Climate Change 2022
Mitigation of Climate Change

BRIEFING ON
IPCC WGIII REPORT

8 APRIL 2022 | 14:00-15:30 CEST
International Environment House & Online

>>> tiny.cc/8AprIPCCWG3
SPEAKERS

Sebastian KÖNIG
IPCC Focal Point, Switzerland

Jim SKEA
IPCC Working Group III Co-Chair

Diana URGE-VORSTATZ
IPCC Working Group III Vice-Chair

Ligia NORONHA
UN Assistant Secretary-General, Head of UNEP, New York Office

Maria MENDILUCE
Chief Executive Officer, We Mean Business

Lindsey FIELDER COOK
Representative for Climate Change, Quaker United Nations Office

Dina IONESCO
Manager at United Nations Climate Secretariat (UNFCCC) | Moderator

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MODERATOR

Dina IONESCO
Manager at United Nations Climate Secretariat (UNFCCC)

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Opening Remarks
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• Jim SKEA | IPCC Working Group III Co-Chair
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Emissions Gap Report and the IPCC Climate Change Report: Converging Messages
• Ligia NORONHA | UN Assistant Secretary-General & Head of UNEP, New York Office

Business Accelerating Climate Action
• María MENDILUCE | Chief Executive Officer, We Mean Business

Civil Society engagement – An IPCC Observer Perspective on Key Messages and Issues Arising from the WGIII Report
• Lindsey FIELDER COOK | Representative for Climate Change, Quaker United Nations Office

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OPENING REMARKS

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Climate Change 2022

Mitigation of Climate Change
Report by numbers

- 278 Authors
- 65 Countries
- 41 % Developing countries
- 59 % Developed countries
- 29 % Women / 71 % Men
- More than 18,000 scientific papers
- 354 Contributing authors
- 59,212 Review comments
Climate Change 2022
Mitigation of Climate Change

2010-2019: Average annual greenhouse gas emissions at highest levels in human history
We are not on track to limit warming to 1.5 °C.
...but there is increased evidence of climate action
“Unless there are immediate and deep emissions reductions across all sectors, 1.5°C is beyond reach.”
Increased evidence of climate action

Some countries have achieved a steady decrease in emissions consistent with limiting warming to 2°C.

Zero emissions targets have been adopted by at least 826 cities and 103 regions.
In some cases, costs for renewables have fallen below those of fossil fuels.
Electricity systems in some countries and regions are already predominantly powered by renewables.
Limiting warming to 1.5 °C

- Global GHG emissions peak before 2025, reduced by 43% by 2030.
- Methane reduced by 34% by 2030

Limiting warming to around 2°C

- Global GHG emissions peak before 2025, reduced by 27% by 2030.

*(based on IPCC-assessed scenarios)*
The temperature will stabilise when we reach net zero carbon dioxide emissions

(based on IPCC-assessed scenarios)
There are options available now in every sector that can at least halve emissions by 2030.
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
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

[Bosch, Unsplash/Yoav Aziz, Adam Bartoszewicz, Victor Hernandez]
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**.

[United Airlines, Jeremy Segrott CC BY 2.0, Andreas160578/Pixabay]
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
Land use

- can provide large-scale emissions reductions and remove and store CO$_2$ 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
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.
Accelerated climate action is critical to sustainable development
Mitigation options in urban areas

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<tr>
<th>Urban land use and spatial planning</th>
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<td>Electrification of the urban energy system</td>
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<td>District heating and cooling networks</td>
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<td>Waste prevention, minimization and management</td>
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<td>Integrating sectors, strategies and innovations</td>
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Relation with Sustainable Development Goals:

- 1: High relevance
- 2: Moderate relevance
- 3: Low relevance
- −: No relevance

Legend: +: Relevant; ●: Moderately relevant; −: Not relevant.
## Mitigation options in agriculture and forestry

<table>
<thead>
<tr>
<th>Mitigation Option</th>
<th>Relation with Sustainable Development Goals</th>
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<tr>
<td>Carbon sequestration in agriculture</td>
<td><img src="#" alt="Relation with Sustainable Development Goals" /></td>
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<tr>
<td>Reduce CH₄ and N₂O emission in agriculture</td>
<td><img src="#" alt="Relation with Sustainable Development Goals" /></td>
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<tr>
<td>Reduced conversion of forests and other ecosystems</td>
<td><img src="#" alt="Relation with Sustainable Development Goals" /></td>
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<tr>
<td>Ecosystem restoration, reforestation, afforestation</td>
<td><img src="#" alt="Relation with Sustainable Development Goals" /></td>
</tr>
<tr>
<td>Improved sustainable forest management</td>
<td><img src="#" alt="Relation with Sustainable Development Goals" /></td>
</tr>
<tr>
<td>Reduce food loss and food waste</td>
<td><img src="#" alt="Relation with Sustainable Development Goals" /></td>
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<tr>
<td>Shift to balanced, sustainable healthy diets</td>
<td><img src="#" alt="Relation with Sustainable Development Goals" /></td>
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<tr>
<td>Renewables supply</td>
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The evidence is clear: The time for action is now
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EMISSIONS GAP REPORT AND THE IPCC CLIMATE CHANGE REPORT: CONVERGING MESSAGES

Ligia NORONHA
UN Assistant Secretary-General & Head of UNEP, New York Office

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The Emissions Gap Report is an annual series that provides an overview of the difference between where greenhouse emissions are predicted to be in 2030 and where they should be to avert the worst impacts of climate change.
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BUSINESS ACCELERATING CLIMATE ACTION

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CIVIL SOCIETY ENGAGEMENT – AN IPCC OBSERVER PERSPECTIVE ON THE WGII REPORT

Lindsey FIELDER COOK
Representative for Climate Change,
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THANK YOU FOR JOINING!

Summary, recording and further resources will be available at

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WHAT'S NEXT?  genevaenvironmentnetwork.org

EVENT | CONFERENCE
2022 Sand and Sustainability: 10 Strategic Recommendations to Avert a Crisis | Report Launch
26 APR 2022 15:00 - 16:30
International Environment House II & Online | Webex GRID-Geneva, GEN

Nature
SDG15
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