

Climate Change and International Climate Negotiations: where do we stand and where to go from here?

IN 00.41: Climate Change Challenges and Responses

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Key Questions

1. How is science driving policy making process?
2. What has been the history of climate negotiations? How has it evolved?
3. Why climate negotiation is so complex? What are they negotiating for?

This lecture focuses the history of climate negotiations and its evolution to the present day. It highlights IPCC's work, research and its reports that guide policymakers around the world.

Why climate negotiation is complex?

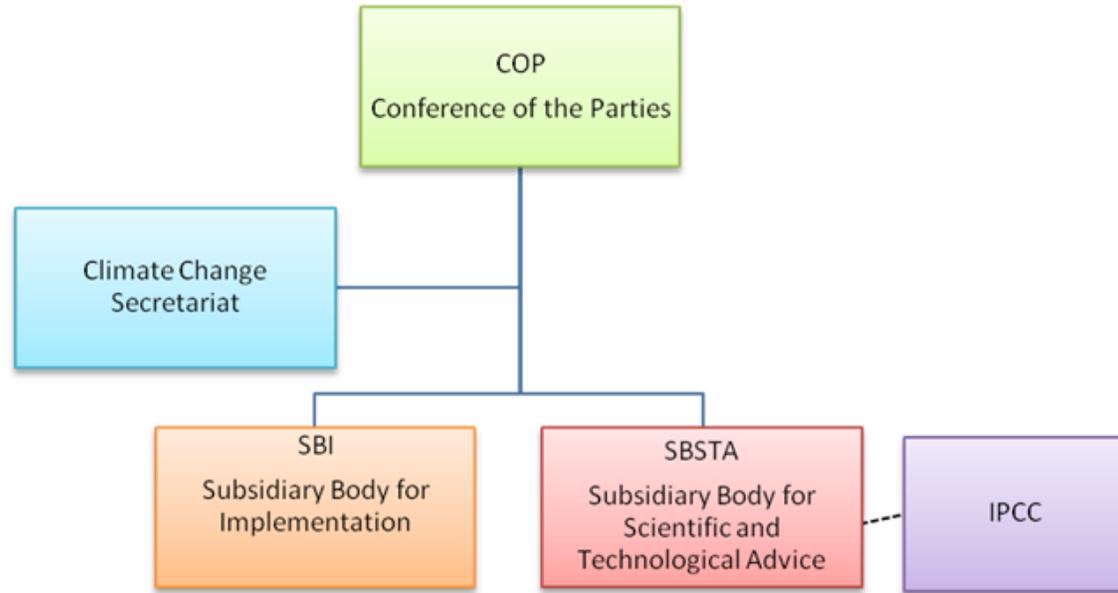
1. Remaining carbon budget is limited under 1.5C – time is limited - who to do what?
2. Difficult to compromise with the economic growth which depends largely on fossil fuel → fear that the costs could be large, especially in the developing countries
3. Few countries are now driving new or total emissions → while others at high are less growing or reducing
4. Coal/fossil fuel phase out/down costs money; some will lose, some will gain – resistance
5. Fossil rich nations oppose/cautious/less supportive – oil, coal, natural gas etc.
6. Consumption, lifestyle and behavior is hard to tame in developed countries
7. Historical responsibility/fairness implications– high emissions, mitigation leadership, paying the '**climate debt**' to developing countries
 - → how? Financial support for mitigation, loss & damage and adaptation, technology support and capacity building
8. Developing vs developed country's emissions have gone structural change in last 3 decades – developing countries are emitting more now
9. Creating viable and effective carbon market and carbon pricing need lots of efforts
10. Others

History of climate negotiation

- ✓ 1979 — The first World Climate Conference (WCC)
- ✓ 1988 — The Intergovernmental Panel on Climate Change is set up
- ✓ 1990 — IPCC publishes first assessment report. IPCC and second World Climate Conference call for a global treaty on climate change. United Nations General Assembly negotiations on a framework convention begin
- ✓ 1991 — First meeting of the Intergovernmental Negotiating Committee (INC)
- ✓ 1992 — The INC adopts UNFCCC text. At the Earth Summit in Rio, the UNFCCC is opened for signature along with UNCBD and UNCCD
- ✓ 1994 — UNFCCC enters into force
- ✓ 1995 — The first Conference of the Parties (COP 1) in Berlin
- ✓ 1996 — The UNFCCC Secretariat is set up to support the Convention
- ✓ 1997 — Kyoto Protocol adopted at COP-3

Inter-governmental Panel on Climate Change (IPCC)

UNFCCC organizational chart indicating SBSTA as a link between the IPCC and the COP.¹⁴



Publications

- First Assessment Report 1990
- Second Assessment Report 1995
- Third Assessment Report 2001
- Fourth Assessment Report 2007
- Fifth Assessment Report 2014
- *Sixth Assessment Report 2023*
- *Seventh Assessment cycle from mid-2023, 2029*

Several Special reports

Role of IPCC

- “Policy-relevant” and yet “policy-neutral” but never “policy-prescriptive”
- Honest broker between experts and decision makers in business, politics and civil society
- Exploring opportunities and synergies, making trade-offs explicit
- Provide insights how policy instruments and incentives could be designed
- Identifying knowledge gaps

Sixth Assessment Cycle- Reports



[WGI – The Physical Science Basis](#)

[WGII – Impacts, Adaptation and Vulnerability](#)

[WGIII – Mitigation of Climate Change](#)

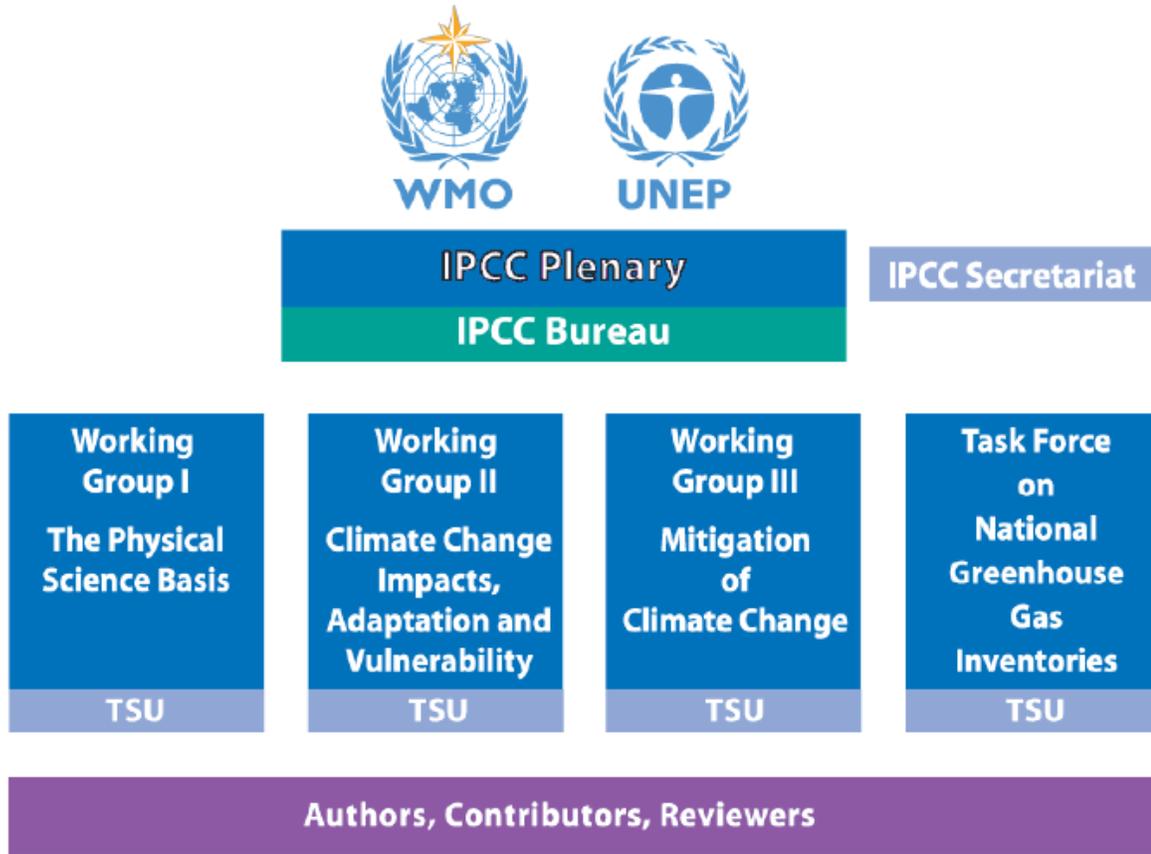
Three Special Reports:

[Global Warming of 1.5°C](#)

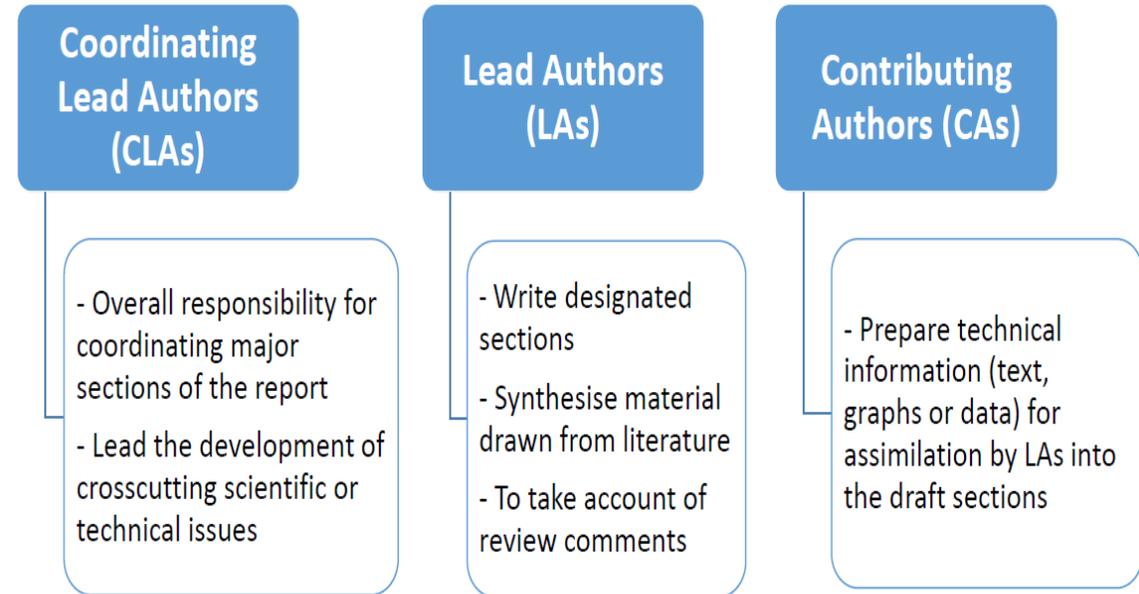
[Climate Change and Land](#)

[The Ocean and Cryosphere in a Changing Climate](#)

IPCC Structure



Authors



IPCC 6th Assessment Reports

Statistical background

Working Group I

- Author team (Coordinating Lead Authors, Lead Authors, Review Editors)	234
- Review comments	
First order draft (experts)	23,462
Second order draft (experts and governments)	51,387
Final draft (governments)	3,158
- Number of citations	over 14,000

Working Group II

- Author team (Coordinating Lead Authors, Lead Authors, Review Editors)	270
- Review comments	
First order draft (experts)	16,348
Second order draft (experts and governments)	40,293
Final draft (governments)	5,777
- Number of citations	over 34,000

Working Group III

- Author team (Coordinating Lead Authors, Lead Authors, Review Editors)	278
- Review comments	
First order draft (experts)	21,703
Second order draft (experts and governments)	32,665
Final draft (governments)	TBD
- Number of citations	TBD

UNFCCC Article 2 (Objectives)

- "The ultimate objective of the Convention is to stabilize greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system....."
- "such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner....."

UNFCCC Article 3 (Principles)

- **Inter-generational equity**

- “... The Parties should protect the climate system for the benefit of present and future generations of humankind.... ”

- **Common but differentiated responsibility**

- “... on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof....”

- **Needs of developing countries**

- “.....The specific needs and special circumstances of developing country Parties... should be given full consideration.....”

International Climate Regime

- **Kyoto Protocol at COP-3** (1997 Dec 11)
Protocol “operationalizes” the Convention through specific commitments; apply to only the group that sign-up particular protocol
 - Legally binding targets for 37 industrialized countries and the European community to cut average 5.2% over 2008-12 from 1990 levels
 - **Initiation of flexible mechanisms- Clean Development Mechanism**, Emission Trading, and Joint Implementation giving rise to *carbon market*
 - Adaptation fund from 2% proceeds to CDM

Kyoto Targets

Countries	Target (1990** - 2008/2012)
EU-15*, Bulgaria, Czech Republic, Estonia, Liechtenstein, Lithuania, Monaco, Romania, Slovakia, Slovenia, Switzerland	-8%
US***	-7%
Canada, Hungary, Japan	-6%
Croatia	-5%
New Zealand, Russian Federation, Ukraine	0
Norway	1%
Australia	8%
Iceland	10%

The Copenhagen (COP15) failure

- No global agreements on emission cut targets
- Voluntary emission cut **pledged** by few countries (too little)
- Mobilizing **100 Billion US\$ a year (new and additional) by 2020** to support climate change actions in developing countries
- “Copenhagen Accord” recognized **need to stay below 2°C** despite no commitments



US president Barack Obama along with European leaders including German chancellor Angela Merkel attend negotiations on the final night of the Copenhagen UN Climate Change summit on 18 December 2009.

Photograph: Pool/Getty Images

The era of “pledges” after Copenhagen

- As a part of Copenhagen Accord, countries pledged to reduce GHG emissions for **the year 2020**
- 42 industrialized countries and 44 developing countries submitted pledges by Cancun meeting in COP-16 Dec 2010 (conditional-unconditional)
- **Was it enough for emission in 2020 needed for 2°C (>66% likelihood)? No; how big is gap? huge**
- **Can we reduce the gaps: Yes** but needs massive energy efficiency and accelerating introduction of renewables
- UNEP Emission Gap Reports

Kyoto Protocol II phase till 2020

- Largely only Europe and Australia- parties agreed to cut emission by at least 18 % below 1990 levels in the commitment period 2013 to 2020
 - Canada, Japan, New Zealand, and Russia did not sign-in for their continuation US did not ratify 1st commitment too and no continuation
- Japan started own Joint Crediting Mechanism (JCM) to address CDM

COP 21 Paris Agreement, 2015



Executive Secretary of the United Nations Framework Convention on Climate Change Christiana Figueres, Secretary General of the United Nations Ban Ki Moon, Foreign Affairs Minister and President-designate of COP21 Laurent Fabius, and France's President Francois Hollande raise hands together after adoption of a historic global warming pact at the COP21 Climate Conference in Le Bourget, north of Paris, on Dec. 12, 2015. Anadolu Agency—Getty Images

- 197 parties to Paris Agreement; 160 Parties ratified as of August 2017
- The Paris Agreement entered into force on 4 November 2016 — “thirty days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 % of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depository.”



Guardian Opinion cartoon, Ben Jennings on the Paris climate talks, Friday 11 December 2015

Mitigation Pledges of Top Emitters (Nationally Determined Contributions- NDCs) in COP21

Country, % of global GHG emissions, 2012	GHG emissions reduction target	Target year	Reference year	Period for implementation
USA 12.1%	26-28%	2025	2005	2020-2025
China 23.75%	30-45% per unit of GDP	2030	2007	- 2030
EU 8.97%	≥40%	2030	1990	2021-2030
India 5.73%	33-35% per unit of GDP	2030	2005	2021-2030
Russia 5.35%	25-30%	2030	1990	2020-30
Japan 2.82%	26%	2030	2013	2020-30 18% below 1990 levels
South Korea 1.28%	37%	2030	BAU	2020-30

Type of pledges

- Unconditional
- Conditional
- Emission reduction from designated past base-year
- Emission intensity reduction from designated past base-year
- Emission reduction from designated future base-year (2030) under BAU scenario

See all INDCs here: <http://climateobserver.org/open-and-shut/indc/>

UNFCCC COP 21 – Paris Agreement

- **Universal nature of mitigation agreement:** For the first time, all nations irrespective of developed and developing, have agreed to the mitigation commitments
- **A hybrid structure of global climate governance:** Composed of a mix of bottom-up pledge-based agreement structure coupled with top-down oversights, A shorter NDC review cycle, namely five years.
- **Successfully raising the mitigation aim to the higher bar of dangerous-climate-change threshold:** The agreement aimed at ambitious climate stabilization goals, namely aimed to keep climate stabilization below 2°C and aimed 1.5°C.
- **A clear signal to broader stakeholders for early peaking of emissions and envisioning the world after 2050 as a GHG-neutral one:** Especially to policy makers, investors and business communities for peaking of emissions as soon as possible and for **decarbonizing the energy sector**, that involve less/no fossil energy mix, **ramping-up renewable energy** deployments, carbon capture and storage, and reforestation.
- **The commitment of 100 billion US\$ by 2020 by developed countries:** The idea of 100 bn US\$ as a financing 'floor' has opened up avenues to mobilize more support for developing countries.
- **Development of market mechanism:** International Transferrable Mitigation Outcomes (ITMOs), Article 6.2 and Article 6.4

Challenges: Implementation of commitments; progressively moving to higher level of commitments since pledges are not enough; more robust actions/agreements; operationalizing market and other mechanism

Financial Mechanism under UNFCCC (Article 11)

- Operation of Financial Mechanism is entrusted to
 - Global Environment Facility (GEF), and
 - (At COP 17 Parties decided to designate) The Green Climate Fund (GCF)
- The Financial Mechanism is accountable to the COP, which decides on its climate change policies, programme priorities and eligibility criteria for funding.
- Special Funds
 - Special Climate Change Fund (SCCF)
 - Least Developed Countries Fund (LDCF)
 - Adaptation Fund (AF) under Kyoto Protocol.
- New 'Loss and Damage Fund'
- Paris Agreement shall set a new collective quantified goal from a floor of USD 100 billion per year, taking into account the needs and priorities of developing countries

Glasgow COP26: what were the key outcomes?

<https://www.lawsociety.org.uk/topics/climate-change/reflecting-on-cop26-what-were-the-key-outcomes>

Successes

- Green finance for the net zero economy
 - Glasgow Financial Alliance for Net Zero of \$130 trillion of private capital to accelerate the transition to a net-zero economy
 - New International Sustainability Standards Board (ISSB) to develop a global baseline for disclosure standards on climate and other environmental, social and governance (ESG) matters.
- Disclosure and transparency for the private sector
- Increasing the pace of implementing the Paris Agreement
 - Paris Agreement 'rulebook' for Article 6 approved which concerns carbon markets and accounting
 - Agreement "to revisit and strengthen the 2030 targets in their nationally determined contributions...by the end of 2022"
- Agreed to double that proportion of adaptation funding by 2025

Shortcomings

- Failure to meet 1.5°C target
- Not securing \$100 billion climate finance (delaying to 2023)

Other key announcements at COP26

<https://www.lawsociety.org.uk/topics/climate-change/reflecting-on-cop26-what-were-the-key-outcomes>

- At least 23 countries, including five of the world's top 20 coal power-using countries, have **agreed to phase out coal power**
- About 100 countries agreed to decrease their **methane emissions** by 30% by 2030, compared with 2020 levels. Methane accounts for about 0.5°C of the 1.1°C–1.2°C warming the world has seen to date
- World leaders representing 110 nations have signed a declaration to **halt and reverse deforestation** and land degradation by 2030
- Major international banks have committed to **ending all international public financing of new unabated coal power** by the end of 2021.
- **Multilateral Development Banks'** joint statement created a commitment to align their portfolios with the Paris Agreement goals and as well as nature

Net-zero commitment during and after COP26

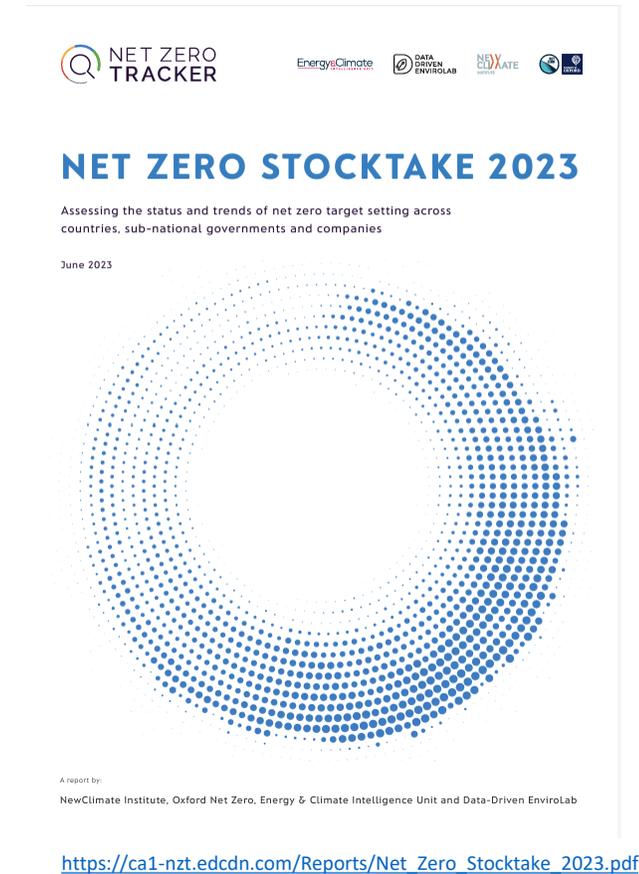
- At least 1,475 entities have a net zero target
 - 149 countries
 - 145 states & regions
 - 252 cities
 - 929 publicly-listed companies from the Forbes Global 2000

Nepal 2045 Singapore 2050 Brazil 2050

China 2060 Japan 2050 UK 2050

India 2070 Russia 2060 USA 2050

Thailand 2065 (carbon neutrality by 2050)



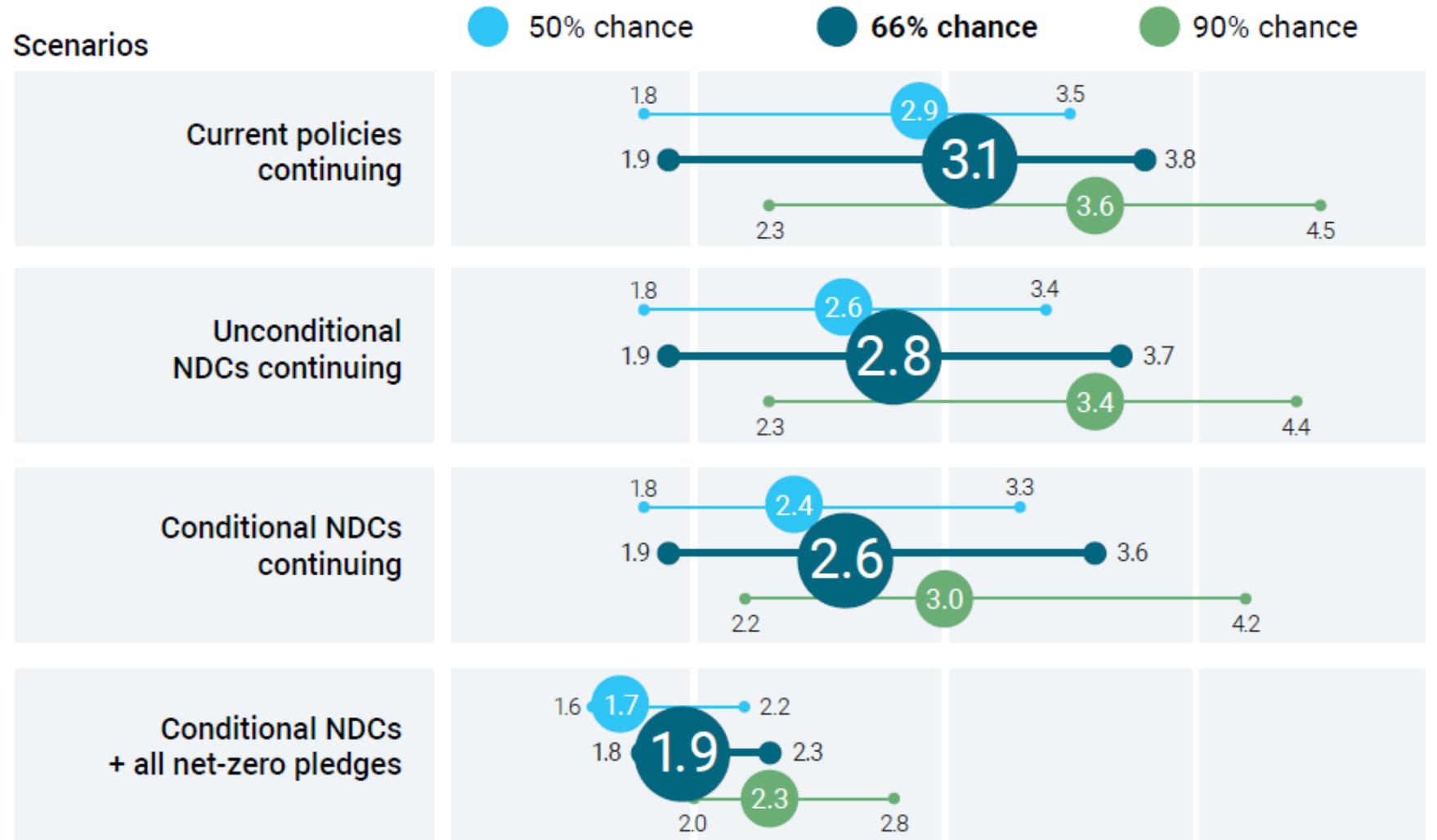
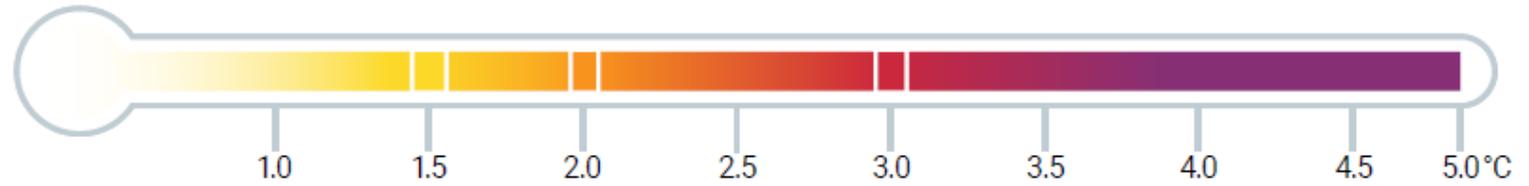
COP27 outcomes

- Some progress on “loss and damage” but not much progress on other fronts
- COP18 (Doha, 2012) had “agreement to look’ at the possibility of setting up an international mechanism in future to compensate vulnerable communities for the **loss and damage** caused by climate change
 - Agreement to set up a fund to provide financial assistance for loss and damage
 - Agreement to operationalize the Santiago Network on Loss and Damage to provide technical assistance to developing countries

Projections of global warming under the pledge-based scenarios assessed

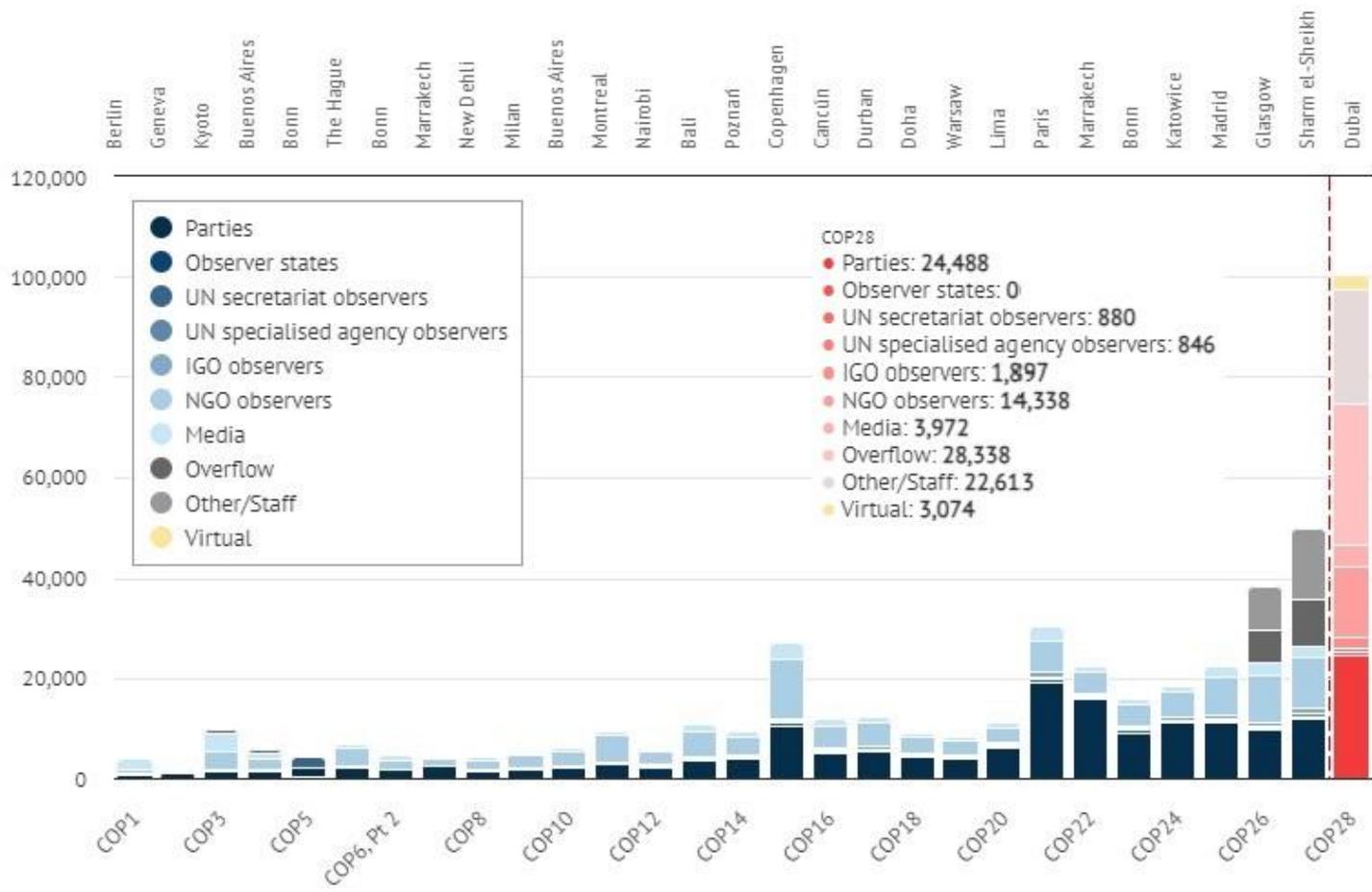


Peak warming over the twenty-first century (°C) relative to pre-industrial levels



COP 28 (Dubai, 2023) outcomes

- No agreement in fossil fuel ‘phase out’ with timeline → statement only said we must “transition 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”. https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf
- Loss Damage Fund was agreed and U\$700 million was pledged → welcome but too small → World Bank to administer the fund <https://unfccc.int/documents/632319>
- 118 countries signed a pledges to “triple” renewable energy capacity and “double” the global rate of energy efficiency by 2030
- Over 50 oil companies (making about 40% of global production) agreed to a decarbonisation charter: (a) to achieve net zero emissions in each company’s direct operations by or before 2050 (b) to achieve near-zero methane leakage from the production of oil and gas by 2030, and (3) to achieve zero routine flaring (burning excess gas) by 2030
- Global stocktake – nothing new → the world is far behind the pathways of 1.5°C warming limits
- Lack of progress on Article 6.2 or 6.4 → failed to adopt key texts
 - Article 6.4 allows a company in one country to reduce emissions domestically and have those reductions credited so that it can sell them to a different company in another country → variety of technical reasons, incl issues regarding carbon removals, and issues of transparency (safeguard and regulations)



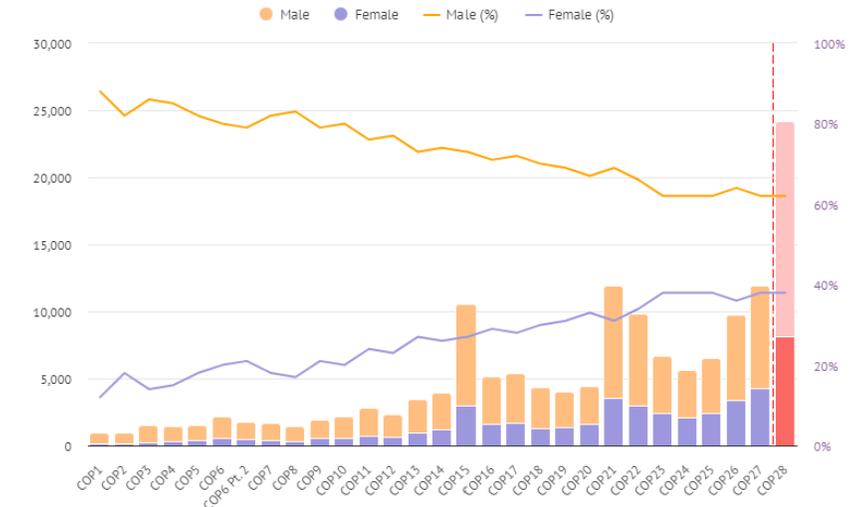
Source: UNFCCC and Carbon Brief analysis.



Overall totals for delegates from parties, observers and the media for all COPs, as published by the UNFCCC (see [this article](#) for more details on the data). Data for COPs 1-27 are the "final" figures, while COP28 data is "provisional". Chart by Carbon Brief.

COP participants over time

The changing gender balance of named party delegations since COP1 in 1995

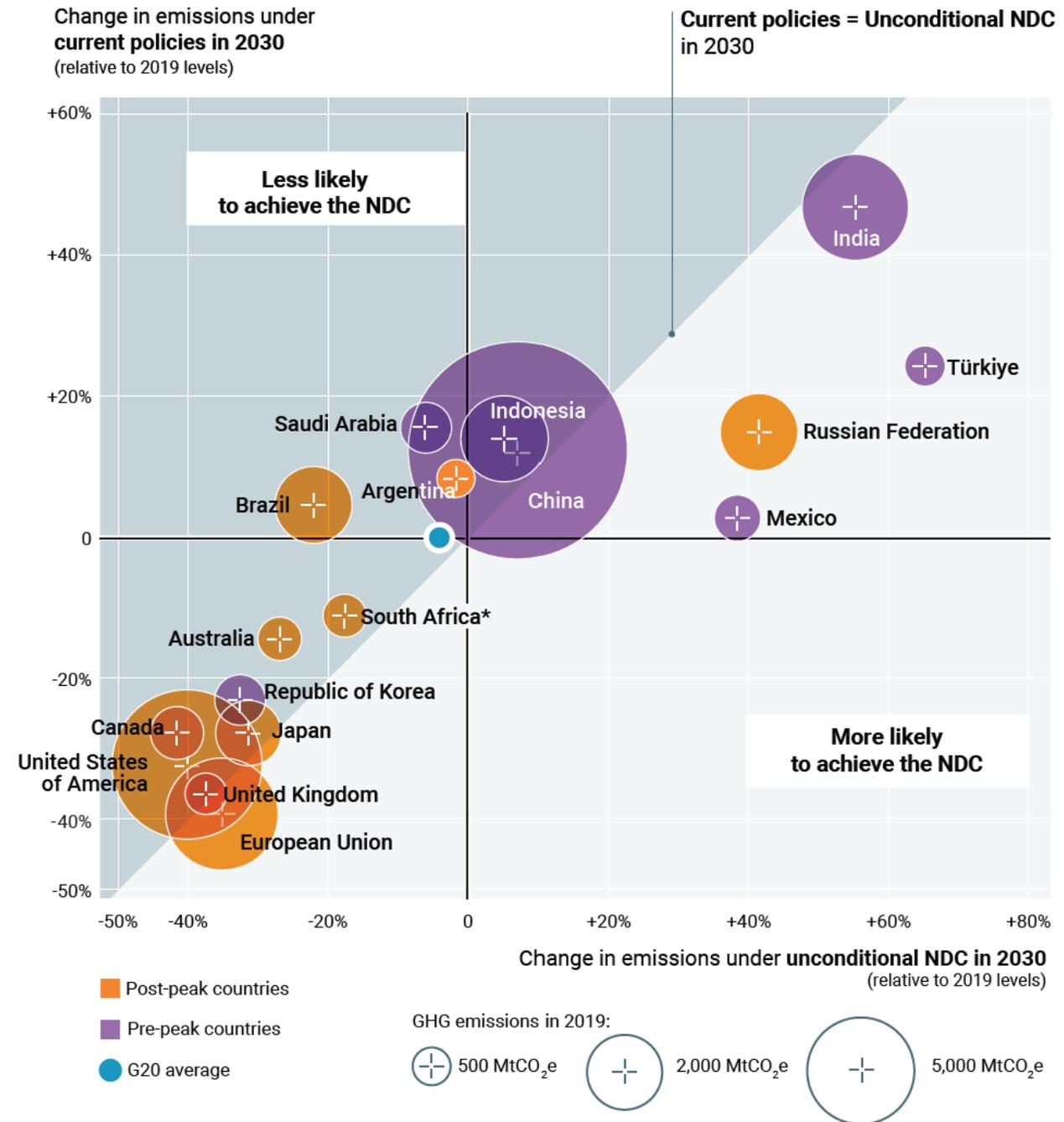


Source: UNFCCC and Carbon Brief analysis.



The average size of named party delegations (not including overflows) for each COP, divided by male (orange) and female (purple) participants. The lines show what percentage of the average delegation is male (orange) and female (purple). Data for COPs 1-27 collated from "final" participant lists published by the UNFCCC, while COP28 data is based on the "provisional" list. Note that around 330 delegates in the COP28 provisional list are not included because there is no information on their gender. Chart by Carbon Brief.

Current NDC targets and implementation gaps for the G20 members collectively and individually by 2030, relative to 2019 emissions



Note: * Conditional NDC

COP29 (11-22 Nov 2024, Baku): key agenda

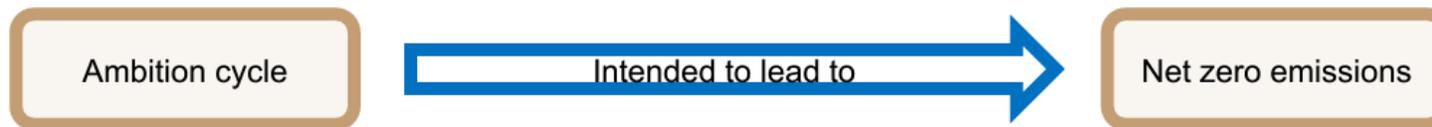
- **New target for climate finance:** New Collective Quantified Goal (NCQG) for post-2025 climate actions building on the \$100 billion target set in 2009
- **Agreement on Article 6:** basic rules agreed but operationalization and guidance such as project eligibility, review processes; ability to make certain information confidential, etc
- **Scaling up Loss and Damage Fund:** raising scale of fund, involvement of private sector, others
- **Push for adaptation:** NAPs implementation, financing gaps, private sector involvement, vulnerable countries
- **Missing high on agenda**
 - Fossil fuel subsidy, phase out of coal, emission gaps etc.

After COP-29

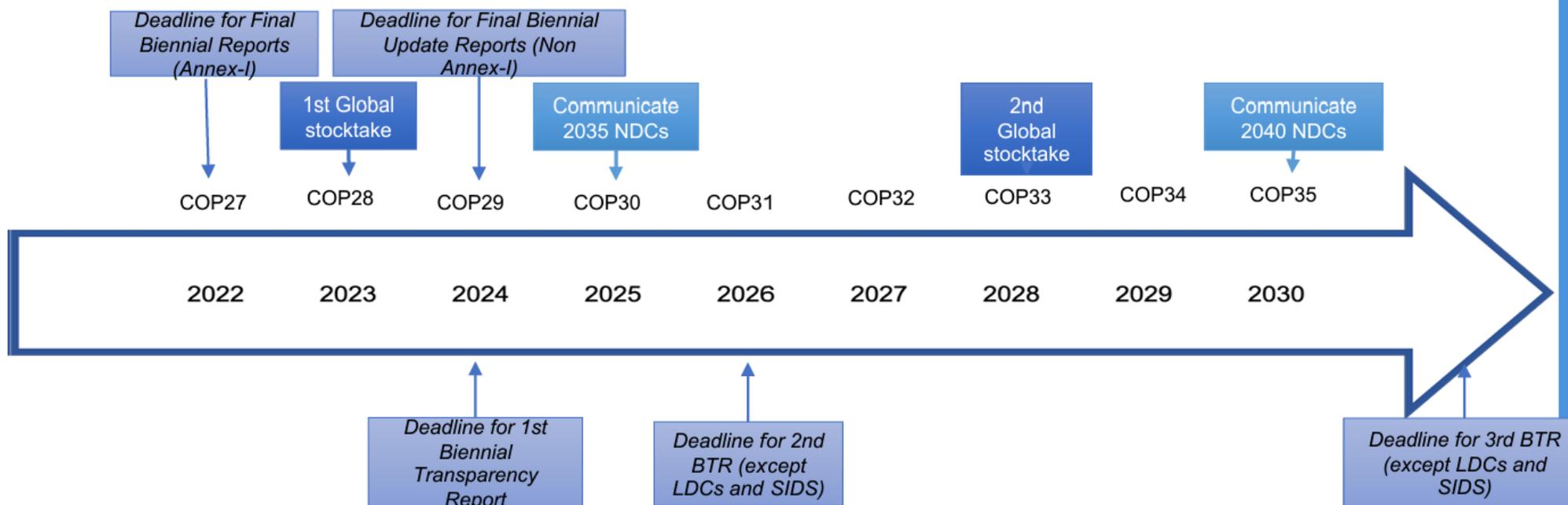
- The victory of former President Donald Trump do not help
- Next goals for financial mobilization (NCQG: New Collective Quantified Goals): The mobilization of funds reaching at least \$ 300 billion per year by 2035
- General agreement on Article 6 after 9 years of negotiations since the 2015 Paris Agreement
- Countries are expected to submit revised NDC (version 3.0) by February 2025 targeting the year 2035
- The EU and the US substantially offtrack from their current NDC for 2030
- China largely on track towards their current NDC for 2030 but its absolute CO2 emissions still increasing
- According to the most recent assessment which was referenced by UNEP, the remaining carbon budget after 2024 is just 200 GtCO2
- Inconvenient truth: We are clearly offtrack from the 1.5°C path - private conversations at COP29 acknowledge that a path for 1.5°C would be unreachable

The Paris Agreement – The ambition cycle

The objective of the Paris Agreement is “to hold the increase in global average temperature to well below 2 degrees Celsius (°C) above pre-industrial levels and to pursue efforts to limit it to 1.5°C (Article 2).



The ambition cycle is a “ratcheting-up” mechanism which aims to increase ambition based on regular stocktakes of information from Parties, submissions of progressive national climate plans, and the latest science on climate change



References

- Lamb et al. (2021). A review of trends and drivers of greenhouse gas emissions by sector from 1990 to 2018, Environmental Research Letters 16, 073005
<https://iopscience.iop.org/article/10.1088/1748-9326/abee4e>
- Global Warming of 1.5 °C <https://www.ipcc.ch/sr15/>
- IPCC Reports: <https://www.ipcc.ch/reports/>
- IPCC 6th Assessment: <https://www.ipcc.ch/assessment-report/ar6/>
- Global Carbon project: <https://www.globalcarbonproject.org/carbonbudget/index.htm>
- Figures from the Global Carbon Budget 2021 (Robbie Andrew, CICERO).
<https://robbieandrew.github.io/GCB2021/index.html>
- Global Carbon Atlas: A platform to explore and visualize the most up-to-date data on carbon fluxes resulting from human activities and natural processes
<http://www.globalcarbonatlas.org/en/content/welcome-carbon-atlas>
- Reflecting on COP26: what were the key outcomes? <https://www.lawsociety.org.uk/topics/climate-change/reflecting-on-cop26-what-were-the-key-outcomes>

Thank you

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