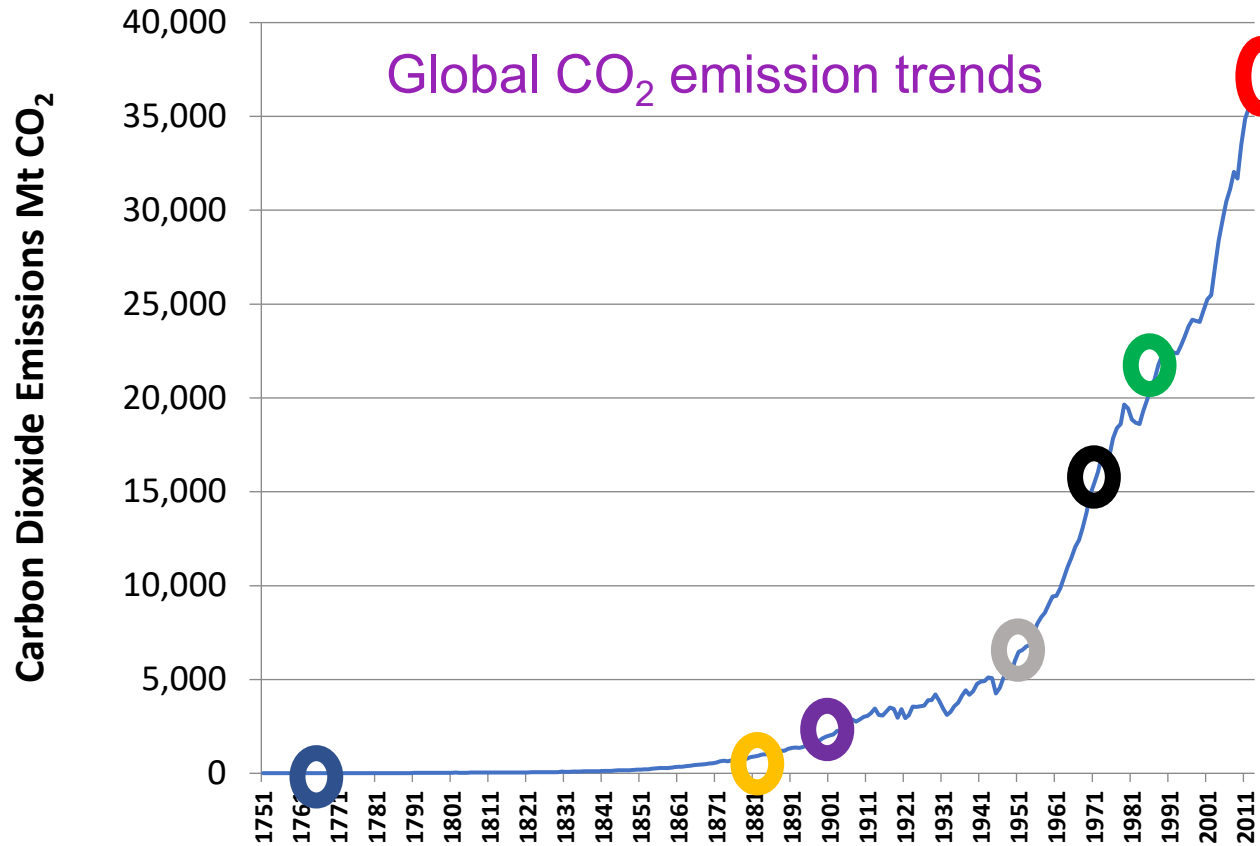


Climate Policy Primer

Some global and UK perspectives

Carbon Chronology



- 1780's Cottonopolis
- 1882 First coal fired power station
- 1902 First oil gusher
- 1956 Interstate
- 1970-73 Saudi oil production exponential growth.
- 1990 First IPCC report
- 2016 Atmospheric Carbon Emissions reach 400 ppm.

T.A. Boden G. Marland and R.J. Andres. 2016. Global Regional and National Fossil-Fuel CO₂ Emissions.
Carbon Dioxide Information Analysis Center

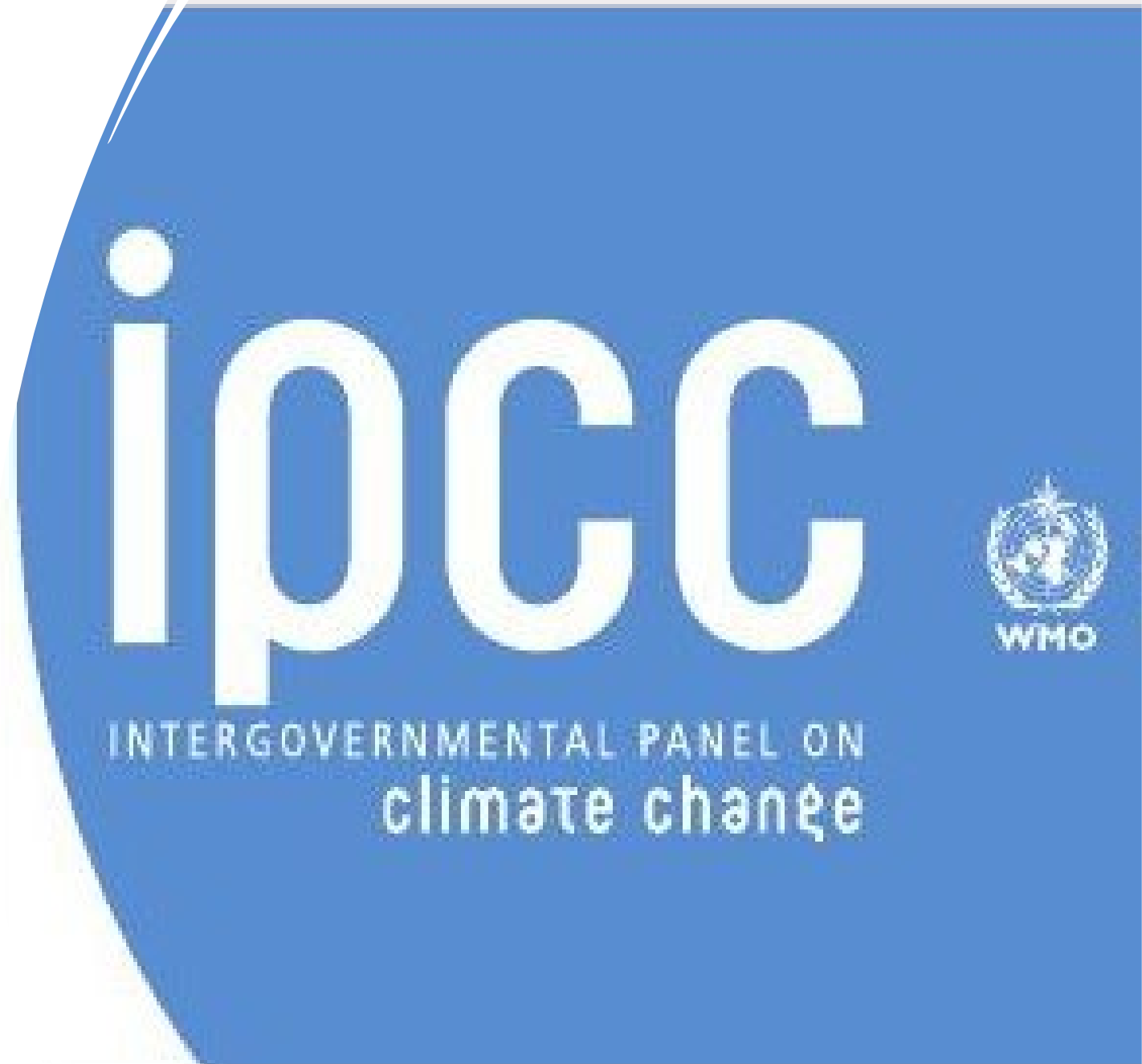
First things first. What is a “Policy”?

- Not as simple as you think as the phrase used often incorrectly.
- A policy is a political **aim** or **objective**.
- Can be broad or specific.
- Often as a precursor to **specific** regulatory limits or targets backed by legislation.
 - E.g. Government Policy to reduce road deaths by X %.
 - Enforced by specific regulation on speeding limits.



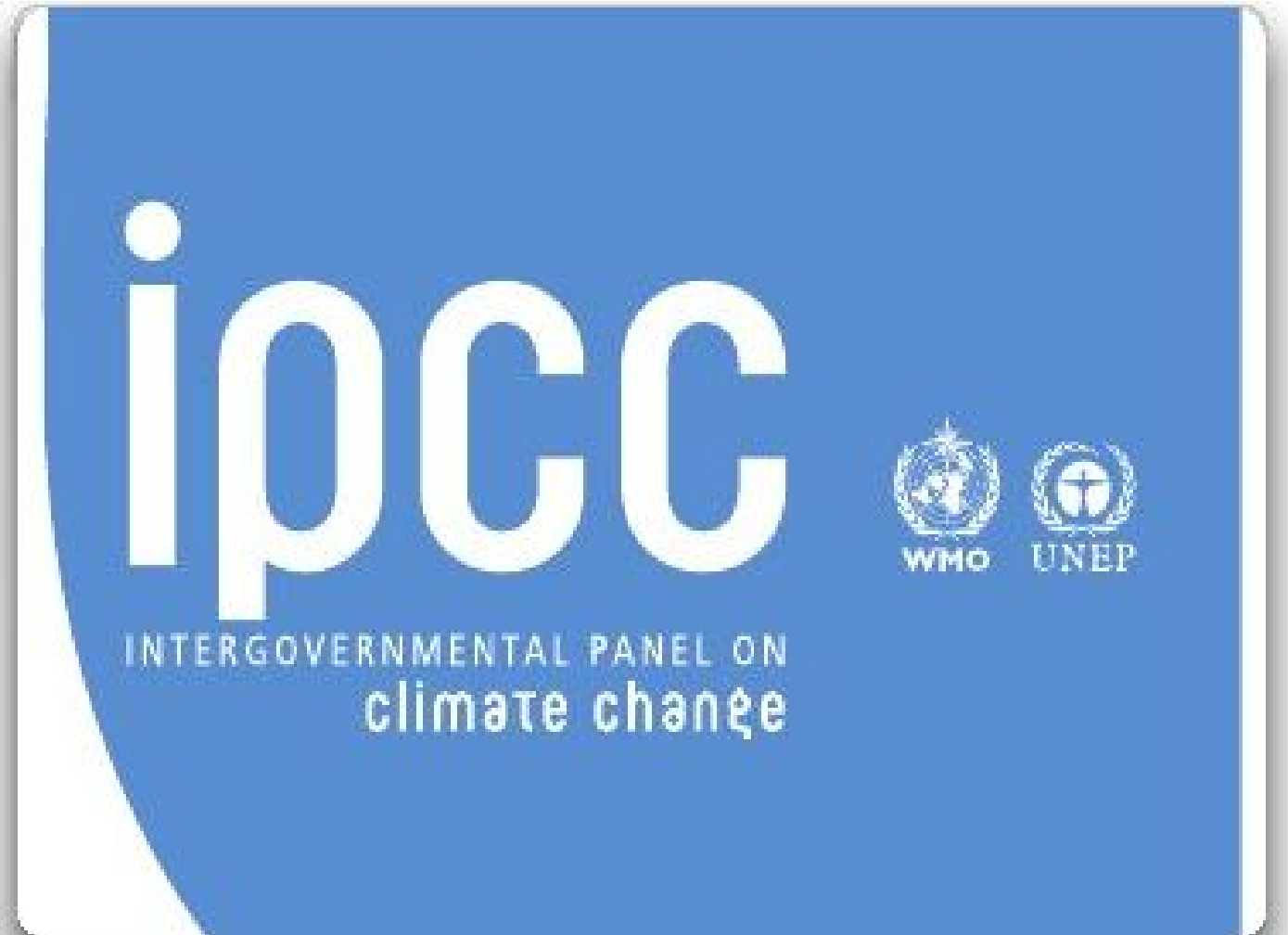
First things first: the IPCC

- The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to assess climate change based on the latest science.
- Produces assessment reports (ARs).
- Government representatives work with experts to produce the "summary for policymakers" (SPM) that highlights the most critical developments in language accessible to the world's political leaders.



Assessment reports

- Synthesis report
- Impacts, Adaptation and Vulnerability
- Mitigation of Climate Change
- The Physical Science Basis





United Nations

Framework Convention on
Climate Change

United Nations Framework
Convention on Climate Change

United Nations framework convention on Climate Change

- The [UNFCCC](#) was created in 1992 as the main forum for international action on climate change. Its overall aim is to:
- “achieve... **stabilization of greenhouse gas concentrations in the atmosphere 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 food production is not threatened and to enable economic development to proceed in a sustainable manner.”

United Nations framework convention on Climate Change

- 197 parties have joined the international agreement (known as a convention).
 - 196 States and 1 regional economic integration organization.
- Negotiations focus on four key areas:
 - mitigating (reducing) greenhouse gas emissions
 - adapting to climate change
 - reporting of national emissions
 - financing of climate action in developing countries
- Countries meet annual at climate change conference of parties (COP)
 - Facilitate negotiation or work on a specific topic.
 - COP 26 Glasgow.

Parties & Observers I

- The Convention divides countries into three main groups according to differing commitments:
- Annex I Parties include the **industrialized** countries that were members of the OECD in 1992, plus countries with economies in transition (the EIT Parties), including the Russian Federation, the Baltic States, and several Central and Eastern European States.

Parties & Observers II

- **Annex II Parties** consist of the OECD members of Annex I, **but not economies in transition**. They are required to...
 - provide **financial resources** to **enable developing countries to undertake emissions reduction activities** under the Convention and to help them adapt to adverse effects of climate change.
 - they have to "**take all practicable steps**" to promote the development and transfer of environmentally friendly technologies to economies in transition and developing countries.
- Funding provided by Annex II Parties is channelled mostly through the Convention's financial mechanism.
- Some concern about effectiveness and fairness.
- The Financial Mechanism is accountable to the COP, which decides on its climate change policies, programme priorities and eligibility criteria for funding.

Parties & Observers III

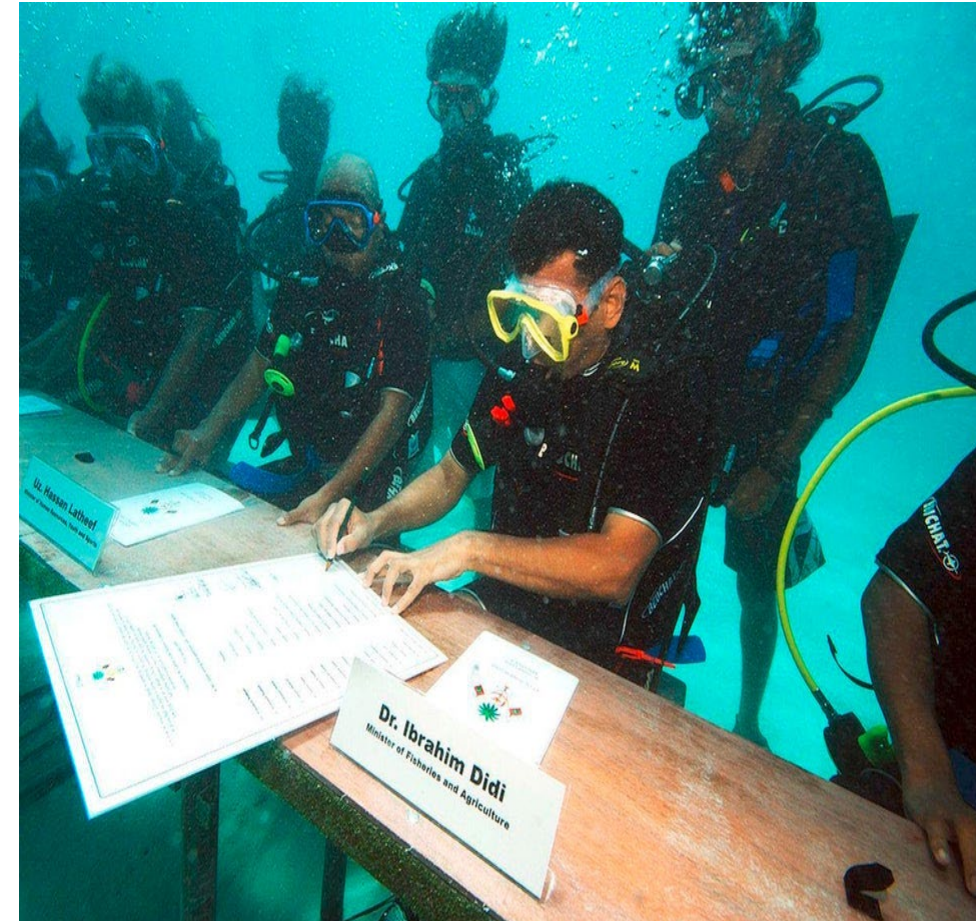
Non-Annex I Parties are mostly developing countries.

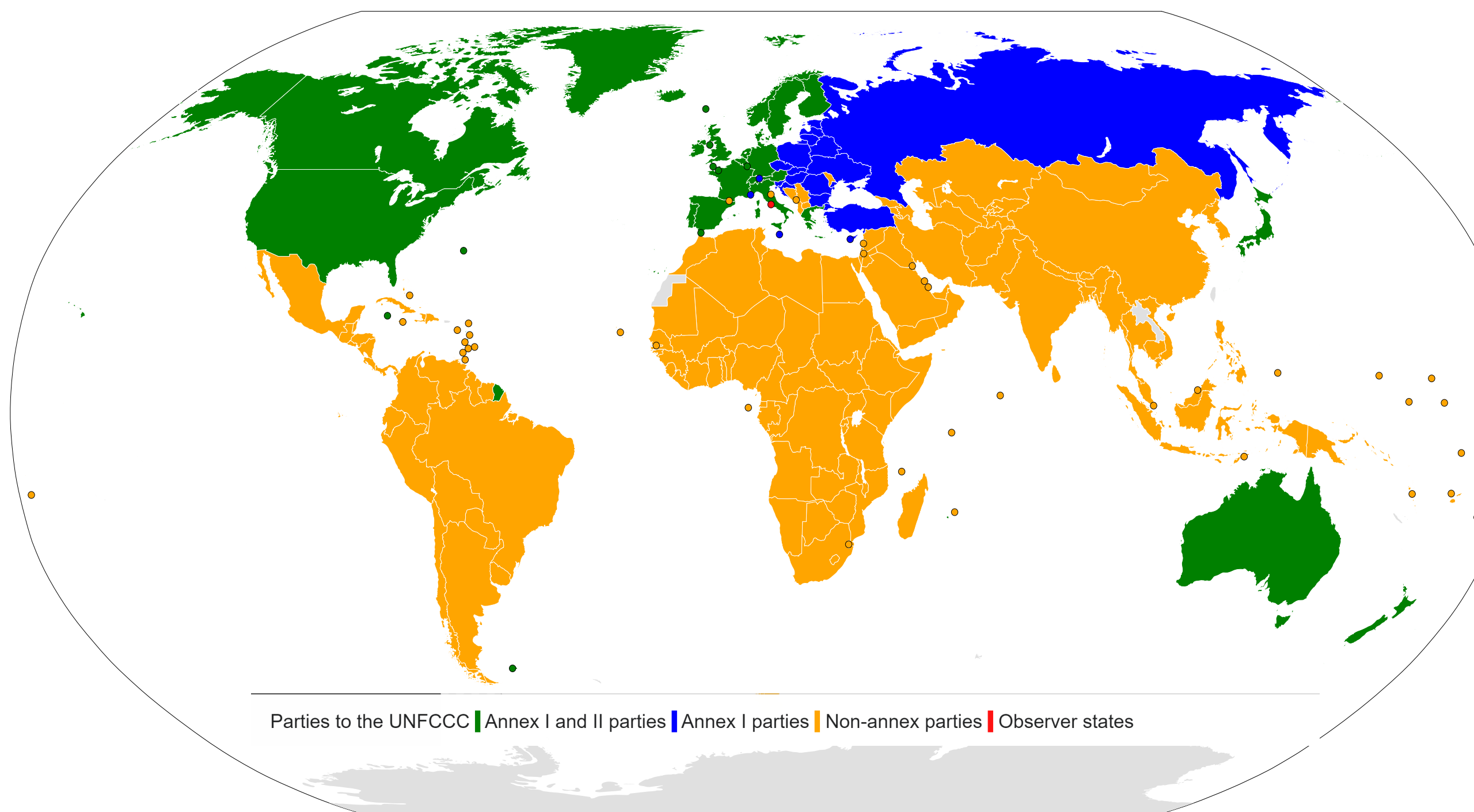
Certain groups of developing countries are recognized by the Convention as being especially vulnerable to the adverse impacts of climate change.

- countries with low-lying coastal areas
- prone to desertification and drought.

Others (such as countries that rely heavily on income from fossil fuel production and commerce) feel more vulnerable to the potential economic impacts of climate change response measures.

The Convention emphasizes activities that promise to answer the special needs and concerns of these vulnerable countries, such as investment, insurance and technology transfer.





Parties to the UNFCCC | Annex I and II parties | Annex I parties | Non-annex parties | Observer states

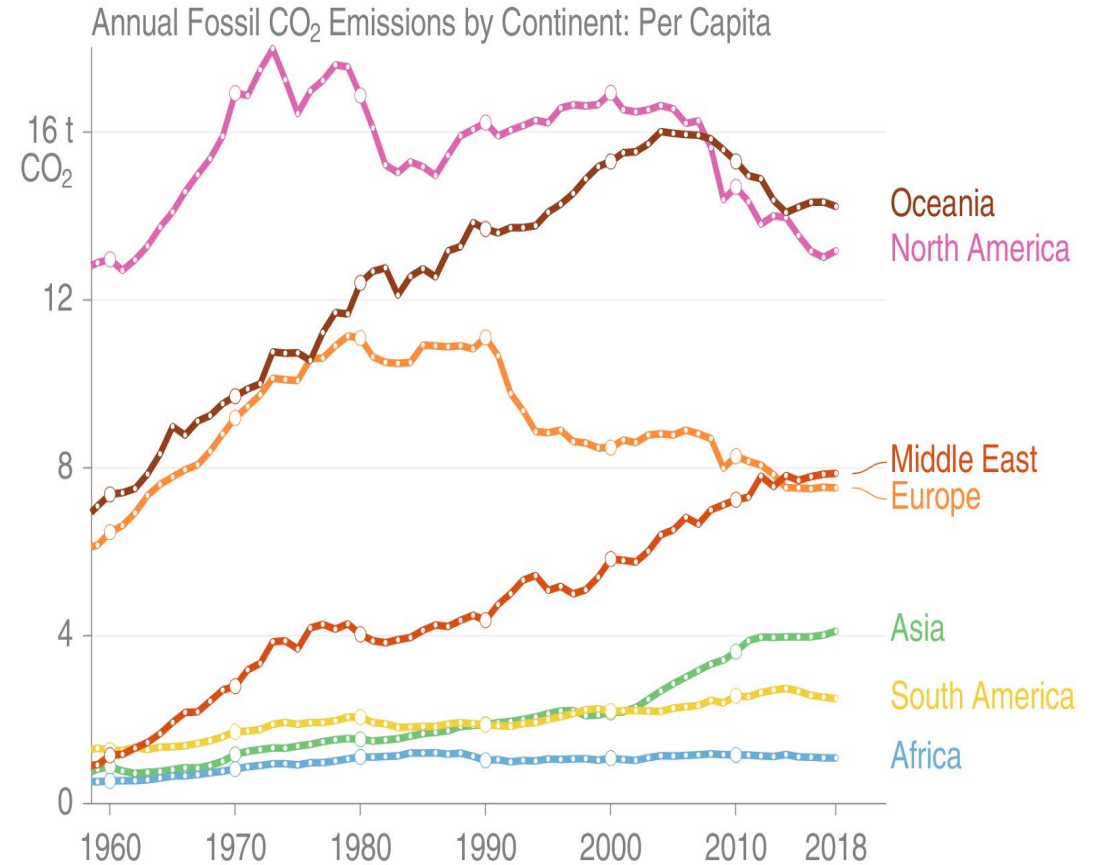
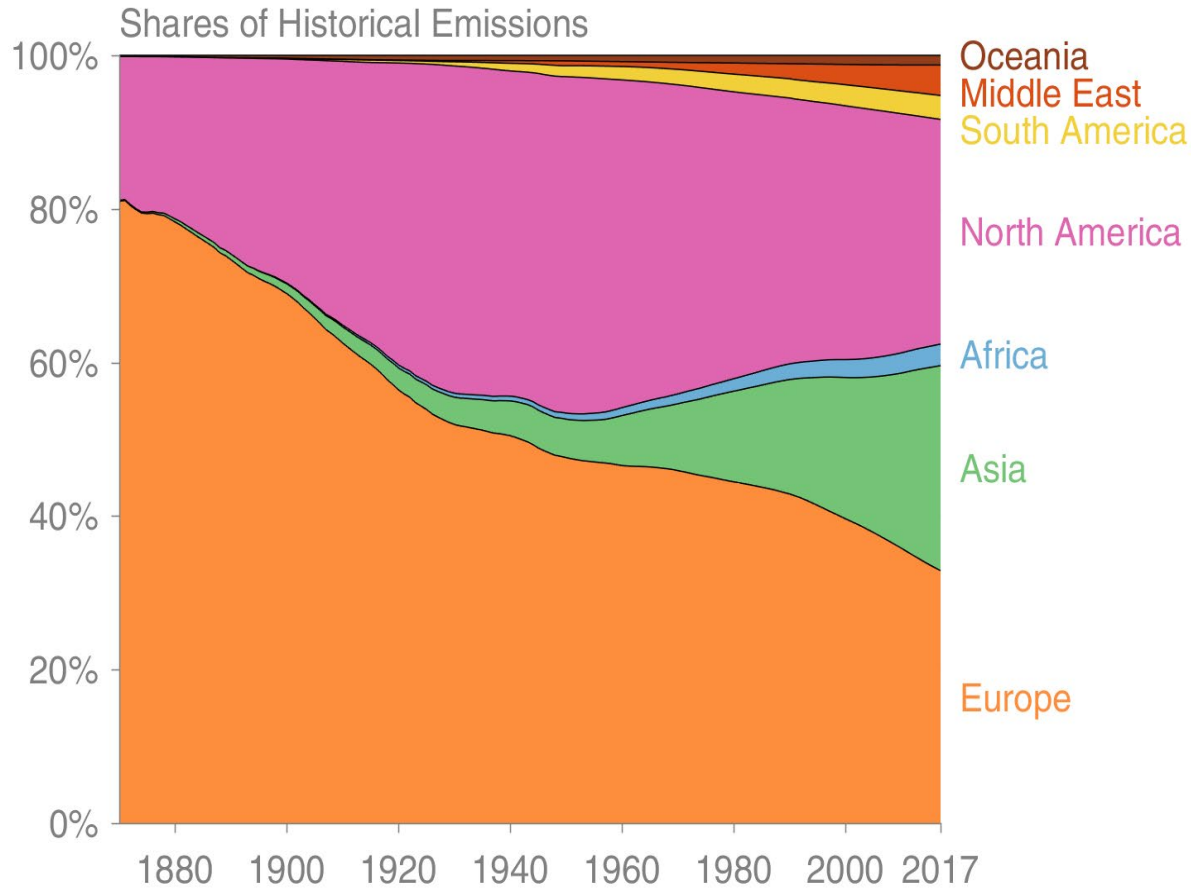
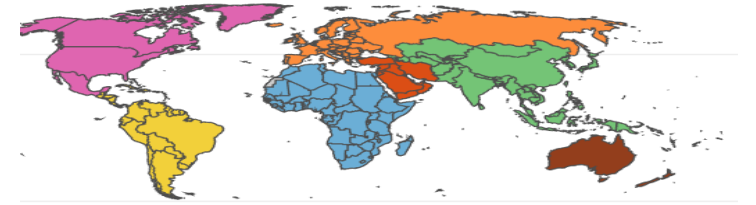
Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC)

- CBDR–RC is a principle within the UNFCCC that acknowledges the different capabilities and differing responsibilities of individual countries in addressing climate change.
- The principle of CBDR–RC is enshrined in the [1992 UNFCCC treaty](#), which was ratified by all participating countries. The text of the convention reads: “... **the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions.**”

Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC)

- The mechanism by which countries are divided into Annex 1 and Annex 2.
- However, in more recent UNFCCC agreements – starting with Durban in 2011 – Parties have changed their position to allow for countries to individually determine their “*contribution*” to addressing GHG emissions.
- In the 2014 negotiations in Lima, Parties agreed on a new phrase, ‘*common but differentiated responsibilities and respective capabilities, in light of different national circumstances,*’

Historical cumulative emissions by continent VS Fossil CO₂ emissions by continent



© Global Carbon Project • Data: CDIAC/UNFCCC/BP/USGS

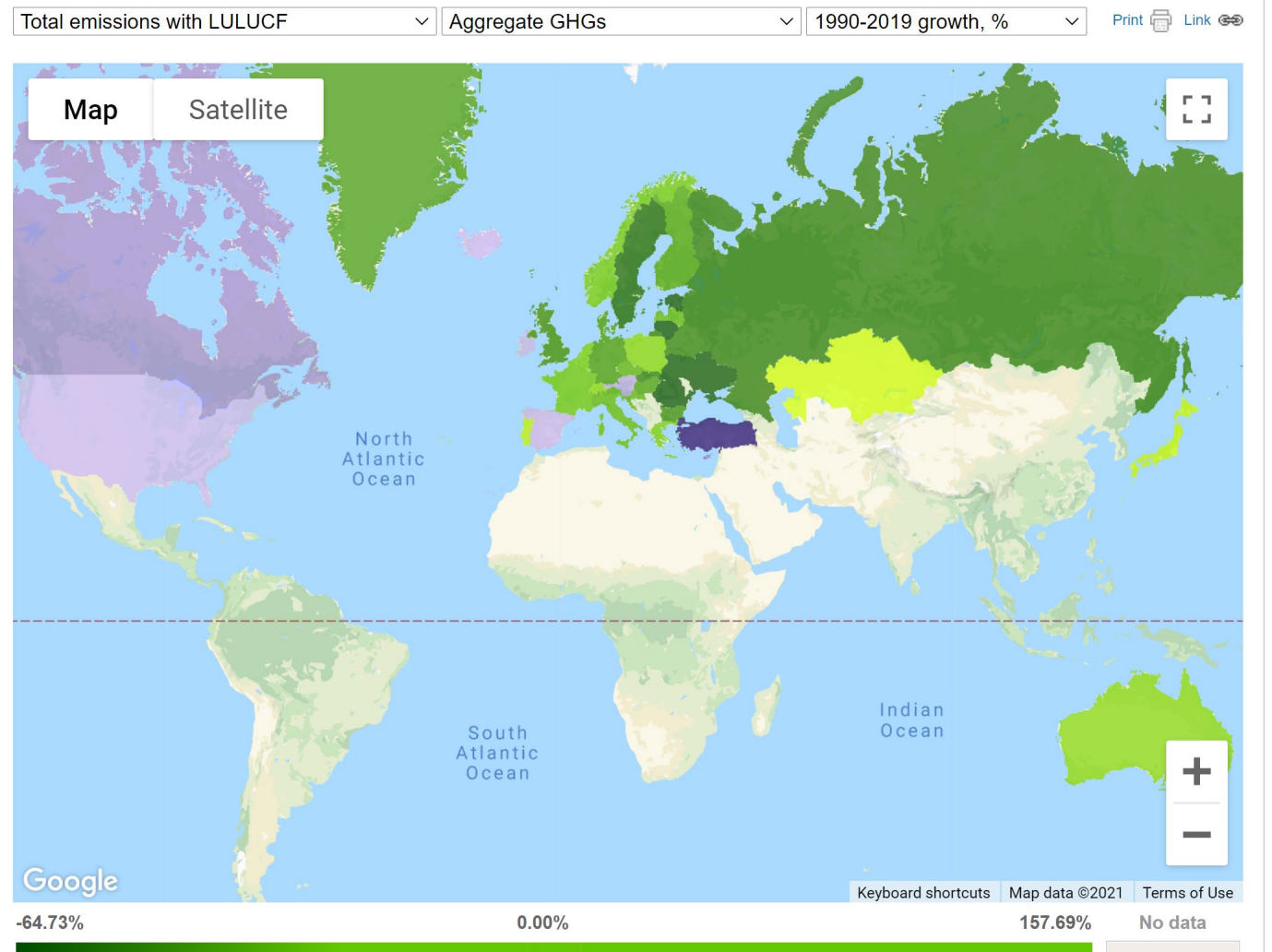
© Global Carbon Project • Data: CDIAC/UNFCCC/BP/USGS

The figure excludes bunker fuels and statistical differences
 Source: [CDIAC](#); [Le Quéré et al 2018](#); [Global Carbon Budget 2018](#)

What is the Kyoto protocol?

- In accordance with Articles 4 and 12 of the Climate Change Convention and the relevant decisions of the Conference of the Parties, countries that are Parties to the Convention submit national greenhouse gas (GHG) inventories to the Climate Change secretariat.
- The signatories agreed to cut their country's emissions to 5% below 1990 levels between 2008 and 2012.
- Common reporting guidelines.
- Across All sectors
 - Energy, transport, agriculture etc
 - Including and excluding emissions due to land use change.
- https://di.unfccc.int/global_map

- [We can compare signatories](#)
- [https://di.unfccc.int/global map](https://di.unfccc.int/global_map)



Aims of the Paris agreement

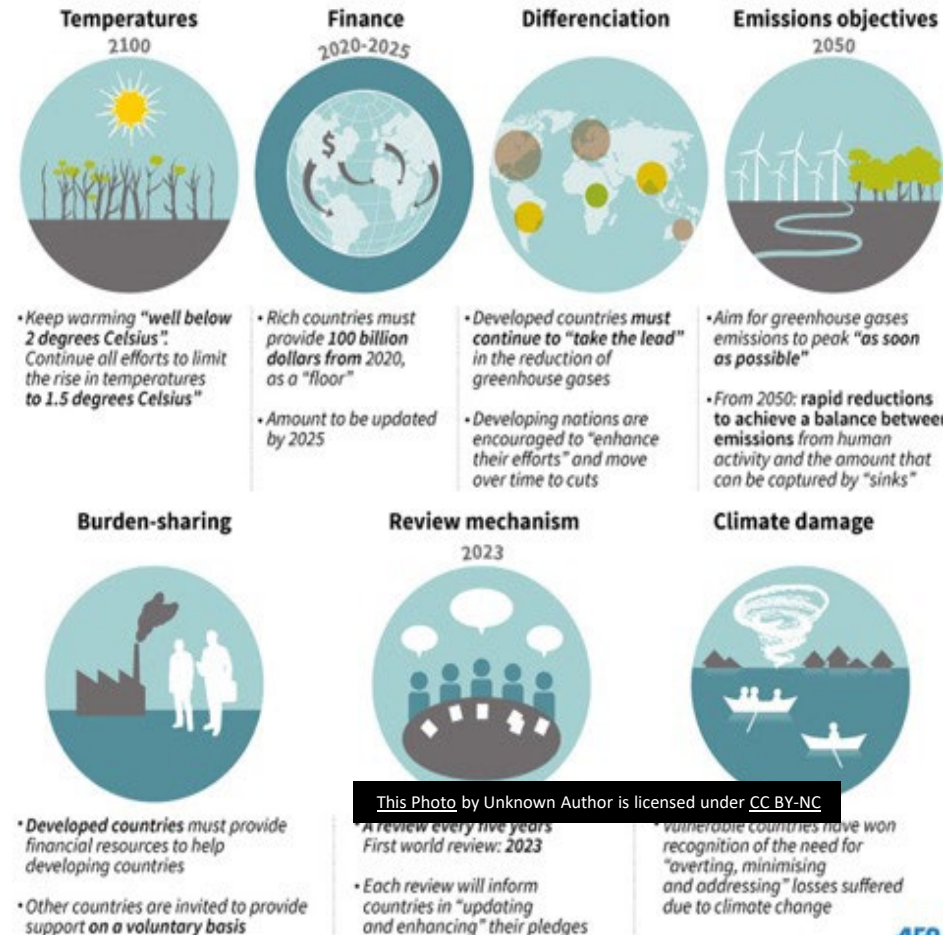
The Paris Agreement central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century “**well below**” 2 degrees Celsius above pre-industrial levels and to “**pursue efforts**” to limit the temperature increase even further to 1.5 ° Celsius.

- Currently at 1.2 ° Celsius

To reach these ambitious goals, appropriate financial flows, “**a new technology framework**” and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives.

The Paris climate agreement: key points

The historic pact, approved by 195 countries, will take effect from 2020



Nationally Determined Contributions.

Nationally determined contributions (NDCs) are at the heart of the Paris Agreement and the achievement of these long-term goals.

NDCs embody efforts by each country to **reduce** national emissions and adapt to the impacts of climate change.

The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, **communicate and maintain successive nationally determined contributions** (NDCs) that it intends to achieve to reduce emissions.

Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions consistent with global budgets.

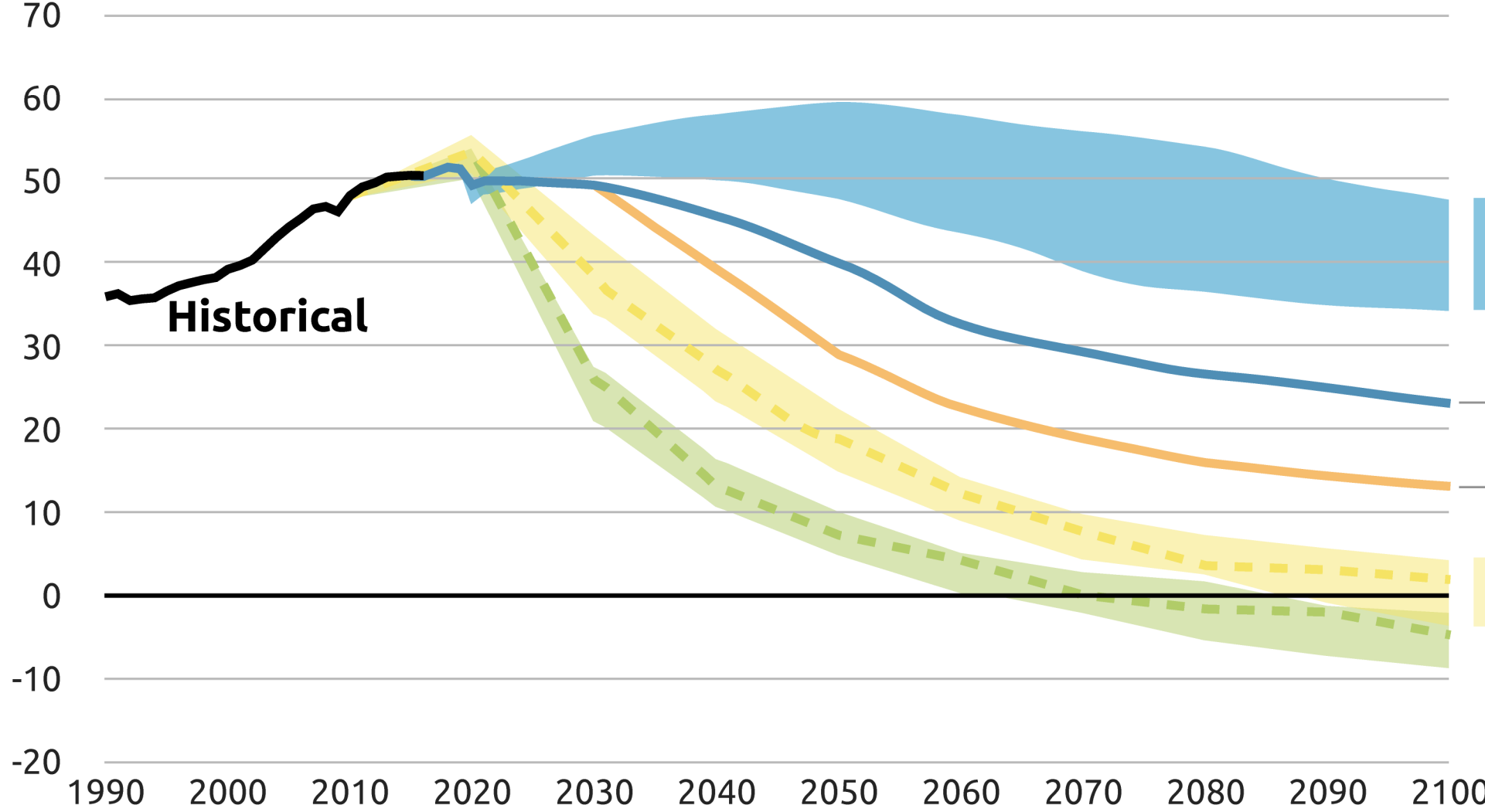
2100 WARMING PROJECTIONS

Emissions and expected warming based on pledges and current policies



May 2021 update

Global GHG emissions GtCO_{2e}/year

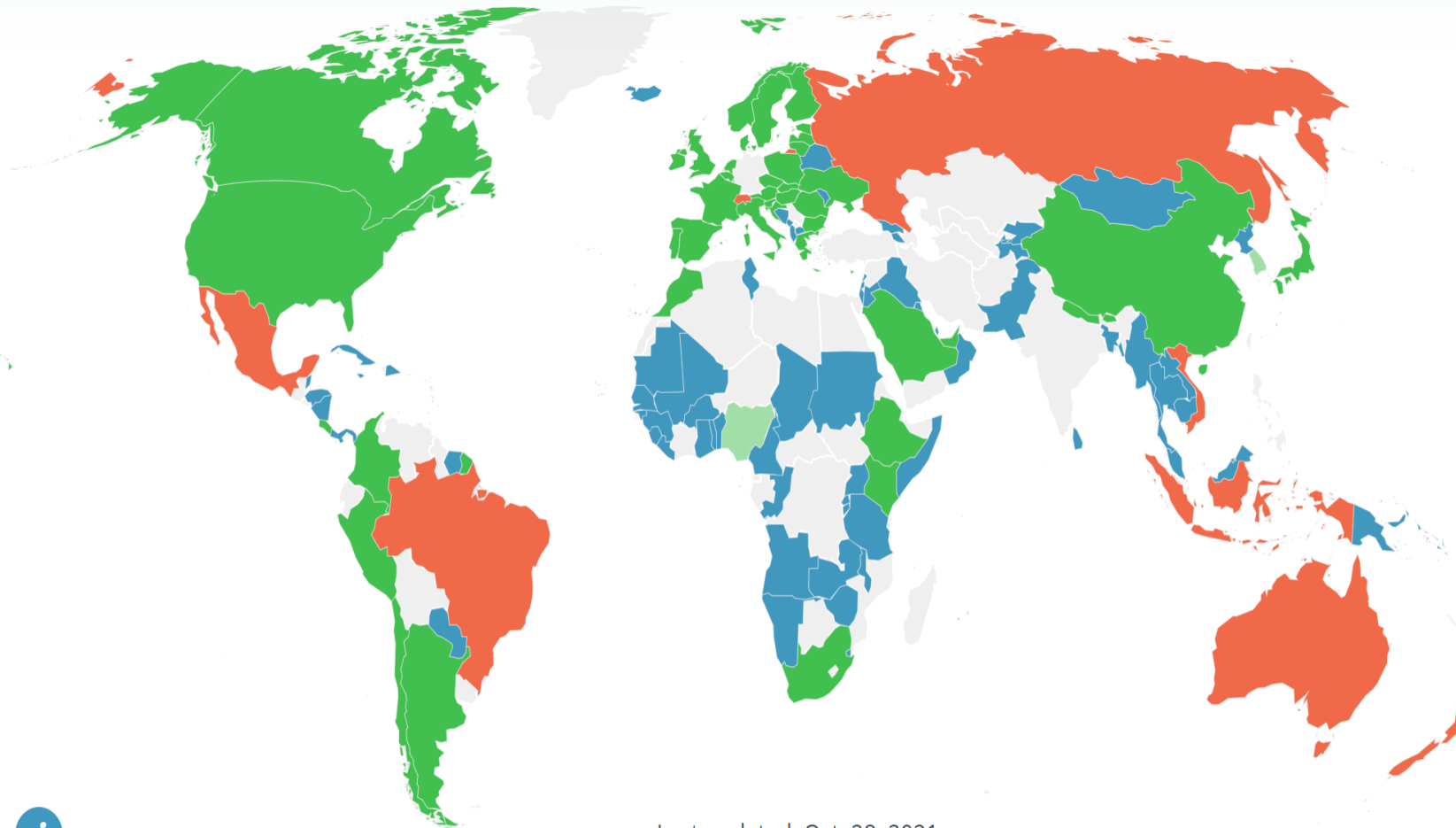


Warming projected by 2100

- Current policies**
2.7 – 3.1°C
- Pledges & Targets**
2.4°C
- Optimistic net zero targets**
2.0°C
- 2°C consistent**
1.6 – 1.7°C
- 1.5°C consistent**
1.3°C

CLIMATE TARGETS

Status of the NDC update process



Last updated: Oct. 28, 2021

Map is for reference only

118 Countries have **submitted** new NDC targets (117 countries plus the EU27)

21 Countries we analyse have submitted **stronger NDC targets** (20 countries plus the EU27)

9 Countries we analyse **did not increase ambition**

88 Countries **we do not analyse** submitted new NDC targets

2 Countries have **proposed** new NDC targets

2 Countries we analyse have proposed **stronger NDC targets**

0 Countries we analyse stated it **will not propose more ambitious targets**

0 Countries **we do not analyse** proposed new NDC targets

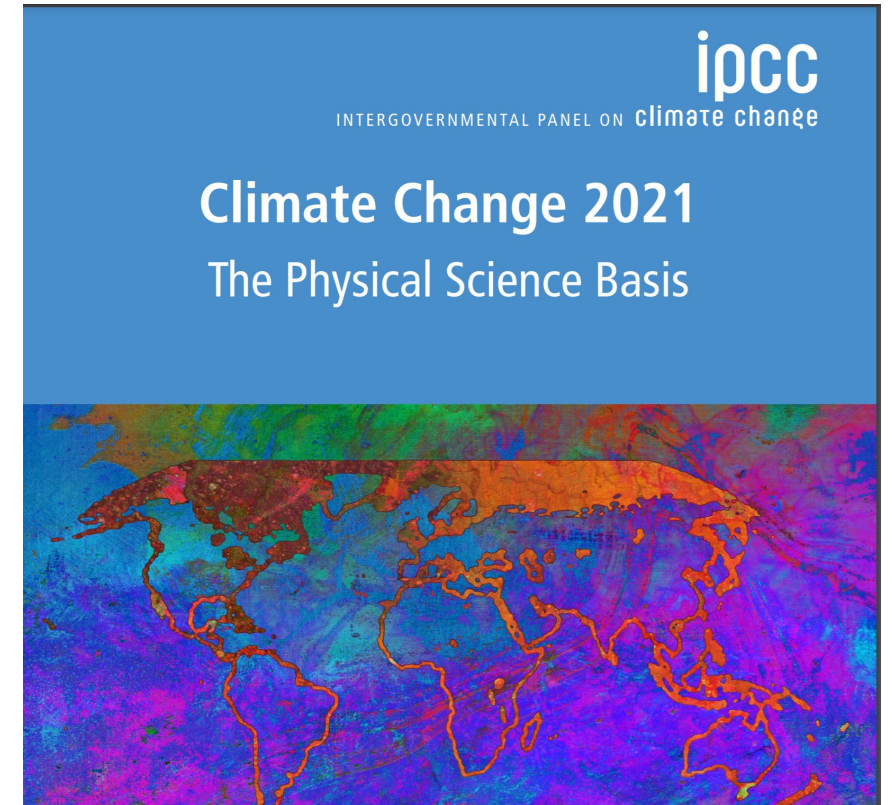
46 Countries have not updated targets

89.4% GLOBAL EMISSIONS COVERED BY NEW NDC SUBMISSIONS

69.5% GLOBAL POPULATION COVERED BY NEW NDC SUBMISSIONS

IPCC Sixth Assessment report

- IPCC currently working on 6 assessment report.
- Working Group I has published a report on the physical science basis.
 - Historic changes in the climate
 - Evidence for anthropogenic climate change
 - Future climate change based on scenarios.

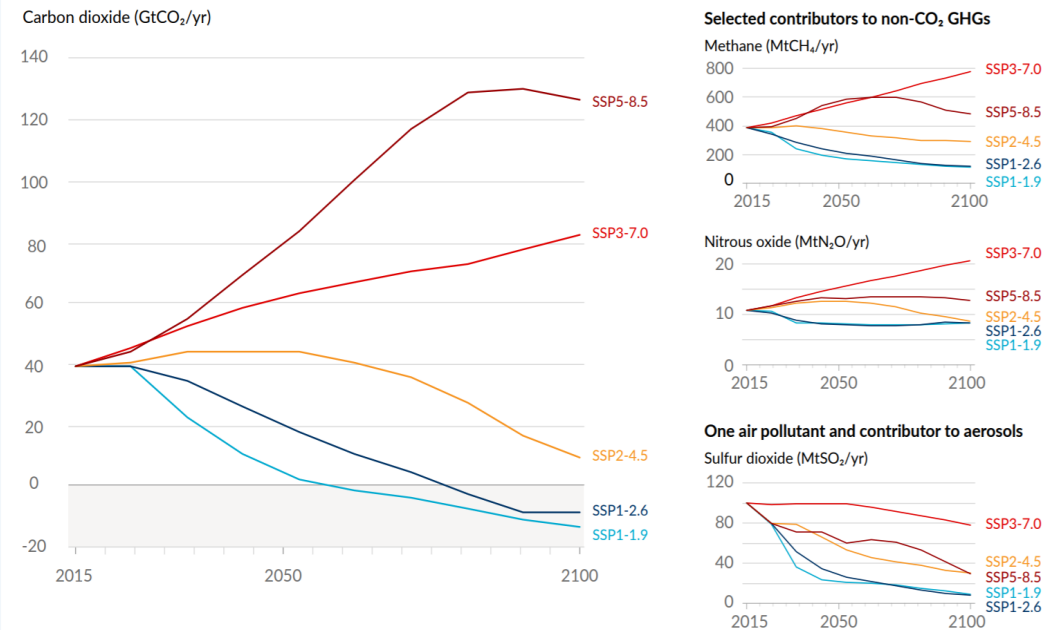


IPCC Sixth Assessment report

- Accumulation of CO₂ (and other GHGs) in the atmosphere determines the level of warming.
 - Emission budgets linked to defined levels of warming.
- Scenarios tell us the likely range of warming associated with future emission pathways.

Future emissions cause future additional warming, with total warming dominated by past and future CO₂ emissions

a) Future annual emissions of CO₂ (left) and of a subset of key non-CO₂ drivers (right), across five illustrative scenarios



IPCC Sixth Assessment report

- Global warming of 1.5°C relative to 1850-1900 would be exceeded during the 21st century under the intermediate, high and very high scenarios considered in this report (SSP2-4.5, SSP3-7.0 and SSP5-8.5, respectively).
- Global net zero emissions shortly after 2050.
 - **Negative** emissions thereafter.

Scenario	Near term, 2021–2040		Mid-term, 2041–2060		Long term, 2081–2100	
	Best estimate (°C)	<i>Very likely</i> range (°C)	Best estimate (°C)	<i>Very likely</i> range (°C)	Best estimate (°C)	<i>Very likely</i> range (°C)
SSP1-1.9	1.5	1.2 to 1.7	1.6	1.2 to 2.0	1.4	1.0 to 1.8
SSP1-2.6	1.5	1.2 to 1.8	1.7	1.3 to 2.2	1.8	1.3 to 2.4
SSP2-4.5	1.5	1.2 to 1.8	2.0	1.6 to 2.5	2.7	2.1 to 3.5
SSP3-7.0	1.5	1.2 to 1.8	2.1	1.7 to 2.6	3.6	2.8 to 4.6
SSP5-8.5	1.6	1.3 to 1.9	2.4	1.9 to 3.0	4.4	3.3 to 5.7

What does this mean for COP 26 Negotiations?

- Shortfall in NDCs need to be emphasised.
- Big economies need to prioritise dramatic emission reductions in the upcoming years.
- Investment in negative emission technologies essential.
- Who will pay? How much?
- <https://www.carbonbrief.org/interactive-who-wants-what-at-the-cop26-climate-change-summit>



"Boris Johnson launch of COP26" by UK Prime Minister is licensed under CC BY-NC-ND 2.0

What does this mean for COP 26 Negotiations?

- COP26 will also attempt to agree “common timeframes” for countries’ climate pledges and the Paris “enhanced transparency framework”, so that progress towards meeting them can be tracked.
 - (The EU has recently come out in favour of five-year common timeframes for pledges, having previously been opposed to this.)
- Countries must work out remaining details of the “global stocktake” that will assess overall progress towards the goals of the Paris Agreement. This is due to start shortly after COP26 and end in 2023.



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