

22 Avril 2022

Retour sur le 6ème rapport du GIEC

Nadia Maïzi, co-auteure du 6ème rapport du GIEC, Mines Paris - PSL





AR6 Working Group III Authors, India, 2019

IPCC REPORT PROCESS

Report by numbers



278 Authors



65 Countries



41 % Developing countries
59 % Developed countries



29 % Women / 71 % Men



47% first-time authors



354 Contributing authors



More than
18,000 scientific papers

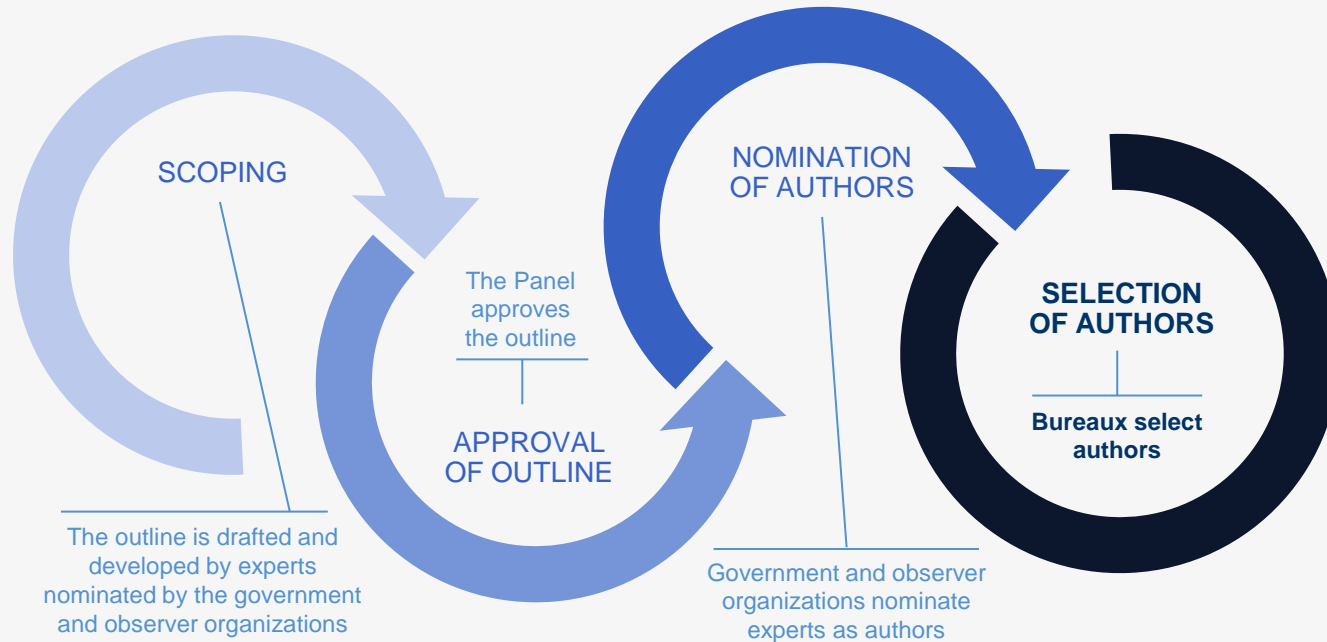


59,212
Review comments

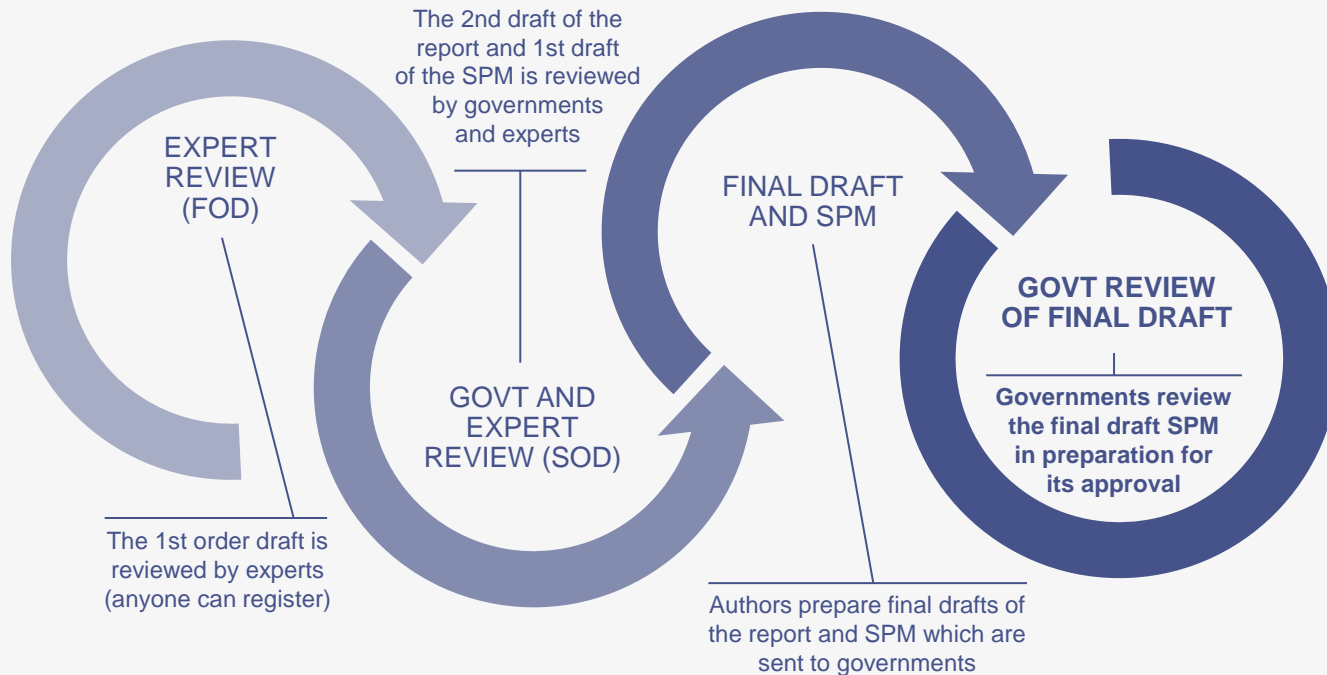


42 governments commented on
Final Government Distribution

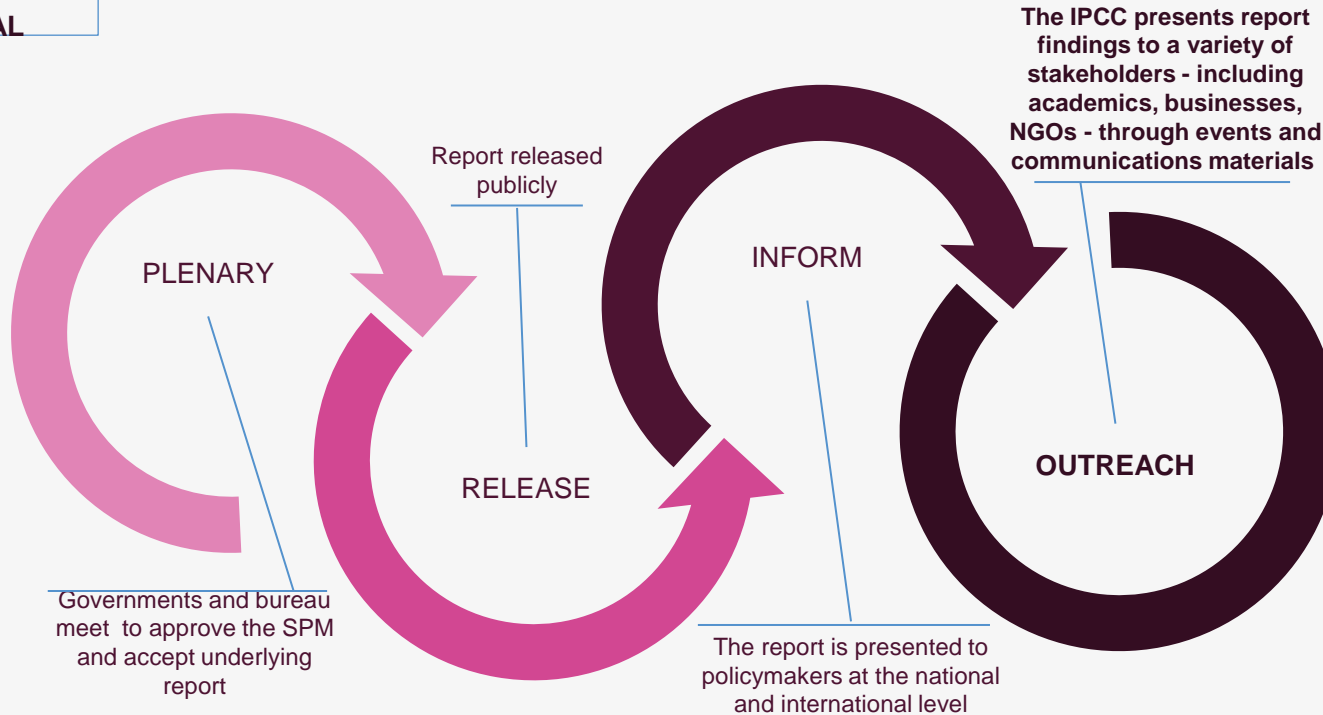
PHASE:
PREPARATORY



PHASE: DRAFTS

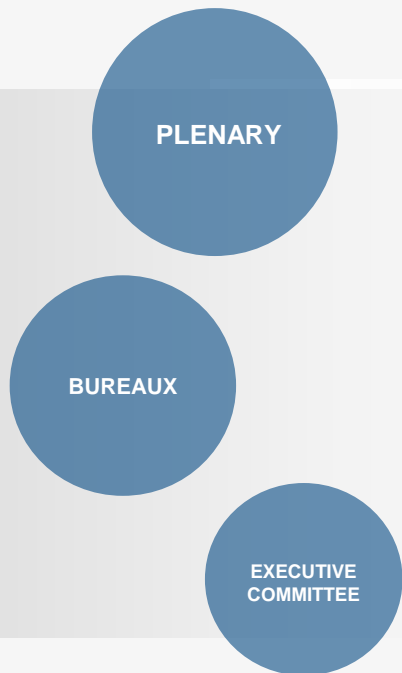


PHASE:
APPROVAL



Policy and science work together to provide rigorous and balanced scientific information on climate change

POLICY



WORKING GROUP I

The Physical Science Basis

WORKING GROUP II

Impacts, Adaptation & Vulnerability

WORKING GROUP III

Mitigation of Climate Change

TASK FORCE ON INVENTORIES

Task Force on National Greenhouse Gas Inventories

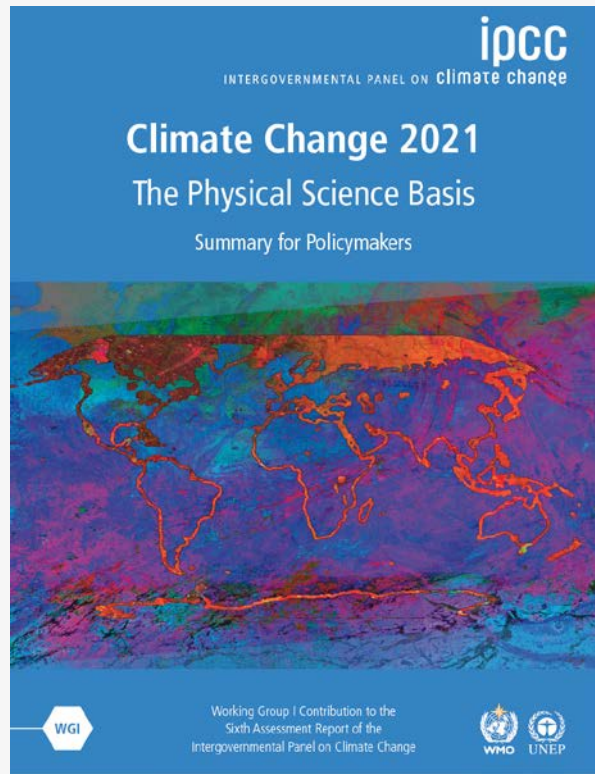
SCIENCE



Intergovernmental Panel
195 member States appointing National Focal Points

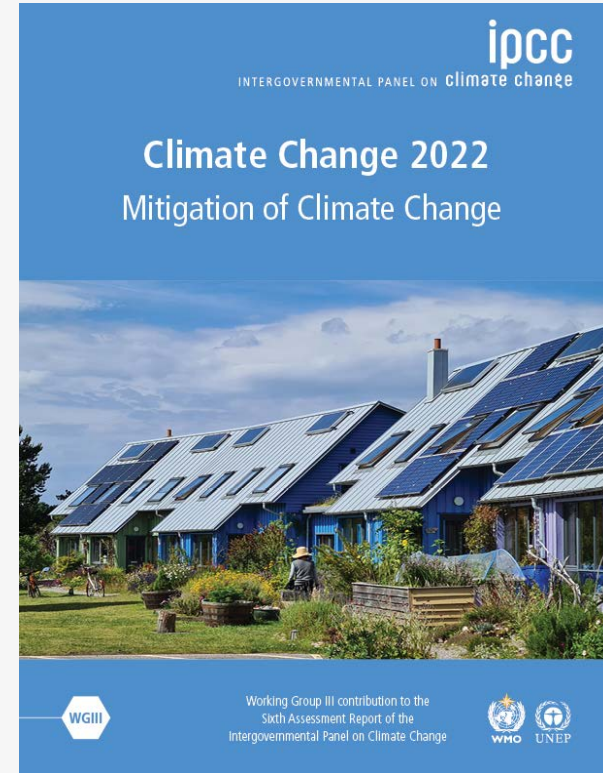
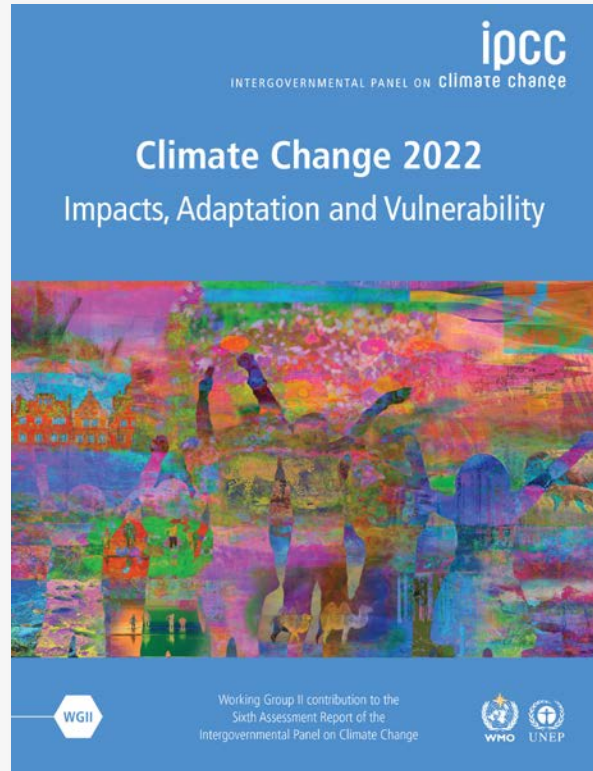
Hundreds of **scientists and experts from around the world** are involved in the preparation of IPCC reports

6^{ème} rapport du GIEC : 3 volets



6 aout 2021

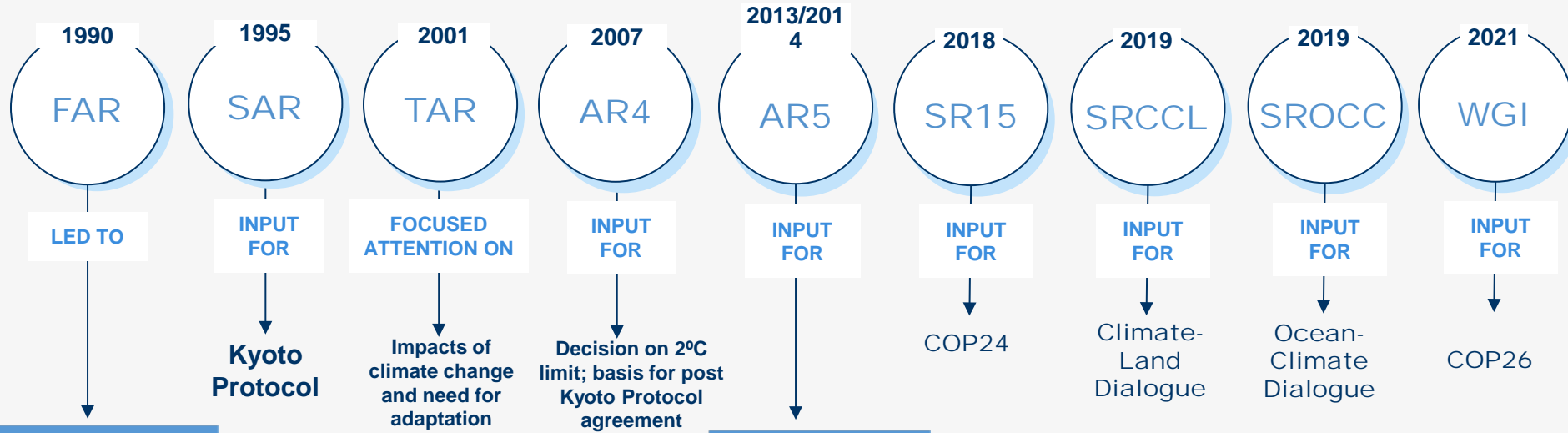
28 février 2022

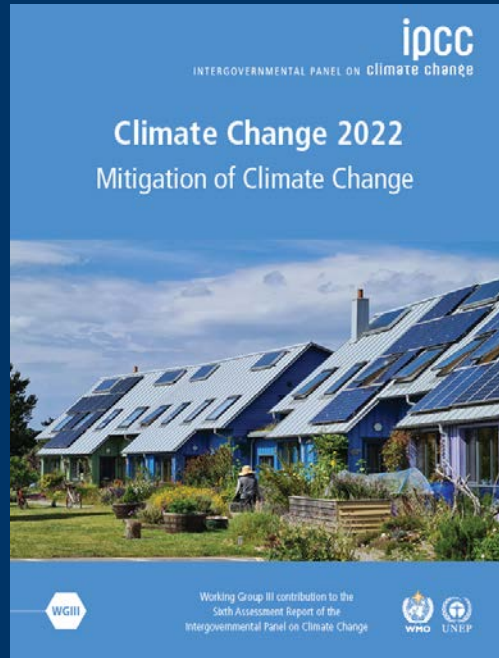


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HISTORY | EVOLUTION OF THE IPCC





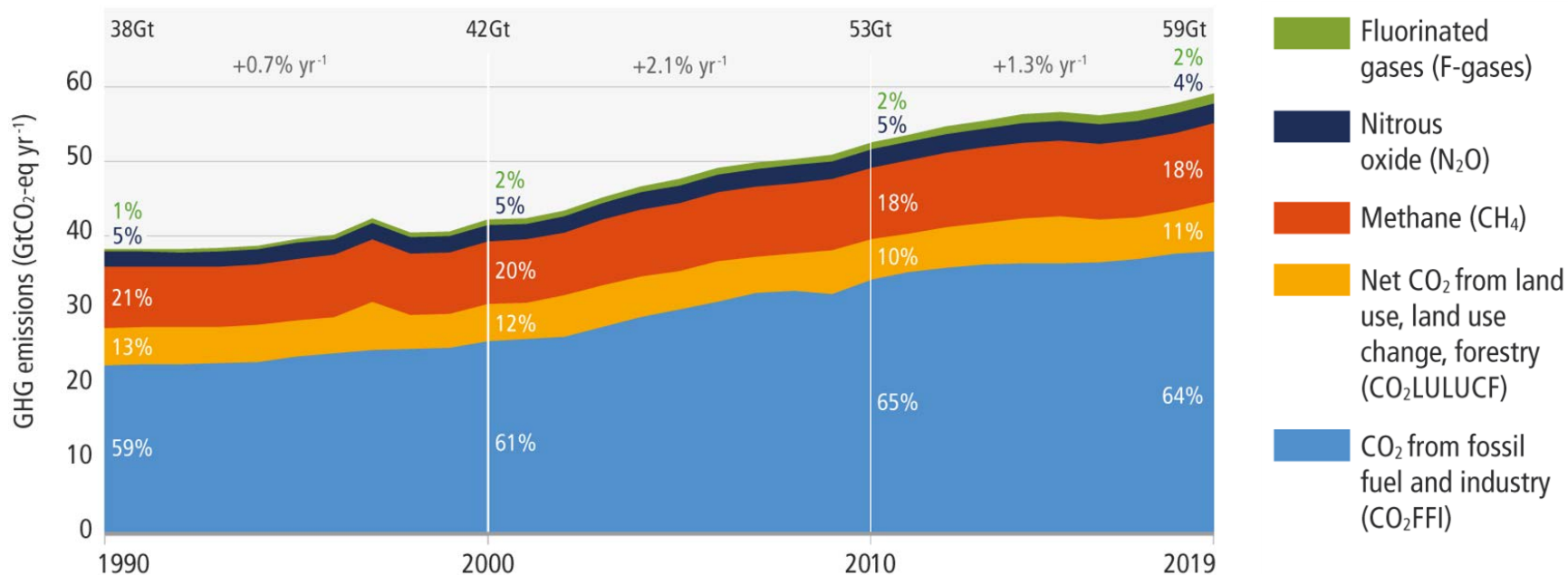


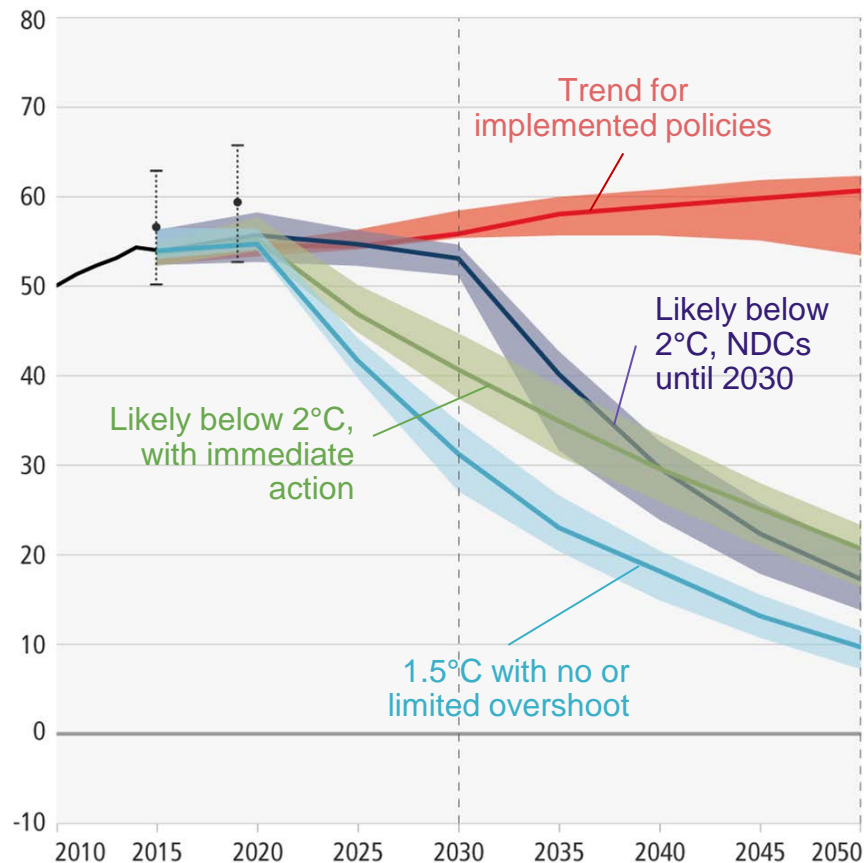
- 2010-2019: records d'émissions annuelles moyennes de gaz à effet de serre.

A moins de reductions immédiates et massives des émissions dans tous les secteurs, limiter le réchauffement à 1,5°C sera hors de portée.

- Des options sont disponibles maintenant dans chaque secteur et peuvent permettre de diviser par 2 les émissions d'ici 2030.

Nos émissions en 2019 sont 12% plus élevées que celles de 2010 et 54% plus élevées que celles de 1990.





Limiter le réchauffement à 1.5 °C

- Pic des émissions mondiales de gaz à effet de serre doit être atteint avant 2025, avec une baisse de 43% entre 2019 et 2030
- Réductions de 34% des émissions de méthane d'ici 2030

Limiter le réchauffement sous 2°C

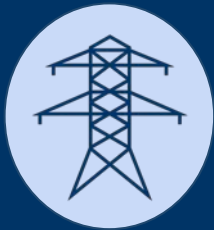
- Pic des émissions mondiales de gaz à effet de serre avant 2025, baisse de 27% d'ici 2030

(based on IPCC-assessed scenarios)

Il existe un bouquet de solutions pour atténuer les émissions de gaz à effet de serre



Demand and services



Energy



Land use



Industry



Urban



Buildings



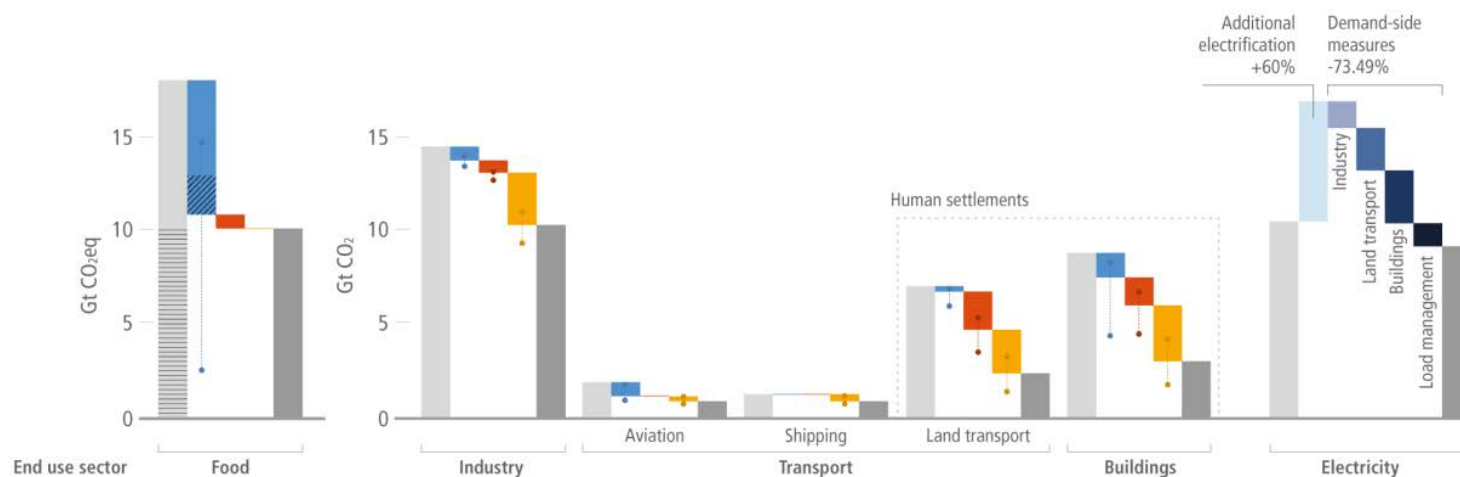
Transport



Demand and services

- potential to **bring down global emissions** by **40-70%** by 2050
- walking and cycling, electrified transport, reducing air travel, and adapting houses make large contributions
- **lifestyle changes** require **systemic changes** across all of society
- **some** people require additional **housing, energy and resources** for human wellbeing



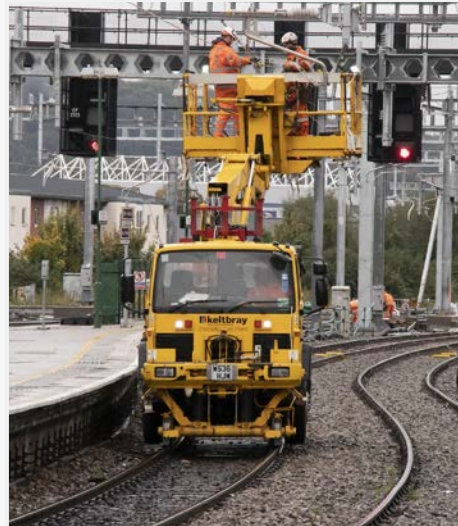


Demand for service	Nutrition	Manufactured products	Mobility	Mobility	Mobility	Shelter
Socio-cultural factors	Shift in dietary choice with reduced animal protein; avoid food waste; avoid over-consumption	Avoid short life span products	Avoid long haul flights; shift to trains wherever possible	Currently not applicable	Teleworking or telecommuting; active mobility such as walking and cycling	Social practices in energy saving; and lifestyle and behavioural changes
Infrastructure use	Enhance the role of choice architectures & information; financial incentives; waste management; recycling infrastructure	Reuse and recycling	Currently not applicable	Currently not applicable	Public transport; shared mobility; compact city; spatial planning	Compact cities; built environment; living floor space rationalisation; architectural design; feedback control systems
Technology adoption	Currently not applicable	Access to materials-efficient services; access to energy-efficient and CO ₂ -neutral materials	Adoption of energy-efficient technologies; technologies with improved aerodynamics	Adoption of energy-efficient technology/systems	Electric vehicles; efficiency technologies	Adopting energy-efficient solutions; shift to renewables



Transport

- **reducing demand** and **low-carbon technologies** are key to reducing emissions
- **electric vehicles**: greatest potential
- **battery technology**: advances could assist electric rail, trucks
- **aviation** and **shipping**: alternative fuels (low-emission **hydrogen** and **biofuels**) needed
- Overall, substantial potential but depends on **decarbonising the power sector**.



Energy

- **major transitions** are required to limit global warming
- reduction in fossil fuel use and use of carbon capture and storage
- low- or **no-carbon** energy systems
- widespread **electrification** and improved energy **efficiency**
- **alternative fuels**: e.g. hydrogen and sustainable biofuels



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Cities and urban areas

- better urban planning, as well as:
- sustainable production and consumption of goods and services,
- **electrification** (low-emission energy),
- enhancing **carbon uptake and storage** (e.g. green spaces, ponds, trees)



There are options for existing, rapidly growing *and* new cities.



Buildings

- buildings: possible to reach net zero emissions in 2050
- action in this decade is critical to fully capture this potential
- involves retrofitting existing buildings and effective mitigation techniques in new buildings
- requires ambitious policy packages
- zero energy and **zero-carbon** buildings exist in new builds **and retrofits**



Industry

- using materials more **efficiently, reusing, recycling, minimising waste**; currently **under-used** in policies and practice
- **basic materials**: low- to zero-greenhouse gas production processes at **pilot to near-commercial** stage
- achieving **net zero** is challenging



Carbon Dioxide Removal

- required to **counterbalance hard-to-eliminate** emissions
- through **biological** methods: reforestation, and soil carbon sequestration
- **new technologies** require more **research**, up-front **investment**, and proof of concept at **larger scales**
- **essential to achieve net zero**
- **agreed methods** for measuring, reporting and verification required

[Forest Service Northern Region CC BY 2.0, Fiston Wasanga/CIFOR CC BY-NC-ND 2.0, Climeworks]



Land use

- can provide large-scale emissions reductions **and** remove and store CO₂ at scale
- protecting and restoring **natural ecosystems** to remove carbon: forests, peatlands, coastal wetlands, savannas and grasslands
- competing demands have to be **carefully managed**
- **cannot compensate** for **delayed** emission **reductions** in other sectors



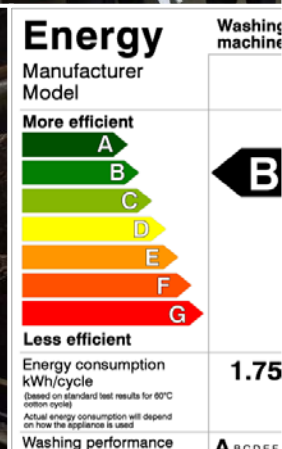
Closing investment gaps

- financial flows: **3-6x lower** than levels needed **by 2030** to limit warming to below 1.5°C or 2°C
- there is **sufficient global capital** and liquidity to close investment gaps
- challenge of closing gaps is widest for developing countries





Policies, regulatory and economic instruments



- regulatory and economic instruments have **already proven effective** in reducing emissions
- **policy packages** and **economy-wide packages** are able to achieve **systemic change**
- ambitious and effective mitigation requires **coordination across government and society**

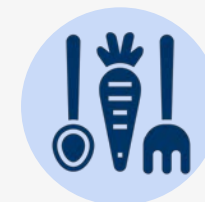
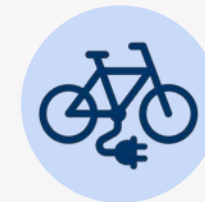


[World Bank/Simone D. McCourtie, Dominic Chavez CC BY-NC-ND 2.0, Trent Reeves/MTA Construction & Development CC BY 2.0, IMF Photo/Tamara Merino CC BY-NC-ND 2.0, Olga Delawrence/Unsplash.]

Technology and Innovation

- investment and policies **push forward low emissions** technological **innovation**
- **effective decision making** requires assessing potential benefits, barriers and risks
- **some options** are technically **viable**, rapidly becoming **cost-effective**, and have relatively **high public support**. Other options face barriers

Adoption of low-emission technologies is slower in most developing countries, particularly the least developed ones.



Sixth Assessment Report

Working Group III – Mitigation of Climate Change

“
Les faits sont clairs :
C'est le
moment d'agir !

ipcc

INTERGOVERNMENTAL PANEL ON climate change

Climate Change 2022 Mitigation of Climate Change



WGIII

Working Group III contribution to the
Sixth Assessment Report of the
Intergovernmental Panel on Climate Change



SIXTH ASSESSMENT REPORT

ipcc

