46TH SESSION OF THE IPCC

6 – 10 September 2017, Montreal, Canada

Decisions adopted by the Panel

Decision IPCC/XLVI-1. IPCC Trust Fund Programme and Budget

Based on the recommendations of the Financial Task Team (FiTT), the Intergovernmental Panel on Climate Change:

1. Thanks the Secretariat of the IPCC for the support it has provided to the IPCC process.

2. Approves the following modifications to the 2018 budget proposal in **Annex 10** as compared to the budget approved at the 45th Session of the IPCC:

- Reduction in the number of journeys for "TFB" budget line; decrease of CHF 36,000.
- Adjustment in the number of journeys for "TFI Methodological development - Lead Author Meetings; decrease of CHF 234,000.
- Addition of budget line "TFI – Expert Meeting on Short-lived Climate Forcers"; increase of CHF 187,200,
- Adjustment in the number of days and addition of journeys for budget line "Bureau" – increase of CHF 318,000
- Adjustment in the number of journeys for budget line "SR1 (1.5ºC) LAM4"; increase of CHF 23,400.
- Adjustment in the number of journeys for budget line "SR2 (Land) LAM2 and LAM3"; decrease of CHF 18,720.
- Transfer of budget line "WG II AR6 LAM1" from 2018 to 2019; decrease of CHF 468,000.
- Addition of budget line "WG I Expert Meeting on Assessing Climate Information for Regions"; increase of CHF 140,400.
- Adjustment to budget line "Communication"; increase of CHF 59,500.
- Deletion of budget line "Web conferences"; decrease of CHF 30,000.
- Adjustment to budget line "Publications/Translations"; decrease of CHF 80,000.

3. Notes the forecast budget for 2019 **(Annex 11) and** the indicative budget for 2020 **(Annex 12)**, as proposed in these decisions

4. Expresses its gratitude to the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) for financing one Secretariat position each, and to WMO for hosting the Secretariat and for its contribution to the IPCC Trust Fund. Expresses its gratitude to the United Nations Framework Convention on Climate Change for its contribution to the IPCC Trust Fund.

5. Expresses its gratitude to member governments, especially those from developing countries, for their generous contributions to the IPCC Trust Fund, with special thanks to member governments which support the Technical Support Units (TSUs) and a number of IPCC activities, including data centres, meetings and outreach actions.

6. Urges member governments to maintain and preferably increase their level of contribution to the IPCC Trust Fund or to make a contribution in case they have not yet done so in order to broaden the donor base. Further urges member governments to make multi-year contributions. Notes that member governments, when transferring funds to WMO, should indicate that the contribution is "for the IPCC Trust Fund" to ensure proper identification of the recipient.

7. Thanks member governments who made pledges during IPCC-46 for 2017 and urges them to transfer the funds as soon as possible. Thanks member governments who made pledges during IPCC-46 for 2018 and urges them to transfer the funds as early as possible in 2018 and, if possible, before IPCC-47. Noting that contributions from IPCC member governments are due on 1 January of each calendar year.

8. Decides to continue preparing the budget of the IPCC Trust Fund using the standard costs, bearing in mind that expenditures may be lower than the budget. Further requests the Secretariat to explore any possible revision to the standard costs for meetings. Notes that even in a situation where expenditures are lower than the budget there will still be a need to use funds from the reserves and that there is an urgent need to reverse this trend.

9. Notes with deep concern that the level of contributions to the IPCC Trust Fund received and pledged to-date will not suffice to implement the work programme for 2018 and that there is a funding gap in 2017 of CHF 1.8 million which needs to be filled by the end of 2017. Urges all member governments to provide the Secretariat with an indication of their contributions as soon as possible. Notes with grave concern that there is a substantial shortfall in funding of the IPCC throughout the current cycle.

10. Notes that in Appendix B to the Principles Governing IPCC Work, paragraph 19 "Working Capital Reserve" – *"Within the IPCC Trust Fund there shall be maintained a working capital reserve at a level to be determined from time to time by the Panel by consensus. The purpose of the working capital reserve shall be to ensure continuity of operations in the event of a temporary shortfall of cash. Drawdowns from the working capital reserve shall be restored from contributions as soon as possible."* Further notes that there is a need to establish the level of the working capital reserve for the IPCC Trust Fund, and requests the Secretariat to prepare a proposal for the level and purpose of the working capital reserve of the IPCC for the 47th Session of the Plenary (IPCC-47).

11. Requests the Secretariat to provide to member governments, on a bi-monthly basis, information on actual expenditures and expected year-end outcome.

12. Requests that the Secretariat presents the budget in a format that includes the cash balance and which categorises expenditure per activity as well as budget code level.

13. Requests the Secretariat to produce a plan to reduce costs in the Secretariat and present it to IPCC-47.

Ad Hoc Task Group on Financial Stability of the IPCC

14. Thanks the Co-chairs of the Ad Hoc Task Group on Financial Stability of the IPCC (ATG-Finance) for their work in producing the document contained in IPCC-XLVI/Doc.8. Further thanks the members of the ATG-Finance for their input and advice.

15. Extends the mandate of the ATG-Finance with specific focus on parts 2 and 3 of its mandate; (2) exploring means to mobilize additional resources, including from UN organizations and others (e.g., UNEP, GEF, GCF), and evaluating their potential implications, in particular issues related to conflict of interest and legal matters; and (3) providing guidance on the eligibility of potential donors, including the private sector.

16. Decides to revisit the discussion on the fundraising options as contained in the report of the Ad Hoc Task Group on Financial Stability of the IPCC. Requests the ATG-Finance to report back to IPCC-47 with its proposals.

17. Encourages the Chair and the Secretary of the IPCC to continue their resource mobilisation efforts.

ANNEX 9

REVISED 2017 BUDGET ADOPTED BY IPCC-XLV

Activity	Purpose	DC/EIT support	Other Expenditure	Sub-total
Governing bodies				
IPCC-45 4 days	Programme and budget Approval outline SRs	480,000 120 journeys	280,000	760,000
IPCC-45 1 day	Briefing for developing countries (pilot)	0	70,000	70,000
IPCC-46 + WG I, II, III 5 days	Programme and budget Approval AR6 outline	720,000 180 journeys	350,000	1,070,000
Bureau 4 days	2 sessions	0	120,000	120,000
Executive Committee 4 days	2 sessions and consultations	0	10,880	10,880
TFB	1 session	36,000 9 journeys	6,120	42,120
UNFCCC and other UN meetings		80,000 20 journeys	0	80,000
SUB-TOTAL				**2,153,000**
Lead Authors, scoping, expert meetings and workshops				
Scoping meeting (SR 2)	1 meeting	200,000 50 journeys	34,000	234,000
Expert meeting - Mitigation, Sustain & Climate Scenarios	1 meeting	120,000 30 journeys	20,400	140,400
SR 1 (1.5°C) LA 1, LA 2 and LA 3	CLA/LA	600,000 150 journeys	102,000	702,000
SR 2 (Land) LA 1	CLA/LA	236,000 59 journeys	40,120	276,120
SR 3 (Oceans) LA 1	CLA/LA	180,000 45 journeys	30,600	210,600
Scoping meeting (AR6)		480,000 120 journeys	81,600	561,600
TFI Methodological devt. Lead Author meetings	4 meetings	848,000 212 journeys	144,160	992,160
TGICA	1 meeting	48,000 12 journeys	8,160	56,160
EFDB Editorial Board	1 meeting	96,000 24 journeys	16,320	112,320
EFDB Data meeting	1 meeting	40,000 10 journeys	6,800	46,800
EFDB and Software Users Feedback, Japan	1 meeting	44,000 11 journeys	0	44,000
SUB-TOTAL				**3,376,160**
Other Expenditures				
2006 GL software	maintenance/development			30,000
EFDB maintenance	update/management			7,000
Publication/Translation	IPCC publications			100,000
Communication	AR6 material/travel/events			260,500
Distribution	IPCC publications			100,000
IT Infrastructure	web hosting/cloudflare/upgrade			13,128
Library facility	one-time fee (moved from 2016)			103,000
Webconferences	licences & communication costs			30,000
External Audit	fee			20,000
Advisory Services	Conflict of Interest			15,000
Co-Chairs	support			200,000
SUB-TOTAL				**878,628**
Secretariat				
Secretariat	staff costs/misc expenses			1,912,500
Resource Mobilization	travel costs (Phase I: 2017-2019)			15,800
SUB-TOTAL				**1,928,300**
TOTAL				**8,336,088**

ANNEX 10

PROPOSED 2018 BUDGET ADOPTED BY IPCC-XLVI

Activity	Purpose	DC/EIT support	Other Expenditure	Sub-total
Governing bodies				
IPCC-47 4 days	Programme and budget various	480,000 120 journeys	280,000	760,000
IPCC-48 4 days	Programme and budget Acceptance SR1	480,000 120 journeys	280,000	760,000
Bureau 5 days	2 sessions	288,000 72 journeys	150,000	438,000
Executive Committee 4 days	2 sessions and consultations	0	10,880	10,880
TFB	1 session	0 0 journeys	6,120	6,120
UNFCCC and other UN meetings		80,000 20 journeys	0	80,000
SUB-TOTAL				**2,055,000**
Lead Authors, scoping, expert meetings and workshops				
WG I AR6 LA 1	CLA/LA	400,000 100 journeys	68,000	468,000
WG II AR6 LA 1	CLA/LA (move to 2019)	0 100 journeys	0	0
SR 1 (1.5°C) LA 4	CLA/LA	200,000 50 journeys	34,000	234,000
SR 2 (Land) LA 2 and LA 3	CLA/LA	512,000 128 journeys	87,040	599,040
SR 3 (Oceans) LA 2 and LA 3	CLA/LA	360,000 90 journeys	61,200	421,200
WG I Expert Meeting - Assess climate info for regions	1 meeting (contingency)	120,000 30 journeys	20,400	140,400
Expert meeting - Science of Communicating Science	1 meeting	80,000 20 journeys	13,600	93,600
Workshop on Cities (co-sponsored)	1 workshop (moved from 2017)	200,000 50 journeys	34,000	234,000
TFI Methodological devt. Science meeting	1 meeting (contingency)	60,000 15 journeys	10,200	70,200
TFI Methodological devt. Lead Author meetings	2 meetings	672,000 168 journeys	114,240	786,240
TFI Expert meeting on Short-Lived Climate Forcers	1 meeting	160,000 40 journeys	27,200	187,200
TGICA	1 meeting (contingency)	48,000 12 journeys	8,160	56,160
EFDB Editorial Board	1 meeting	96,000 24 journeys	16,320	112,320
EFDB Data meeting	1 meeting	40,000 10 journeys	6,800	46,800
EFDB and Software Users Feedback (Japan)	1 meeting	44,000 11 journeys	0	44,000
SUB-TOTAL				**3,493,160**
Other Expenditures				
2006 GL software	maintenance/development			6,000
EFDB maintenance	update/management			7,000
Publications/Translations	IPCC publications			120,000
Communication	AR6 material/travel/events			320,000
Distribution	IPCC publications			100,000
IT Infrastructure	web hosting/cloudflare/upgrades			13,128
External Audit	fee			20,000
Advisory Services	Conflict of Interest			15,000
Co-Chairs	support			200,000
SUB-TOTAL				**801,128**
Secretariat				
Secretariat	staff costs/misc expenses			1,912,500
Resource Mobilization	travel costs (Phase I: 2017-2019)			15,600
SUB-TOTAL				**1,928,100**
TOTAL				**8,277,388**

ANNEX 11

FORECAST 2019 BUDGET NOTED BY IPCC-XLVI

Activity	Purpose	DC/EIT support	Other Expenditure	Sub-total
Governing bodies				
IPCC-49 4 days	Programme and budget Acceptance MR	480,000 120 journeys	280,000	760,000
IPCC-50 4 days	Programme and budget Acceptance SR 2 (Land)	480,000 120 journeys	280,000	760,000
IPCC-51 4 days	Programme and budget Acceptance SR3 (Oceans)	480,000 120 journeys	280,000	760,000
Bureau 4 days	2 sessions	288,000 72 journeys	120,000	408,000
Executive Committee 4 days	2 sessions and consultations	0	10,880	10,880
TFB	1 session	36,000 9 journeys	6,120	42,120
UNFCCC and other UN meetings		80,000 20 journeys	0	80,000
SUB-TOTAL				**2,821,000**
Lead Authors, scoping, expert meetings and workshops				
WG I AR6 LA 2 and LA 3	CLA/LA meeting	800,000 200 journeys	136,000	936,000
WG II AR6 LA 1 and LA 2	CLA/LA meeting	800,000 200 journeys	136,000	936,000
WG III AR6 LA 1 and LA 2	CLA/LA meeting	800,000 200 journeys	136,000	936,000
SR 2 (Land) LA 4	CLA/LA meeting	292,000 73 journeys	49,640	341,640
SR 3 (Oceans) LA 4	CLA/LA meeting	180,000 45 journeys	30,600	210,600
SYR AR6	Scoping meeting 2	160,000 40 journeys	27,200	187,200
SYR AR6	CWT-1 meeting	60,000 15 journeys	10,200	70,200
TGICA	1 meeting (contingency)	48,000 12 journeys	8,160	56,160
EFDB Editorial Board	1 meeting	96,000 24 journeys	16,320	112,320
EFDB Data meeting	1 meeting	40,000 10 journeys	6,800	46,800
EFDB and Software Users Feedback (Japan)	1 meeting	44,000 11 journeys	0	44,000
TFI Methodological devt	1 prep meeting before Plenary (moved from 2017)	64,000 16 journeys	0	64,000
TFI Expert meeting	1 meeting (contingency)	100,000 25 journeys	17,000	117,000
SUB-TOTAL				**4,057,920**
Other Expenditures				
2006 GL software	maintenance/development			6,000
EFDB maintenance	update/management			7,000
Publications/Translations	IPCC publications			200,000
Communication	AR6 material/travel/events			260,500
Distribution	IPCC publications			100,000
IT Infrastructure	web hosting/cloudflare/upgrades			13,128
External Audit	fee			20,000
Advisory Services	Conflict of Interest			15,000
Co-Chairs	support			200,000
SUB-TOTAL				**821,628**
Secretariat				
Secretariat	staff costs/misc expenses			1,912,500
Resource Mobilization	travel costs (Phase I: 2017-2019)			15,600
SUB-TOTAL				**1,928,100**
TOTAL				**9,628,648**

New activity as compared to budget noted in IPCC-43 & IPCC-44, subject to Panel approval in IPCC-51

All activities subject to Panel approval in IPCC-51

ANNEX 12

INDICATIVE 2020 BUDGET NOTED BY IPCC-XLVI

Activity	Purpose	DC/EIT support	Other Expenditure	Sub-total
Governing bodies				
IPCC-52 4 days	Programme and budget	480,000 120 journeys	280,000	760,000
IPCC-53 4 days	Programme and budget	480,000 120 journeys	280,000	760,000
Bureau 4 days	2 sessions	288,000 72 journeys	120,000	408,000
Executive Committee 4 days	2 sessions and consultations	0	10,880	10,880
TFB	1 session	36,000 9 journeys	6,120	42,120
UNFCCC and other UN meetings		80,000 20 journeys	0	80,000
SUB-TOTAL				**2,061,000**
Lead Authors, scoping, expert meetings and workshops				
WG I AR6 LA 4	CLA/LA meeting	400,000 100 journeys	68,000	468,000
WG II AR6 LA 3 and LA 4	CLA/LA meeting	800,000 200 journeys	136,000	936,000
WG III AR6 LA 3 and LA 4	CLA/LA meeting	800,000 200 journeys	136,000	936,000
SYR AR6	CWT-2 meeting	60,000 15 journeys	10,200	70,200
SYR AR6	CWT-3 & CWT-3bis meetings	120,000 30 journeys	20,400	140,400
TGICA	2 meetings contingency	96,000 24 journeys	16,320	112,320
EFDB Editorial Board	1 meeting	96,000 24 journeys	16,320	112,320
EFDB Data meeting	2 meetings	80,000 20 journeys	13,600	93,600
EFDB and Software Users Feedback (Japan)	1 meeting	44,000 11 journeys	0	44,000
TFI Expert meeting	1 meeting contingency	100,000 25 journeys	17,000	117,000
SUB-TOTAL				**3,029,840**
Other Expenditures				
2006 GL software	maintenance/development			6,000
EFDB maintenance	update/management			7,000
Publications/Translations	IPCC publications			200,000
Communication	AR6 material/travel/events			260,500
Distribution	IPCC publications			100,000
IT Infrastructure	web hosting/cloudflare/upgrades			13,128
External Audit	fee			20,000
Advisory Services	Conflict of Interest			30,000
Co-Chairs	support			200,000
SUB-TOTAL				**836,628**
Secretariat				
Secretariat	staff costs/misc expenses			1,912,500
Resource Mobilization	travel costs (Phase II: 2020-2022)			15,800
SUB-TOTAL				**1,928,300**
TOTAL				**7,855,768**

All activities subject to Panel approval in IPCC-53

<u>Decision IPCC/XLVI-2.</u> Chapter outline of the Working Group I contribution to the Sixth Assessment Report (AR6)

The Intergovernmental Panel on Climate Change decides,

(1) To agree to the outline of the Working Group I contribution to the IPCC Sixth Assessment Report as contained in Annex 1 to this document.

(2) That this report assesses relevant literature, especially since the Fifth Assessment Report (AR5), in a manner consistent with the IPCC guidance on the use of literature.

(3) That the bulleted text in Annex 1 to this Decision, that resulted from the scoping process and refined through comments by the Plenary, be considered by authors as indicative.

(4) To invite the Co-Chairs of Working Group I and the Co-Chairs of WGII and WGIII to develop appropriate mechanisms to ensure the effective co-ordination of Working Group contributions to the IPCC Sixth Assessment Report, to oversee the treatment of cross-cutting themes, and to prepare a Glossary common to Working Groups I, II and III.

(5) That in order to achieve this, the timetable for the production of the IPCC Working Group I contribution to IPCC Sixth Assessment Report is as follows:

15 September – 27 October 2017	Call for author nominations
29 January – 4 February 2018	Decision on Selection of authors
25 June – 1 July 2018	First Lead Author Meeting
7 – 13 January 2019	Second Lead Author Meeting
29 April – 23 June 2019	Expert Review of the First Order Draft
26 August – 1 September 2019	Third Lead Author Meeting
2 March – 26 April 2020	Expert and Government Review of the Second Order Draft
1 – 7 June 2020	Fourth Lead Author Meeting
7 December 2020 – 31 January 2021	Final Government Distribution of the Final Draft and Final Government Review of the Summary for Policy Makers
12 – 18 April 2021	Submission to the WGI Session for approval of the Summary for Policymakers and acceptance of the underlying Report

(6) That the budget for the production of the Working Group contribution to the IPCC Sixth Assessment Report is as contained in Decision (IPCC/XLVI-1) on the IPCC Trust Fund Programme and Budget.

ANNEX 1

Chapter outline of the Working Group I contribution to the IPCC Sixth Assessment Report (AR6)

Summary for Policy Makers

Technical Summary

Chapter 1:
Framing, context, methods
Executive Summary
- Synthesis of key findings from AR5 and earlier assessment reports, and connections to AR6 Special Reports
- Framing of the physical science information relevant for mitigation, adaptation, and risk assessment in the context of the Global Stocktake
- Assessment approach
- Observational and reanalysis developments since the AR5
- Model and experimental design developments since the AR5
- Emissions and forcing scenarios
- Treatment and evaluation of uncertainty throughout the report

Frequently Asked Questions

Chapter 2:
Changing state of the climate system
Executive Summary
- Multi-millennial context, pre-industrial to present day
- Natural and anthropogenic forcings
- Radiative forcing
- Large-scale indicators of observed change in the atmosphere, ocean, cryosphere, land, and biosphere
- Modes of variability

Frequently Asked Questions

Chapter 3:
Human influence on the climate system
Executive Summary
- Overview of model performance and development since the AR5
- Simulated large-scale indicators of change in the atmosphere, ocean, cryosphere, land, and biosphere
- Simulated modes of variability
- Natural variability versus anthropogenically-forced change
- Attribution of large-scale observed changes

Frequently Asked Questions

Chapter 4:
Future global climate: scenario-based projections and near-term information
Executive Summary
- Projections of global mean surface temperature and other key global indicators
- Evaluation of multi-model ensemble methods
- Large scale patterns of climate change
- Committed climate response, climate targets, overshoot, irreversibility, abrupt change
- Climate response to greenhouse gas removal scenarios
- Climate response to solar radiation management scenarios
- Interplay between internal variability and response to forcings, including short-lived forcers
- Variability and unexpected changes of global mean surface temperature
- Near-term predictability, sources and capabilities
- Synthesis of climate information in the near-term

Frequently Asked Questions

Chapter 5:
Global carbon and other biogeochemical cycles and feedbacks
Executive Summary
- Feedbacks between climate and biogeochemical cycles, including paleoclimate information
- Ocean acidification
- Historical trends and variability of CO_2, CH_4 and N_2O; sources and sinks
- Projections of global biogeochemical cycles from near-term to long-term
- Abrupt change, irreversibility
- Model evaluation, emergent constraints
- Transient climate response to cumulative emissions and remaining carbon budgets for climate targets
- Biogeochemical implications of land and coastal management mitigation options and greenhouse gas removal
- Biogeochemical implications of solar radiation management scenarios

Frequently Asked Questions

Chapter 6:
Short-lived climate forcers
Executive Summary
- Key emissions: global overview, natural, anthropogenic, historical and scenarios
- Observed and reconstructed concentrations and radiative forcing
- Direct and indirect-aerosol forcing
- Implications for greenhouse gas lifetimes
- Implications of different socio-economic and emission pathways, including urbanisation, for radiative forcing
- Connections to air quality and atmospheric composition

Frequently Asked Questions

Chapter 7:
The Earth's energy budget, climate feedbacks, and climate sensitivity
Executive Summary
- Energy budget and its changes through time
- Radiative forcing: definitions, estimates, and its representation in models
- Climate feedbacks
- Sensitivity of the climate system: methods and uncertainty
- Empirical constraints on the sensitivity of the climate system, including paleoclimate
- Global warming potential, global temperature change potential, and other metrics

Frequently Asked Questions

Chapter 8:
Water cycle changes
Executive Summary
- Observations, models, methods and their reliability
- Past, present and projected changes, trends, variability and feedbacks in the physical components of the water cycle
- Circulation, processes and phenomena (e.g. monsoon systems) affecting moisture and precipitation patterns, including extremes
- Cloud-aerosol processes affecting the water cycle
- Changes in seasonality of natural storage and water availability
- Abrupt change
- Confidence in projections

Frequently Asked Questions

Chapter 9:
Ocean, cryosphere, and sea level change
Executive Summary
- Past and future changes in ocean circulation and properties (trends, variability and extremes)
- Past and future changes in marine and terrestrial cryosphere
- Evaluation of models and projection methods
- Detection and attribution
- Past global and regional sea level changes
- Projections of global and regional sea level change
- Abrupt change and long-term commitment
- Extreme water levels (tides, surge and ocean waves)

Frequently Asked Questions

Chapter 10:
Linking global to regional climate change
Executive Summary
- Regional phenomena, drivers, feedbacks and teleconnections
- Regional scale observations and reanalyses
- Interplay between internal variability and forced change at the regional scale, including attribution

- Evaluation of model improvements, methods, including downscaling and bias adjustment and regional specificities
- Confidence in regional climate information, including quantification of uncertainties
- Scale specific methodologies e.g. urban, mountains, coastal, catchments, small islands
- Approaches to synthesizing information from multiple lines of evidence

Frequently Asked Questions

Chapter 11:
Weather and climate extreme events in a changing climate
Executive Summary

- Extreme types, encompassing weather and climate timescales and compound events (including droughts, tropical cyclones)
- Observations for extremes and their limitations, including paleo
- Mechanisms, drivers and feedbacks leading to extremes
- Ability of models to simulate extremes and related processes
- Attribution of changes in extremes and extreme events
- Assessment of projected changes of extremes and potential surprises
- Case studies across timescales

Frequently Asked Questions

Chapter 12:
Climate change information for regional impact and for risk assessment
Executive Summary

- Framing: physical climate system and hazards
- Region-specific integration of information, including confidence
- Information (quantitative and qualitative) on changing hazards: present day, near term and long term
- Region-specific methodologies
- Relationship between changing hazards, global mean temperature change, scenarios and emissions

Frequently Asked Questions

ANNEXES
Options for cross-WG integration including Regional Atlas
Cross Working Group Glossary
Technical Annexes
List of Acronyms
List of Contributors
List of Reviewers

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<u>Decision IPCC/XLVI-3.</u> Chapter outline of the Working Group II contribution to the Sixth Assessment Report (AR6)

The Intergovernmental Panel on Climate Change decides,

(1) To agree to the outline of the contribution of Working Group II to the Sixth Assessment Report as contained in Annex 1 to this document.

(2) That this report assesses relevant literature, especially since the Fifth Assessment Report (AR5), in a manner consistent with the IPCC guidance on the use of literature.

(3) That the bulleted text in Annex 1 to this Decision, that resulted from the scoping process and refined through comments by the Plenary, be considered by authors as indicative.

(4) To invite the Co-Chairs of Working Group II and the Co-Chairs of WGI and WGIII to develop appropriate mechanisms to ensure the effective coordination of Working Group contributions to the IPCC Sixth Assessment Report, to oversee the treatment of cross-cutting themes, and to prepare a Glossary common to Working Groups I, II and III.

(5) That in order to achieve this, the timetable for the production of the Working Group II contribution to the AR6 is as follows:

15 September – 27 October 2017	Call for nominations of Coordinating Lead Authors, Lead Authors and Review Editors
29 January – 4 February 2018	Selection of Authors
21–25 January 2019	First Lead Authors Meeting
8–12 July 2019	Second Lead Authors Meeting
21 October – 16 December 2019	Expert Review of the First Order Draft
27–31 January 2020	Third Lead Authors Meeting
7 August – 2 October 2020	Expert and Government Review of the Second Order Draft
2–7 November 2020	Fourth Lead Authors Meeting
11 June – 6 August 2021	Final Government Distribution of the Final Draft and Final Government Review of the Summary for Policymakers
4 – 8 October 2021	IPCC approval of the Summary for Policymakers and acceptance of the underlying Report

(6) That the budget for the production of the Working Group II contribution to the IPCC Sixth Assessment Report is as contained in Decision (IPCC/XLVI-1) on the IPCC Trust Fund Programme and Budget.

ANNEX 1

Chapter outline of the Working Group II contribution to the IPCC Sixth Assessment Report (AR6)

Summary for Policymakers [pages TBD]

Technical Summary [40 pages]

Chapter 1: Point of departure and key concepts [30 pages]

- Changing policy context (including UNFCCC, Paris Agreement and Global Stocktake, SDGs, etc.); AR5 and SR findings and critical messages, goals of this report
- The significance of sectoral and regional climate risks to natural and human systems and their interactions in the context of culture, values, ethics, identity, behaviour, historical experience, and knowledge systems (e.g., indigenous and local)
- The climate risk framework used in this report encompassing hazard, exposure, and vulnerabilities, including their spatial distribution, cascading impacts, disaster risk reduction, and risk uncertainties
- The significance of adaptation, in addressing climate change risks, including diverse adaptation responses, technologies including nature and ecosystem-based adaptation, outcomes, common principles, resilience, and issues of scale
- Detection and attribution of climate impacts and methods to evaluate adaptation responses
- Understanding dynamic climate risks from scenarios that reflect multiple interacting drivers
- Scientific, technical and socioeconomic aspects of current and future residual impacts of climate change, including residual damage, irreversible loss, and economic and non-economic losses caused by slow onset and extreme events
- Limits to adaptation, and enabling conditions for effective adaptation including governance, institutions, and economic aspects
- Climate change responses and their interactions with sustainable development, including adaptation with mitigation co-benefits and trade-offs
- Opportunities for enhancing climate resilient development pathways

SECTION 1: Risks, adaptation and sustainability for systems impacted by climate change

Chapter 2: Terrestrial and freshwater ecosystems and their services [60 pages]

- Point of departure, key findings of other reports, organised by biomes including freshwater ecosystems, taking into account ecological disequilibria
- Historical and paleontological aspects of climate change impacts and risks
- Trends in critical ecosystems including detection and attribution of observed impacts and responses

- Projected hazards and exposure (link to WGI), including extreme events and interactions of multiple climatic, non-climatic and anthropogenic stressors at relevant temporal and spatial scales
- Projected impacts: species, ecosystem structure and biodiversity, emergence of novel communities, process rates, functions, and the implication for their services, at relevant temporal and spatial scales
- Vulnerability and resilience, enablers and limits to natural and planned adaptation, and maladaptation
- Assessing risks, opportunities, costs, and trade-offs including consideration of scenarios and impacts of adaptation and mitigation responses
- Planned adaptation and mitigation for management of risk within sustainable development and relevant policy contexts (SDGs), informed by cultural, ethical, identity, economic and behavioural dimensions
- Lessons from case studies

Chapter 3: Ocean and coastal ecosystems and their services [60 pages]

- Point of departure, key findings of other reports, organised by systems, taking into account ecological disequilibria
- Historical and paleontological aspects of climate change impacts and risks
- Trends in critical ecosystems including detection and attribution of observed impacts
- Projected hazards and exposure (link to WGI), including extreme events and interactions of multiple climatic, non-climatic and anthropogenic stressors at relevant temporal and spatial scales, including ocean warming, ocean acidification, and oxygen loss
- Projected impacts: species, ecosystem structure and biodiversity, emergence of novel communities, process rates, functions, and the implication for their services, at relevant temporal and spatial scales
- Vulnerability and resilience, enablers and limits to natural adaptation
- Assessing risk, opportunities, costs, and trade-offs including consideration of scenarios and impacts of adaptation and mitigation responses
- Planned adaptation and mitigation for management of risk within sustainable development and relevant policy contexts (SDGs), informed by cultural, ethical, identity, economic and behavioural dimensions
- Lessons from case studies

Chapter 4: Water [60 pages]

- Observed and projected hydrological changes on basin and watershed scales and water related hazards including floods, droughts and landslides
- Key short, medium and long term risks to water security, including quantity and quality in the context of critical sectors (including food-energy-water-health nexus) and different users and systems under alternative scenarios
- Adaptation responses including cooperation in different climatic zones to water security risks with co-benefits for sustainable development including consideration of impacts of adaptation and mitigation responses

- Societal responses to changes in shared water resources
- Approaches to achieving resilience in water systems and assessments of outcomes, costs, benefits, and where maladaptations were evident
- Lessons from case studies

Chapter 5: Food, fibre, and other ecosystem products [60 pages]

- Climate-driven historical changes in agriculture, fisheries and forestry, detection and attribution of impacts, including impacts of adaptation and mitigation responses, considering key findings of other reports
- Current and projected risks for food and nutrition security, food systems on land and in the ocean, and the food-energy-water-health nexus
- Current and projected risks for wood, fibre and natural products, such as medicinal organisms, rubber and dyes
- Adaptation options for the production and use of food, fibre, and other ecosystem products across scales and regions including limits and barriers, knowledge systems and aspects of sustainable development
- Competition for the use of land and ocean, including conflicts with indigenous rights to land and water bodies, and other tradeoffs in the context of adaptation and mitigation responses
- Current and projected risks for provisioning and cultural ecosystem services with considerations of ethics and identity
- Lessons from case studies

Chapter 6: Cities, settlements and key infrastructure [60 pages]

- Changes in the international policy architecture for settlements since AR5 (including SDGs)
- Interactions of climate risks with urban and rural change processes including food-energy-water-health nexus (e.g., air quality)
- Risk-reducing infrastructure and services (including ecological and social), their deficits, and implications for vulnerability, exposure and adaptation, particularly in the context of extreme events
- Detection and attribution of observed impacts and responses and projected risks from climate change under alternative scenarios for cities and settlements, and related infrastructure
- Adaptation options, adaptive capacity, responses and outcomes, including equity considerations, and links to mitigation
- Institutional, financial, and governance structures that enhance resilience of and enable adaptation in settlements, cities and key infrastructure
- Lessons from case studies

Chapter 7: Health, wellbeing and the changing structure of communities [50 pages]

- Health and wellbeing impacts, including detection and attribution
- Projected risks to health and wellbeing under alternative scenarios, including food-energy-water-health nexus
- Vulnerable populations and communities
- Adaptation options, limits to adaptation, and their social, environmental and economic implications in the context of sustainable development
- Observed impacts and projected changes in migration, displacement, and trapped populations, and linkages to adaptation
- Psychological, social, and cultural dimensions
- Lessons from case studies

Chapter 8: Poverty, livelihoods and sustainable development [60 pages]

- Detection and attribution of observed impacts and responses
- Projected climate change risks under alternative development scenarios as differentiated by economic opportunity and shifting livelihoods
- Observed and projected risks and losses and the challenges for equity and sustainable development
- Adaptation options, adaptive capacity and actions, and their outcomes for resilience and transformation, focusing on low-income households and communities
- Opportunities for development including adaptation with mitigation co-benefits and tradeoffs, economic diversification, equity, human security, coping with loss, residual risk, and sustainable development
- Lessons from case studies

SECTION 2: Regions

Common elements across all *regional* chapters (guidance points not an outline)

- Information on selected regional and sub-regional climate characteristics and zones
- Summary Table and/or figures with WGI and WGII information, combined with risk assessment (e.g., SREX SPM.1)
- Detection and attribution of observed impacts in natural and human systems on diverse time scales
- Region specific information on exposure and vulnerability
- Current sectoral climate risks, including specific regional and sub-regional considerations related to land, coasts and regional oceans
- Cultural and psychological dimensions (values, attitudes, ethical aspects, identity, behaviours, and different types of knowledge systems)
- Observed impacts and projected risks including identifying key risks and residual risks as well as development pathways depending on rate and level of climate change, including extremes and sea level rise
- Diverse adaptation options including opportunities, enablers, limits, barriers, adaptive capacity, and finances

- Governance and economic aspects including legal, institutional, financing, price responses, and trade
- Cross sectoral, intra-regional, and inter-regional issues including consideration of temporal scale
- Interaction of risks and responses to climate change with sustainable development pathways
- Implications of availability and heterogeneity of data, including the use of 'grey literature'
- Lessons from case studies

Chapter 9: Africa [50 pages]
Chapter 10: Asia [50 pages]
Chapter 11: Australasia [30 pages]
Chapter 12: Central and South America [50 pages]
Chapter 13: Europe [40 pages]
Chapter 14: North America [40 pages]
Chapter 15: Small Islands [30 pages]

CROSS-CHAPTER PAPERS (with material for TS/SPM as appropriate)

- **Biodiversity hotspots (land, coasts and oceans) [10 pages]**
- **Cities and settlements by the sea [10 pages]**
- **Deserts, semi-arid areas, and desertification [10 pages]**
- **Mediterranean region [10 pages]**
- **Mountains [15 pages]**
- **Polar regions [15 pages]**
- **Tropical forests [10 pages]**

SECTION 3: Sustainable development pathways: integrating adaptation and mitigation

Chapter 16: Key risks across sectors and regions [40 pages]

- Synthesis of observed impacts and responses, including detection and attribution
- Key risks and avoided impacts under a range of climate and development pathways, across temporal and spatial scales
- Limits to adaptation and residual risks in natural and human systems
- Reasons for Concern across scales
- Lessons from case studies at different scales, including trans-boundary risks

Chapter 17: Decision-making options for managing risk [40 pages]

- Drivers of decision-making: values, perceptions, differential power and influence, behaviour, incentives, and financial opportunities
- Decision-making and governance for managing risk considering residual risk and limits to risk management across multiple scales, institutions, and systems
- Costs and non-monetized loss, benefits, synergies, and trade-offs, including distributional aspects

- Adaptation planning, implementation, finance needs and international cooperation, including consideration of public and private financial flows
- Lessons from case studies at different scales, including issues of governance and finance

Chapter 18: Climate resilient development pathways* [40 pages]

- Synergies and trade-offs of sustainable development (including SDGs), adaptation and mitigation, including the social effects of greenhouse gas emissions
- Adaptation pathways, including transformation and economic diversification, technologies, and strategies that strengthen resilience, reduce inequalities, and improve climate related human wellbeing
- Synthesis of risks and levels of adaptation in climate resilient pathways
- Lessons from case studies at different scales

**connection to WG III*

ANNEX I: Regional Atlas
ANNEX II: Glossary
ANNEX III: List of Acronyms
ANNEX IV: List of Contributors
ANNEX V: List of Reviewers

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Decision IPCC/XLVI-4. Chapter outline of the Working Group III contribution to the Sixth Assessment Report (AR6)

The Intergovernmental Panel on Climate Change decides,

(1) To agree to the outline of the Working Group III contribution to the IPCC Sixth Assessment Report as contained in Annex 1 to this document.

(2) That this report assesses relevant literature, especially since the Fifth Assessment Report (AR5), in a manner consistent with the IPCC guidance on the use of literature.

(3) That the bulleted text in Annex 1 to this Decision, that resulted from the scoping process and refined through comments by the Plenary, be considered by authors as indicative.

(4) To invite the Co-Chairs of Working Group III and the Co-Chairs of WGI and WGII to develop appropriate mechanisms to ensure the effective co-ordination of Working Group contributions to the IPCC Sixth Assessment Report, to oversee the treatment of cross-cutting themes, and to prepare a Glossary common to Working Groups I II and III.

(5) That in order to achieve this, the timetable for the production of the IPCC Working Group III contribution to IPCC Sixth Assessment Report is as follows:

Sep 15 – Oct 27, 2017	Call for CLA/LA/RE Nominations
Jan 29 – Feb 4, 2018	Decision on selection of CLA/LA/RE
Apr 1 – 5, 2019	1st Lead Author Meeting (LAM1)
Sep 30 – Oct 4, 2019	2nd Lead Author Meeting (LAM2)
Dec 9, 2019 – Jan 31, 2020	1st Order Draft (FOD) Expert Review
Mar 30 – Apr 3, 2020	3rd Lead Author Meeting (LAM3)
Jun 1 – Jul 24, 2020	2nd Order Draft (SOD) Expert Review
Oct 19 – 23, 2020	4th Lead Author Meeting (LAM4)
Feb 1– Mar 26, 2021	FGD Government Review of SPM
Jul 12 – 14, 2021	IPCC acceptance/adoption/approval

(6) That the budget for the production of the Working Group contribution to the IPCC Sixth Assessment Report is as contained in Decision (IPCC/XLVI-1) on the IPCC Trust Fund Programme and Budget.

ANNEX 1

Chapter outline of the Working Group III contribution to the IPCC Sixth Assessment Report (AR6)

Summary for Policymakers

Technical Summary

Chapter 1 Introduction and Framing

- Key findings from AR5 and Special Reports
- Recent developments such as the Paris Agreement and potential scientific inputs from the IPCC, including to the Global Stocktake and the SDGs
- Sustainable development perspectives
- Technology and other developments: multiple entry points to climate mitigation
- Solution orientation and accelerating progress
- Policy (multiple goal setting)
- Regional breakdown as relevant — local institutions, cultures, circumstances
- Sectors, services and systems
- Methods and framings including models, analysis, top-down/bottom-up, scenario framework, cost-benefit, treatment of uncertainty, risk assessment, data, social science framings
- Knowledge gaps
- Strong link with Chapter 17

Chapter 2: Emissions trends and drivers

- Past and present trends of territorial emissions and sinks on an annual and cumulative basis (by region, sector, GHG, etc.), including estimates of uncertainty
- Past and present trends of consumption-based emissions on an annual and cumulative basis (by region, sector, GHG, etc.), including estimates of uncertainty
- Socio-economic and demographic drivers (e.g. GDP, population, international trade) and their trends
- Overview of sectoral emission drivers and their trends
- Climate and non-climate policies and measures at different scales and their impacts on emissions
- Technological choices and changes and impacts of technological breakthroughs
- Emissions associated with existing and planned long-lived infrastructure
- Behavioral choices and lifestyles at individual and societal levels

Chapter 3: Mitigation pathways compatible with long-term goals

- Methods of assessment, including approaches to analysis of mitigation and development pathways
- Socio-cultural-techno-economic assumptions and projections, including regional differences (referring to baseline and mitigation scenarios, Shared Socio-economic Pathways (SSPs), etc.
- Modelled emission pathways compatible with the Paris Agreement, including the long-term temperature goal[1], and higher warming levels, taking into account CO_2, non-CO_2 and short-lived climate forcers (including peaking, rates of change, balancing sources and sinks, and cumulative emissions)
- Role of changing climate on emissions
- System transitions and/or transformation compatible with mitigation pathways, including supply and demand and integrating sectoral information
- Economics of mitigation and development pathways, including mitigation costs, investment needs, employment effects, etc.
- Technological and behavioural aspects of mitigation pathways and socio-technical transitions
- Interaction between near- to mid-term action, and long-term mitigation pathways
- Links to sustainable development including risks, co-benefits, synergies, trade-offs and spill-over effects
- Links to adaptation including risks, co-benefits, synergies, trade-offs and spill-over effects
- Benefits of mitigation, including information from WG II
- Risk analysis of emission pathways considering uncertainty about climate response

Chapter 4: Mitigation and development pathways in the near- to mid-term

- Accelerating mitigation in the context of sustainable development at the national, regional and international scales
- Projections of socio-economic and demographic drivers (e.g. GDP, population)
- Aggregate effects of climate action including NDCs and other mitigation efforts relative to long-term mitigation pathways, including methodologies and gap analysis
- Mitigation efforts in the context of national and, where appropriate, subnational action plans and policies
- National, regional and global modelling of mitigation and development pathways in relation to mid-century strategies
- Implications of mitigation for national development objectives, including: employment, competitiveness, GDP, poverty, etc., and contributions of sustainable development pathways to mitigation
- Enabling conditions for mitigation, including technology development and transfer, capacity building, finance, and private and public sector participation
- Uncertainties and risks to the achievement of mitigation goals

[1] As set out in article 2 of the Paris Agreement.

- Links to sustainable development including risks, co-benefits, synergies, trade-offs and spill-over effects
- Links to adaptation including risks, co-benefits, synergies, trade-offs and spill-over effects
- Benefits of mitigation, and mitigation co-benefits of adaptation including information from WG II

Chapter 5: Demand, services and social aspects of mitigation

- Mitigation, sustainable development and the SDGs (human needs, access to services, and affordability)
- Patterns of development and indicators of wellbeing
- Sustainable consumption and production
- Linking services with demand, sectors, systems - implications for mitigation and sustainable development
- Culture, social norms, practices and behavioural changes for lower resource requirements
- Sharing economy, collaborative consumption, community energy
- Implications of information and communication technologies for mitigation opportunities taking account of social change
- Circular economy (maximising material and resource efficiency, closing loops): insights from life cycle assessment and material flow analysis
- Social acceptability of supply and demand solutions
- Leapfrogging, capacity for change, feasible rates of change and lock-ins
- Identifying actors, their roles and relationships
- Impacts of non-mitigation policies (welfare, housing, land use, employment, etc.)
- Policies facilitating behavioural and lifestyle change
- Case studies and regional specificities

Common elements across sectoral chapters 6-11

- Boundaries, scope and changing context
- Key findings from AR5 and the Special Reports
- Trends in emissions and their key drivers
- Global and regional costs and potentials
- Regional specificities
- The impacts of climate change on emissions and mitigation options
- Links to adaptation, including risks, adaptation with mitigation co-benefits, co-benefits, synergies, trade-offs and spill-over effects, as appropriate
- Links to sustainable development, including risks, co-benefits, synergies, trade-offs and spill-over effects, as appropriate
- Infrastructure and lock-in, as appropriate
- Sector specific barriers, policies, financing, and enabling conditions
- Knowledge gaps
- Case studies – as appropriate

Chapter 6: Energy systems

- Energy services, energy systems and energy sector, integrations with other systems (including food supply system, buildings, transportation, industrial systems)
- Energy resources (fossil and non-fossil) and their regional distribution
- Global and regional new trends and drivers
- Policies and measures and other regulatory frameworks; and supply and demand systems
- Fugitive emissions and non-CO_2 emissions
- Global and regional new trends for electricity and low carbon energy supply systems, including deployment and cost aspects.
- Smart energy systems, decentralized systems and the integration of the supply and demand
- Energy efficiency technologies and measures
- Mitigation options (including CCS), practices and behavioral aspects (including public perception and social acceptance)
- Interconnection, storage, infrastructure and lock-in
- The role of energy systems in long-term mitigation pathways
- Bridging long-term targets with short and mid-term policies
- Sectoral policies and goals (including feed-in tariffs, renewables obligations and others)
- Mainstreaming climate into energy policy

Chapter 7: Agriculture, Forestry, and Other Land Uses (AFOLU)

- Mitigation measures – supply and demand - effectiveness, costs, economics
- Mitigation potentials – supply and demand - global and regional
- Emerging technologies
- Constraints and opportunities across different contexts and regions
- Provision of food, feed, fibre, wood, biomass for energy, and other ecosystem services and resources from land, including interactions in the context of mitigation strategies and pathways
- Assessment of social and policy responses (public and private)
- Mitigation approaches within food production and food security strategies
- Anthropogenic emissions and removals in each of agriculture, forestry, other land uses, and non-managed terrestrial ecosystems, and their implications for mitigation pathways, considering a range of sources of information

Chapter 8: Urban systems and other settlements

- Demographic perspectives, migration, and urbanisation trends
- Consumption, lifestyle, and linkages between urban and rural areas
- Urbanisation wedge in future emissions and mitigation at global and national levels
- City emissions and drivers analysis, city typologies
- Urban emissions and infrastructure lock-in
- Urban mitigation options and strategies
- Low-carbon city scenarios, options and costs
- Urban form, design, and role of spatial planning

- Urban technologies, including disruptive technologies, the use of information and communication technologies, involving use of data
- Waste and waste water management, material recycling
- Innovative strategies and climate actions, urban experimentation, city networks and coalitions
- Urban mitigation governance – levels, barriers, and opportunities
- Policy instruments and infrastructure investments
- Rural settlements: leapfrogging opportunities

Chapter 9: Buildings

- Access to sector specific services (e.g. affordability, energy poverty)
- Services (including comfort, nutrition, illumination, communication)
- Components (building shell, appliances, lightning), system boundaries
- Mitigation options and strategies towards zero carbon buildings: developments since AR5 and emerging solutions
- Systemic interactions, insights from life cycle assessment and material flow analysis
- Scenarios and links with targets (including sectoral targets)
- Sector specific policies and policy packages, financing, and enabling conditions

Chapter 10: Transport

- Access to mobility services, affordability
- Components and system boundaries
- Aviation and shipping (including the treatment of aviation and maritime inventories)
- Mobility services (passengers and goods)
- Mitigation options and strategies towards zero carbon transport: developments since AR5 and emerging solutions
- Mobility trends and drivers (regional specifies)
- Systemic interactions (e.g. energy sector, urban) and insights from life cycle assessment and material flow analysis
- Scenarios and links with targets (including sectoral targets)
- Sector specific policies and policy packages, financing. Enabling conditions

Chapter 11: Industry

- Industrial development patterns and supply chains
- Maximising material and resource efficiency, closing loops
- Evolving demand for industrial products in the context of cross sectoral demand and supply developments
- Mitigation technologies and efficient system options, covering process emissions, industrial waste and carbon capture and utilisation
- Scenarios, mitigation options and cross system implications
- Implications of ambitious climate targets and sustainable development for future policy

Chapter 12: Cross sectoral perspectives

- Scope of the chapter
- Summary of sectoral costs and potentials
- Comparison of sectoral costs and potentials with integrated assessments
- Summary of sectoral co-benefits and trade-offs
- Aspects of GHG removal techniques not covered in chapters 6 to 11 (land based, ocean based, direct air capture): status, costs, potentials, governance, risks and impacts, co-benefits, trade-offs and spill-over effects, and their role within mitigation pathways
- Impacts, risks and opportunities from large-scale land-based mitigation: land, water, food security; use of shared resources; management and governance
- Emissions intensity of food systems and mitigation opportunities across the food system (production, supply chain, demand and consumption) including emerging food technologies
- Policies related to food system and food security including food waste and food demand
- Links to adaptation and sustainable development (including co-benefits, synergies and trade-offs)

Chapter 13: National and sub-national policies and institutions

- Cross-country insights from implementation of policies, including national and, where appropriate, sub-national plans and strategies
- Trends in national climate legislation, strategies and institutions, in the context of sustainable development
- Building agreement - stakeholder engagement and public opinion formation, media roles, policy frames and normative change
- Governance systems and climate action – comparative case analysis
- Assessment of policy instruments and regimes- links to multiple objectives of sustainable development (including co-benefits synergies and trade-offs)
- Integrated analysis of sectoral policies – integration with national policy, interactions across sectors, policy packages, enabling conditions, and infrastructure planning and investment
- Institutions for climate governance – lessons from cross country experience, including for capacity building, coordination, implementation, and monitoring
- Subnational climate action, including cities and states/provinces - prevalence and lessons from comparative cases
- Partnerships for climate governance – multi-sectoral networks of government, civil society and private sector, private governance, community-led and indigenous governance
- Interactions between national actions across countries, including spill-overs (e.g.: transboundary infrastructure, trade)
- Metrics to monitor climate action in the context of sustainable development (including co-benefits, synergies and trade-offs) – national, sub-national, and local
- Mitigation and adaptation linkages

Chapter 14: International cooperation

- Key findings from AR5 and recent developments
- International cooperation and institutions, including linkages with non-climate international organisations and processes
- International sectoral agreements and approaches
- Implementing mitigation pathways
- Enabling institutions for finance and investment
- Capacity building institutions and approaches
- International partnerships, including business partnerships
- International co-operation at the regional, sub-national and city level, as appropriate
- Transparency and accountability frameworks
- Lessons of implementation from relevant international agreements outside the climate arena
- Links to development policy and relevant international environmental agreements
- International climate policy and co-operative approaches
- Ethics and governance of solar radiation management, associated risks

Chapter 15: Investment and finance

- Key findings from AR5 and recent developments
- Definitions of climate finance
- Scenarios of and needs for investment and financial flows related to mitigation pathways and climate change action at the global and regional scales
- Scenarios of and needs for investment and financial flows related to mitigation pathways and climate change action in developing countries
- Investment patterns, and financing for climate resilient development, consistent with different mitigation pathways
- Enabling conditions for changing finance and investment patterns
- Public climate finance flows, including multilateral and bilateral, taking into account the scaling up of such flows
- International private flows of climate finance
- Links between national and international finance including developments in financial mechanisms and public-private partnerships
- National and sub-national climate finance mobilization and flows, within and across countries, including links to climate policy
- Emerging trends (community involvement in climate finance, sustainable investment criteria by institutional investors)
- Climate-related investment opportunities and risks
- Linkages between finance and investments in adaptation and mitigation, and implications for sustainable development
- Case studies

Chapter 16: Innovation, technology development and transfer

- Key findings from AR5 and recent developments
- Role of innovation, technology development, diffusion and transfer in contributing to sustainable development and the aims of the Paris Agreement, including mitigation pathways
- Innovation and technology as systemic issues, evaluating literature on cases of technological innovation systems and innovation policy
- Assessment of international institutions partnerships and cooperative approaches relevant to technology, innovation and R&D
- Capacity for transformative change, including capabilities for innovation, engineering, governance, R&D cooperation and deployment incentives
- Assessment of experiences with accelerating technological change through innovation policy for climate change at the national level, including successful case studies
- Specific challenges in emerging economies and least-developed countries, e.g. SIDS and land-locked countries
- Acceptability and social inclusion in decision-making, communication and information diffusion
- Characterisation and implications of new disruptive technologies
- Links to adaptation and sustainable development (including co-benefits, synergies and trade-offs)

Chapter 17: Accelerating the transition in the context of sustainable development

- Learning from integrative perspectives on sustainable development and climate change responses (synergies and trade-offs)
- Pathways for joint responses to climate change and sustainable development challenges
- Climate change mitigation responses in the context of multi-objective policies across scales
- Climate change mitigation response capacities and enabling conditions, including technology, finance & cooperation for sustainable development
- Mitigation-adaptation interlinkages, including potential synergies & conflicts
- Regional perspectives on climate change mitigation, including regional case studies on mitigation-adaptation interactions
- Other emerging issues dealing with climate change responses and sustainable development in relation to the Agenda for Development 2030 and beyond
- Uncertainties and knowledge needs

Annex A: Glossary
Annex B: Definitions, units and conventions
Annex C: Scenarios and modelling methods
Annex D: Contributors to the IPCC WG III Sixth Assessment Report
Annex E: Expert reviewers and government reviewers

Decision IPCC/XLVI-5. Alignment of the Cycles of the IPCC and the Global Stocktake

The Intergovernmental Panel on Climate Change,

1 - Decides to establish a task group on the alignment of the cycles of the IPCC and the global stocktake foreseen under the Paris Agreement. The task group will be co-chaired by France and Mexico.

2 - Requests the Co-Chairs of the task group, together with the IPCC Secretariat, to prepare a proposal for the terms of reference of the task group to be decided upon at the 47th Session of the IPCC.

3 - Requests the IPCC Secretariat to solicit views from Members of the IPCC on the terms of reference for the task group, and on the alignment of the cycles of the IPCC and the global stocktake foreseen under the Paris Agreement, to inform the work of the Co-Chairs.

Decision IPCC/XLVI-6. Short-lived Climate Forcers

The *Intergovernmental Panel on Climate Change decides,* to approve the proposal for an expert meeting on Short-lived Climate Forcers to discuss issues on estimation of emissions and estimations of climate effects (i.e. Option 2 in the submission).

Decision IPCC/XLVI-7. Admission of Observer Organizations

The *Intergovernmental Panel on Climate Change decides,* to admit the following new Observer Organizations:

(1) Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)
(2) Heinrich Boell Foundation (HBF)
(3) International Development Research Centre (IDRC)
(4) Center for International Forestry Research (CIFOR)
(5) Food & Water Watch
(6) Research and Development Centre, Nepal
(7) Imperial College London
(8) Canadian Nuclear Association
(9) European Marine Board (EMB)
(10) Stockholm Resilience Centre
(11) Global Change Impact Studies Centre (GCISC)
(12) ParlAmericas

Decision IPCC/XLVI-8. Future of the Task Group on Data and Scenario Support for Impact and Climate Analysis (ATF-TGICA)

The *Intergovernmental Panel on Climate Change,*

1 - Decides to extend the mandate of the Ad Hoc Task Force on the Future of the Task Group on Data and Scenario Support for Impact and Climate Analysis (ATF-TGICA) until the 47th Session of the IPCC.

2 - Requests the TGICA to continue with its work under the current chairmanship and membership until the new mandate is decided by the Panel at its 47th Session.

Decision IPCC/XLVI-9. Any Other Business – IPCC Expert meeting on assessing climate information for regions

The Intergovernmental Panel on Climate Change,

1 - Decides that an expert meeting on regional issues be held, to develop practical guidelines for the assessment of regional information in the Sixth Assessment Report (AR6).

2 - Requests that the working groups jointly further refine and agree on the proposal in the context of the Executive Committee of the IPCC.

3 - Decides to approve the provisional budget for the meeting.

Decision IPCC/XLVI-10. Any Other Business –Technical Summary of the Special Report on Global Warming of 1.5°C

The Intergovernmental Panel on Climate Change decides, that the Technical Summary of the Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty will be produced in the six official languages of the United Nations.

Decision IPCC/XLVI-11. Place and date for the 47th Plenary Session of the IPCC

The Intergovernmental Panel on Climate Change decides, that the 47th Session of the IPCC will be held in Paris early in 2018 on a date agreed between the government of France and the Secretariat of the IPCC.

The Panel notes that the next Bureau meeting will be held the last week of January 2018 in Geneva.