at least indicators, though not adaptation finance
  - Just transition work programme, more concrete and coordinating

# Advancing GST

- Refinements to GST process: IPCC AR7 very likely too late for GST2
- GST2 in India in Nov / Dec 2028, after 2028 US election
- Multi-lateral collective response, based on equity and science, is right way forward



# Thank you



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Scopus <https://www.scopus.com/authid/detail.uri?authorId=7201676551>

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# Publications

- UNFCCC. 2023. “Technical Dialogue of the First Global Stocktake. Synthesis Report by the Co-Facilitators on the Technical Dialogue. FCCC/SB/2023/9.” Bonn: United Nations Framework Convention on Climate Change`. <https://unfccc.int/documents/631600>
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