THE POLITICS OF CLIMATE CHANGE

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Average temperature anomaly, Global
Global average land-sea temperature anomaly relative to the 1961-1990 average temperature.

Source: Hadley Centre (HadCRUT4)
Note: The red line represents the median average temperature change, and grey lines represent the upper and lower 95% confidence interval.
Annual CO₂ emissions
Carbon dioxide (CO₂) emissions from the burning of fossil fuels for energy and cement production. Land use change is not included.

Source: Global Carbon Project
Note: CO₂ emissions are measured on a production basis, meaning they do not correct for emissions embedded in trade.
Global greenhouse gas emissions and warming scenarios

- Each pathway comes with uncertainty, marked by the shading from low to high emissions under each scenario.
- Warming refers to the expected global temperature rise by 2100, relative to pre-industrial temperatures.

Annual global greenhouse gas emissions in gigatonnes of carbon dioxide-equivalents

150 Gt

100 Gt

50 Gt

Greenhouse gas emissions up to the present

0

1990 2000 2010 2020 2030 2040 2050 2060 2070 2080 2090 2100

No climate policies
4.1 – 4.8 °C
→ expected emissions in a baseline scenario if countries had not implemented climate reduction policies.

Current policies
2.7 – 3.1 °C
→ emissions with current climate policies in place result in warming of 2.7 to 3.1 °C by 2100.

Pledges & targets (2.4 °C)
→ emissions if all countries delivered on reduction pledges result in warming of 2.4 °C by 2100.

2°C pathways
1.5°C pathways

Data source: Climate Action Tracker (based on national policies and pledges as of May 2021).
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1°C WARMER WORLD TODAY

Wildfires, California 2018
$148 bn

Flooding, Germany 2021
$17-23 bn
2°C WARMER WORLD BY 2050?

WHAT WE MUST DO

Mitigation
- Limit temperature rise
- Peak GHG emissions ASAP
- Reduce GHGs concentrations
- Costs $1.6-3.8 tn per year

Adaptation
- Adjusting to current & future effects
- Reduce risks & vulnerability
- Costs 180 billion per year
Global greenhouse gas emissions by sector
This is shown for the year 2016 – global greenhouse gas emissions were 40.4 billion tonnes CO₂eq.
Energy consumption by source, World

Primary energy consumption is measured in terawatt-hours (TWh). Here an inefficiency factor (the ‘substitution’ method) has been applied for fossil fuels, meaning the shares by each energy source give a better approximation of final energy consumption.

Source: BP Statistical Review of World Energy
Note: ‘Other renewables’ includes geothermal, biomass and waste energy.
The Top 10 GHG Emitters Contribute Over Two-Thirds of Global Emissions

Explore the Latest Global Greenhouse Gas Emissions Data on Climate Watch

Graphic by Johannes Friedrich. Data source: Preliminary global greenhouse gas emissions 2018 excluding land use change and forestry (LUCF) from Climate Watch. The EU 27 is considered a country.
Per capita energy from fossil fuels, nuclear and renewables, 2019

Primary energy is calculated based on the 'substitution method' which takes account of the inefficiencies in fossil fuel production by converting non-fossil energy into the energy inputs required if they had the same conversion losses as fossil fuels.

Source: Our World in Data based on BP Statistical Review of World Energy
GDP per capita
Measured in constant international-

Source: Data compiled from multiple sources by World Bank
OurWorldInData.org/ecc
The International Politics of Climate Change
THE POLITICS OF RESPONSIBILITY

1979: World Climate Conference
1987: Montreal Protocol
1988: Intergovernmental Panel on Climate Change
1992: UNFCCC at Earth Summit
1997: Kyoto Protocol
2009: Copenhagen
2015: Paris Agreement

2°C limit by 2100
Nationally Determined Contributions

CBDR: Common But Differentiated Responsibilities

$100 bn per year from 2020
Cumulative CO2 emissions by world region

Cumulative carbon dioxide (CO2) emissions by region from the year 1750 onwards. Emissions are based on territorial emissions (production-based) and do not account for emissions embedded in trade. This measures CO2 emissions from fossil fuels and cement production only – land use change is not included.

Source: Our World in Data based on the Global Carbon Project

OurWorldInData.org/co2-and-other-greenhouse-g
Per capita CO2 emissions
Carbon dioxide (CO2) emissions from the burning of fossil fuels for energy and cement production. Land use change is not included.

Source: Our World in Data based on the Global Carbon Project
Note: CO2 emissions are measured on a production basis, meaning they do not correct for emissions.
What have the major polluters committed?
THE EU

• Reduce emissions 55% below 2005 levels by 2030
• Net-zero emissions by 2050, promised in law
• Plans include banning sale of petrol & diesel cars by 2035
• Border tariff on imports like steel & concrete
• Household costs likely to increase (eg. Heating)
• Difficult path to approval by 27 member states and EU parliament
THE US

- Re-joined Paris Agreement
- Reduce emissions 50-52% below 2005 levels by 2030
- Net-zero emissions by 2050
- Climate finance of $11.4 bn per year by 2024
- $3.5 tn federal package deal
- Congressional approval??
CHINA

• Peak emissions by 2030
• Net-zero emissions by 2060
• Not build any new coal power projects abroad
• But ongoing domestic coal-fired power and steel projects
INDIA

- Reduce emissions 33-35% below 2005 levels by 2030
- Net zero emissions?
- No updated NDC yet
“net-zero emissions can be a global aspirational goal, and historical responsibility demands that developed countries should take measures and legislate for net-zero emissions by the current decade itself”

Nirmala Sitharaman, Minister of Finance
15 October 2021
CLIMATE FINANCE

- Goal: $100 bn per year from developed to developing countries
- Reality: $79.6 bn in 2019
- Worse: 80% assistance in form of loans not grants

![Climate Finance Table]

**Note:** Countries in dark green are paying their fair share of climate finance. Colours are in quartile increments. Light green, paying 75–100% of their fair share; yellow, paying 50–75% of their fair share; orange, paying 25–50% of their fair share; red, paying less than 25% of their fair share.
HOW SHOULD WE MOVE FORWARD?
4Rs FOR THE FUTURE

• Reduce emissions deeply and quickly
• Remove GHGs from the atmosphere
• Repair damaged climate systems
• Redefine notions of growth and progress
Bold policies that privilege the planet not profits

Not tomorrow. Today.