Ministry for the Environment
Manatū Mō Te Taiao

BRIEFING NOTE

Advice on IPCC Synthesis Report Summary for Policymakers

Date Submitted:	20 March 2023	Tracking #: BRF-2819	
Security Level	Unclassified Unclassified	MfE Priority:	Urgent

	Action sought:	Response by:
Hon James SHAW, Minister of Climate Change	**Note** contents ahead of public release of the IPCC synthesis report	20/03/23

Actions for Minister's Office Staff	**Return** the signed report to MfE.
Number of appendices and attachments #1	Titles of appendices and attachments: 1. Appendix: Headline Statements of the Synthesis Report Summary for Policymakers

Key contacts

Position	Name	Cell phone	1st contact
Principal Author	Georgia Sharp	9(2)(a)	
Responsible Manager	Sophie Heighway		✓
Director	Megan Hurnard	021 233 6119	

Advice on IPCC Synthesis Report Summary for Policymakers

Key Messages

1. This briefing note provides you with an overview of the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment cycle synthesis report. It will support you ahead of the public release of the synthesis report at the official IPCC press conference at 2:00pm on 20 March (CET) [2:00am on 21 March (NZDT)].

2. The synthesis report combines existing publicly available information from the three Working Group reports and three special reports released as part of the IPCC Sixth Assessment cycle.

3. The synthesis report Summary for Policymakers (SPM) distils the most critical, policy-relevant findings from the full synthesis report. Its aim is to be policy-relevant without being policy-prescriptive.

4. The SPM was negotiated line-by-line by government delegates at the 58th Session of the IPCC held 13 – 19 March 2023.

5. The content of the full synthesis report, including the SPM, is embargoed until its public release at 2:00am on 21 March (NZDT).

6. There may be significant New Zealand media interest in the synthesis report considering recent severe weather events – the January flooding in Auckland and February's cyclone Gabrielle. The synthesis report states climate change is real, and the flooding and cyclones that parts of New Zealand have experienced are consistent with IPCC findings on adverse impacts. See Appendix 1 below for further information.

Context

7. The Intergovernmental Panel on Climate Change (IPCC) assessment reports are written periodically, approximately every six to seven years. They aim to provide a comprehensive summary of the literature on the scientific basis of climate change, its impacts, future risks and options for adaptation and mitigation.

8. The full Sixth Assessment cycle report contains contributions from three IPCC Working Groups (WG):

    a. WG I: The Physical Science Basis (released August 2021)

    b. WG II: Impacts, Adaptation and Vulnerability (released February 2022)

    c. WG III: Mitigation of Climate Change (released April 2022)

d. You have received briefings on each of these at the time they were released (WGI: BRF-464, WGII: BRF-1245, WGIII: BRF-1397).

9. Additionally, there were three special reports released during the Sixth Assessment cycle. These also contribute to the synthesis report:

    a. Global Warming of 1.5°C (released October 2018)

    b. Climate Change and Land (released August 2019)

    c. The Ocean and Cryosphere in a Changing Climate (released September 2019)

10. The synthesis report was subject to a comprehensive global and open review process by governments and experts, in which New Zealand took part.

11. Professor Bronwyn Hayward (University of Canterbury) was the only New Zealand scientist to contribute to the synthesis report. She participated in the 58th Session of the IPCC in her author capacity.

12. Dr Andy Reisinger (He Pou a Rangi – Climate Change Commission) WG III Vice-Chair from New Zealand also participated in the 58th Session of the IPCC in his IPCC Bureau capacity. He supported the development of the synthesis report as a member of the Scientific Steering Committee.

Summary for Policymakers

13. The synthesis report Summary for Policymakers (SPM) is accepted by all governments, making it a key input in international climate change negotiations and an authoritative tool to underpin government policy making.

14. The SPM was negotiated line-by-line by government delegates at the 58th Session of the IPCC held 13 – 19 March 2023. Helen Plume and Lindy Fursman represented New Zealand at this meeting.

15. The IPCC aims for consensus from all IPCC member governments (195 countries) in the approval process.

16. Key messages from the SPM include:

    a. It is unequivocal that human influence has warmed the atmosphere, ocean and land.

    b. It is likely that warming will exceed 1.5°C during the 21st century as there is a substantial 'emissions gap' between global greenhouse gas emissions in 2030 associated with the implementation of Nationally Determined Contributions and those associated with modelled mitigation pathways that limit warming to 1.5°C.

    c. Continued emissions will further affect all major climate system components. With every additional increment of global warming, changes in extremes continue to

become larger, climate-related hazards and risks increase and human health and social equity decrease.

d. Deep, rapid and sustained mitigation and accelerated implementation of adaptation actions in this decade will reduce future loses and damages. The choices implemented this decade will have an impact now and far into the future.

e. Reaching net zero CO_2 and net zero greenhouse gas emissions requires deep and rapid reductions in gross emissions of CO_2 as well as substantial reductions of non-CO_2 greenhouse gas emissions. Global modelled mitigation pathways reaching net zero CO_2 and greenhouse gas emissions include transitions from fossil fuels to very low- or zero-carbon energy sources. There are cost effective mitigation options to achieve this.

f. Implementation of adaption actions should focus on being flexible, multi-sectoral, inclusive, and involve long-term planning to avoid maladaptation.

g. Finance, technology, and international cooperation are critical enablers for accelerated climate action. By prioritising equity, social justice, climate justice, rights-based approaches and inclusivity, more sustainable outcomes and transformative change can be achieved to advance climate resilient development.

h. Appendix 1 contains the core elements of the SPM.

Next steps

17. The Summary for Policymakers and full synthesis report will be publicly released at 2:00am on 21 March (NZDT) as part of an Intergovernmental Panel on Climate Change (IPCC) press conference.

18. The elections for the IPCC Seventh Assessment cycle will take place in July 2023 at the 59th Session of the IPCC, ending the Sixth Assessment cycle and marking the beginning of the Seventh Assessment cycle.

Recommendations

We recommend that you:

a. **Note** that the Intergovernmental Panel on Climate Change (IPCC) synthesis report will be publicly released at 2:00pm on 20 March (CET) [2:00am on 21 March (NZDT)].
b. **Note** that the content of the full synthesis report and the Summary for Policymakers is embargoed until its public release at 2:00am on 21 March (NZDT).
c. **Note** that synthesis report is the last product of the IPCC Sixth Assessment cycle.
d. **Note** that elections for the IPCC Seventh Assessment cycle will take place in July 2023 at the 59th Session of the IPCC ending the Sixth Assessment cycle and marking the beginning of the Seventh Assessment cycle.

Signature

Megan Hurnard Director - Climate Governance Evidence and Insights	

Hon James SHAW, Minister of Climate Change	
20 March 2023	

Appendix 1: Headline Statements of the Synthesis Report Summary for Policymakers

A. Current Status and Trends

A.1 Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020. Global greenhouse gas emissions have continued to increase, with unequal historical and ongoing contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and among individuals. (*high confidence*)

A.2 Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. Human-caused climate change is already affecting many weather and climate extremes in every region across the globe. This has led to widespread adverse impacts and related losses and damages to nature and people (*high confidence*). Vulnerable communities who have historically contributed the least to current climate change are disproportionately affected. (*high confidence*)

A.3 Adaptation planning and implementation has progressed across all sectors and regions, with documented benefits and varying effectiveness. Despite progress, adaptation gaps exist, and will continue to grow at current rates of implementation. Hard and soft limits to adaptation have been reached in some ecosystems and regions. Maladaptation is happening in some sectors and regions. Current global financial flows for adaptation are insufficient for, and constrain implementation of, adaptation options, especially in developing countries. (*high confidence*)

A.4 Policies and laws addressing mitigation have consistently expanded since AR5. Global GHG emissions in 2030 implied by nationally determined contributions (NDCs) announced by October 2021 make it likely that warming will exceed 1.5°C during the 21st century and make it harder to limit warming below 2°C. There are gaps between projected emissions from implemented policies and those from NDCs and finance flows fall short of the levels needed to meet climate goals across all sectors and regions. (*high confidence*)

B. Future Climate Change, Risks, and Long-Term Responses

B.1 Continued greenhouse gas emissions will lead to increasing global warming with the best estimate of reaching 1.5°C in the near term in considered scenarios and modelled pathways. Every increment of global warming will intensify multiple and concurrent hazards (*high confidence*). Deep, rapid, and sustained reductions in greenhouse gas emissions would lead to a discernible slowdown of global warming within around two decades, and also to discernible changes in atmospheric composition within a few years. (*high confidence*)

B.2 For any given future warming level, many climate-related risks are higher than assessed in AR5, and projected long-term impacts are up to multiple times higher than currently observed (*high confidence*). Risks and projected adverse impacts and related losses and damages from climate change escalate with every increment of global warming (*very high confidence*). Climatic and non-climatic risks will increasingly interact, creating compound and cascading risks that are more complex and difficult to manage. (*high confidence*)

B.3 Some future changes are unavoidable and/or irreversible but can be limited by deep, rapid and sustained global greenhouse gas emissions reduction. The likelihood of abrupt and/or irreversible changes increases with higher global warming levels. Similarly, the probability of low-likelihood outcomes associated with potentially very large adverse impacts increases with higher global warming levels. (*high confidence*)

B.4 Adaptation options that are feasible and effective today will become constrained and less effective with increasing global warming. With increasing global warming, losses and damages will increase and additional human and natural systems will reach adaptation limits. Maladaptation can be avoided by flexible, multi-sectoral, inclusive, long-term planning and implementation of adaptation actions, with co-benefits to many sectors and systems. (*high confidence*)

B.5 Limiting human-caused global warming requires net zero CO_2 emissions. Cumulative carbon emissions until the time of reaching net-zero CO_2 emissions and the level of greenhouse gas emission reductions this decade largely determine whether warming can be limited to 1.5°C or 2°C (*high confidence*). Projected CO_2 emissions from existing fossil fuel infrastructure without additional abatement would exceed the remaining carbon budget for 1.5°C (50%). (*high confidence*)

B.6 All global modelled pathways that limit warming to 1.5°C (>50%) with no or limited overshoot, and those that limit warming to 2°C (>67%), involve rapid and deep and, in most cases, immediate greenhouse gas emissions reductions in all sectors this decade. Global net zero CO_2 emissions are reached for these pathway categories, in the early 2050s and around the early 2070s, respectively. (*high confidence*)

B.7 If warming exceeds a specified level such as 1.5°C, it could gradually be reduced again by achieving and sustaining net negative global CO_2 emissions. This would require additional deployment of carbon dioxide removal, compared to pathways without overshoot, leading to greater feasibility and sustainability concerns. Overshoot entails adverse impacts, some irreversible, and additional risks for human and natural systems, all growing with the magnitude and duration of overshoot. (*high confidence*)

C. Responses in the Near Term

C.1 Climate change is a threat to human well-being and planetary health (*very high confidence*). There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all (*very high confidence*). Climate resilient development integrates adaptation and mitigation to advance sustainable development for all, and is

enabled by increased international cooperation including improved access to adequate financial resources, particularly for vulnerable regions, sectors and groups, inclusive governance and coordinated policies (*high confidence*). The choices and actions implemented in this next decade will have impacts now and for thousands of years. (*high confidence*)

C.2 Deep, rapid and sustained mitigation and accelerated implementation of adaptation actions in this decade would reduce projected losses and damages for humans and ecosystems (*very high confidence*), and deliver many co-benefits, especially for air quality and health (*high confidence*). Delayed mitigation and adaptation action would lock-in high-emissions infrastructure, raise risks of stranded assets and cost-escalation, reduce feasibility, and increase losses and damages (*high confidence*). Near-term actions involve high up-front investments and potentially disruptive changes that can be lessened by a range of enabling policies. (*high confidence*)

C.3 Rapid and far-reaching transitions across all sectors and systems are necessary to achieve deep and sustained emissions reductions and secure a liveable and sustainable future for all. These system transitions involve a significant upscaling of a wide portfolio of mitigation and adaptation options. Feasible, effective, and low-cost options for mitigation and adaptation are already available, with differences across systems and regions. (*high confidence*)

C.4 Accelerated and equitable action in mitigating and adapting to climate change impacts is critical to sustainable development. Mitigation and adaptation actions have more synergies than trade-offs with Sustainable Development Goals. Synergies and trade-offs depend on context and scale of implementation. (*high confidence*)

C.5 Prioritising equity, climate justice, social justice, inclusion and just transition processes can enable adaptation and ambitious mitigation actions and climate resilient development. Adaptation outcomes are enhanced by increased support to regions and people with the highest vulnerability to climatic hazards. Integrating climate adaptation into social protection programs improves resilience. Many options are available for reducing emission-intensive consumption, including through behavioural and lifestyle changes, with co-benefits for societal well-being. (*high confidence*)

C.6 Effective climate action is enabled by political commitment, well-aligned multilevel governance, institutional frameworks, laws, policies and strategies and enhanced access to finance and technology. Clear goals, coordination across multiple policy domains, and inclusive governance processes facilitate effective climate action. Regulatory and economic instruments can support deep emissions reductions and climate resilience if scaled up and applied widely. Climate resilient development benefits from drawing on diverse knowledge. (*high confidence*)

C.7 Finance, technology and international cooperation are critical enablers for accelerated climate action. If climate goals are to be achieved, both adaptation and mitigation financing would need to increase many-fold. There is sufficient global capital to close the global investment gaps but there are barriers to redirect capital to climate action.

Enhancing technology innovation systems is key to accelerate the widespread adoption of technologies and practices. Enhancing international cooperation is possible through multiple channels. *(high confidence*)