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SIXTH ASSESSMENT REPORT (AR6) PRODUCTS

Special Reports

Commentary from the Co-Chairs of Working Groups I, II and III on clusters of proposals for Special Reports contained in document IPCC-XLIII/INF. 7

(Submitted by the Acting Secretary of the IPCC)

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In Decision IPCC/XLI-6 on Workshops and Special Reports (SRs), second paragraph, the Panel requested the IPCC Secretariat to invite Member States to submit views on potential themes for Special Reports during AR6 cycle and input from the Working Group Co-chairs, and agreed to further discuss the issue at the 43rd Session of the Panel.

At its 50th Session (Dubrovnik, Croatia, 9 October 2015) the IPCC Bureau considered the topic of Special Reports and agreed that this matter would be discussed further at the 51st Session of the Bureau (Geneva, Switzerland, 16-17 February 2016).

In preparation for the 51st Session of the Bureau, the Working Group (WG) Co-chairs in consultation with their Vice-chairs prepared nine clusters of proposals (shown as clusters A to I in Annex 1). The Co-chairs from each Working Group prepared commentaries on the proposals for SRs (Annex 2) highlighting how relevant they perceive each cluster with respect to their Working Group.

This commentary is hereby submitted to the 43rd Session of the Panel.

ANNEX 1

IPCC SPECIAL REPORT PROPOSALS AND CLUSTERS

Clusters of proposals	Commentaries				
	Is the topic relevant for more than one WG?	**Were there gaps in the AR5 on these topics?**	**Is the topic different from what is reported elsewhere?**	**Are there sufficient new scientific findings that motivate a specific focus on this topic?**	**Implications for AR6?**
A 1, 6, 10, 17b, 18b, 21,27	**Overall commentary on cluster A :** **WGI:** Food security is perceived as a critical topic that would encompass cross WG issues (land use, biodiversity, agriculture, land degradation, desertification, links with water and energy...) and address SDGs. There is a potential to combine clusters A and X to : "Land and ocean use, food security and climate change" but the scope may be too broad. From a WGI perspective, no major gap was identified in AR5, and whether significant new knowledge will have emerged on desertification and droughts (an issue with different findings in AR5 vs AR4) is not clear (this may motivate to cover this issue in AR6 rather than in a SR). For the mountain proposal, the topic is perceived as too narrow / too "regional" to motivate a SR, but should be better covered (explicitly) in AR6. **WGII:** As an alternative, several aspects of cluster A will be covered in the main report, and will likely become a core issue of the 1.5°C report as they are very relevant in that context (e.g. low emission scenarios, land use conflicts).				
[1]Climate Change and Desertification;	Yes, I, II, and III Climate change and land surface conditions are closely linked. Climate change contributes to land degradation which in turn affects climate change. Changes in CO2 sources and sinks result from land degradation and desertification.	Yes - Significant progress has been made in AR5 regarding the inclusion of land use change associated with agriculture and deforestation. However, links between land use change, climate change and desertification were not extensively covered, no exploration of policies to combat desertification. only limited references included in AR5.	Yes - WMO covers drought, no comprehensive report available addressing the global links between climate change and land degradation and their implications (migration of human populations, health, human conflicts and water management)	Not clear - WCRP and IGBP focus some of their activities on the issue of climate change and land use (e.g. in programs like LUCID, LUCC, etc). It does not seem that a significant body of new literature has become available since AR5.	Yes - Cross-cutting global issue, many areas affected due to impacts of climate-change driven land degradation/ desertification; could include how countries most affected by desertification could most effectively respond. Dedicated section in an AFOLU chapter as an alternative option. Possibility that a SR may draw in additional experts vs a possibility that the number of experts is limited and an SR will limit availability for AR6.
[6]Climate Change, Food and Agriculture;	Yes, I, II, and III Influence of food production activities on climate, carbon and other biogeochemical cycles, impacts and feedback of climate change linked to agriculture, AFOLU and food security; relevant	Yes - only limited references included in AR5. Links between land use change and climate change were not extensively covered; very limited discussion of	Yes - Some of the points have been addressed in reports e.g. by the FAO; IPCC could address specifically the issue of climate change impacts on agriculture as well as adaptation and mitigation potential in the sector.	Yes - Different international research projects addressing this issue, under the coordination for example of CCAFS, IGBP and regional agencies like IAI, APN, EU;	Yes - Will contribution to topics like biogeochemical cycles, radiative forcing estimates and on the assessment of regional climate change; proposal for report to deal with

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	to Sustainable Development Goals (specially the number 1,2 and 13); co-benefits and trade-offs between agriculture, mitigation and food security, productivity, and related policies.	the impacts of climate change by agriculture sectors and scales (regional, national, local-scales); lack of a comprehensive report on adaptation strategies; limited review of policies linking land-use policies with agricultural productivity and mitigation goals; no quantification of the mitigation benefits of agriculture adaptation; no integrated discussion of potential to achieve more sustainable trajectories of changing food demand.		integration of policies to enhance food security and manage climate change from CCAFS and FAO; new research into novel mitigation options and timelines to commercial availability.	food and agriculture (including irrigation water and mitigation gaps) and to incorporate relevant elements of proposals on food and agriculture (6); desertification with regional aspects (10), food security (17b), AFOLU (18b) and land degradation (21).
[10]Desertification with Regional Aspects;	Yes, I, II, and III Climate change and land surface conditions are closely linked. Climate change contributes to land degradation which in turn affects climate change. Changes in CO2 sources and sinks result from land degradation and desertification.	Yes - only limited references included in AR5. Significant progress has been made in AR5 regarding the inclusion of land use change associated with agriculture and deforestation. However, links between land use change, climate change and desertification were not extensively covered, no exploration of policies to combat desertification	Yes - WMO covers drought, no comprehensive report available addressing the global links between climate change and land degradation and their implications (migration of human populations, health, human conflicts and water management)	Not clear - WCRP and IGBP focus some of their activities on the issue of climate change and land use (e.g. in programs like LUCID, LUCC, etc.) It does not seem that a significant body of new literature has become available since AR5.	Yes - Cross-cutting global issue, many areas affected due to impacts of climate-change driven land degradation/ desertification; could include how countries most affected by desertification could most effectively respond. Dedicated section in an AFOLU chapter as an alternative option. Possibility that a SR may draw in additional experts vs a possibility that the number of experts is limited and an SR will limit availability for AR6.

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[17b]Food security and climate change;	Yes, I, II, and III Influence of food production activities on climate, carbon and other biogeochemical cycles, impacts and feedback of climate change linked to agriculture, AFOLU and food security; relevant to Sustainable Development Goals (specially the number 1,2 and 13); co-benefits and trade-offs between agriculture, mitigation and food security, productivity, and related policies.	Yes - only limited references included in AR5. Links between land use change and climate change were not extensively covered; very limited discussion of the impacts of climate change by agriculture sectors and scales (regional, national, local-scales); lack of a comprehensive report on adaptation strategies; limited review of policies linking land-use policies with agricultural productivity and mitigation goals; no quantification of the mitigation benefits of agriculture adaptation; no integrated discussion of potential to achieve more sustainable trajectories of changing food demand.	Yes - Some of the points have been addressed in reports e.g. by the FAO; IPCC could address specifically the issue of climate change impacts on agriculture as well as adaptation and mitigation potential in the sector.	Yes - Different international research projects addressing this issue, under the coordination for example of CCAFS, IGBP and regional agencies like IAI, APN, EU; integration of policies to enhance food security and manage climate change from CCAFS and FAO; new research into novel mitigation options and timelines to commercial availability.	Yes - Will contribute to topics like biogeochemical cycles, radiative forcing estimates and to the assessment of regional climate change; proposal for report to deal with food and agriculture (including irrigation water and mitigation gaps) and to incorporate relevant elements of proposals on food and agriculture (6); desertification with regional aspects (10), food security (17b), AFOLU (18b) and land degradation (21).
[18b]AFOLU;	Yes, I, II, and III Would cover emissions and mitigation options for AFOLU and food/wood consumption chains; implications of AFOLU mitigation for other sectors to achieve overall mitigation goals; co-benefits and trade-offs between agriculture mitigation and food security, productivity, and policies to address such multiple objectives; co-benefits and trade-offs between land-based mitigation via bioenergy	Yes - only limited references included in AR5. No substantive discussion in AR5 on the extent to which there could be synergies or trade-offs between policies that address food security from an impacts/adaptation perspective in agriculture and from a mitigation perspective (especially coming from a	Yes - The issues have been addressed partially, but there does appear to be a comprehensive report that integrates the different aspects.	Yes - Information available on implications of alternative agriculture mitigation scenarios for cumulative CO2 emissions consistent with given mitigation goals; integration of policies to enhance food security and manage climate change from CCAFS and FAO; new research into novel mitigation options and timelines to	Yes - Experts are limited but could cover both the SR and AR6. Specific issues could be covered through dedicated attention across several WGIII chapters; but the interactions and policy options to both manage climate change impacts and increase resilience could not be achieved in the AR6 report structure.

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	(and CCS) and other land-uses.	perspective of increasing agriculture productivity, or diversification of land-uses, including ability to diversify local production); no quantification of the mitigation benefits of agriculture adaptation (which would reduce food losses/waste and increase productivity) or alternative scenarios of the use of woody biomass as a fuel or wood for construction; no integrated discussion of potential to achieve more sustainable trajectories of changing food demand.		commercial availability; discussion of climate-energy-water nexus and viability of strong net negative emissions.	
[21]Climate Change and Land Degradation – An Assessment of the Inter-linkages and Integrated Strategies for Mitigation and Adaptation	Yes, I, II, and III Climate change and land surface conditions are closely linked. Climate change contributes to land degradation which in turn affects climate change. Changes in CO2 sources and sinks result from land degradation and desertification.	Yes - only limited references included in AR5. Significant progress has been made in AR5 regarding the inclusion of land use change associated with agriculture and deforestation. However, links between land use change, climate change and desertification were not extensively covered, no exploration of policies to combat desertification	Yes - WMO covers drought, no comprehensive report available addressing the global links between climate change and land degradation and their implications (migration of human populations, health, human conflicts and water management)	Not clear - WCRP and IGBP focus some of their activities on the issue of climate change and land use (e.g. in programs like LUCID, LUCC, etc.) It does not seem that a significant body of new literature has become available since AR5.	Yes - Cross-cutting global issue, many areas affected due to impacts of climate-change driven land degradation/ desertification; could include how countries most affected by desertification could most effectively respond. Dedicated section in an AFOLU chapter as an alternative option. Possibility that a SR may draw in additional experts vs a possibility that the number of experts is limited and an SR will limit availability for AR6.

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	Is the topic relevant for more than one WG?	**Were there gaps in the AR5 on these topics?**	**Is the topic different from what is reported elsewhere?**	**Are there sufficient new scientific findings that motivate a specific focus on this topic?**	**Implications for AR6?**
[27]Climate Change and Mountains	Yes, I, II, and III (but limited) This is an important topic for the land locked countries and countries whose water inputs come from the neighbouring mountain areas.	Yes - only limited references included in AR5. The value would lie in providing an integrated focus on mountains. "Mountain" related issues were addressed in a fragmented way in WGI and II. For WGIII, there were no major gaps; the Special Report would provide a different focus.	Yes - There does not appear to be a global report focusing on mountains and climate change in an integrated fashion.	Yes - WCRP has addressed the issue of climate and mountains in several of its programs which have resulted in many publications. In particular the CLIC program coordinates Mountain cryospheric studies. There have also been many international research programs on specific mountain regions. With respect to impacts, adaptation and mitigation (WGII and III), however, new findings are limited.	Yes - Might limit availability of experts for AR6 or could have the advantage of bringing together experts across working groups (similar to SREX). Any discussion of policy approaches and co-benefits to address both adaptation and mitigation in the mountain regions could only meaningfully be dealt with in a separate report rather than in individual sections in WG contributions to the AR6.
B 2, 4, 7, 8, 12, 14, 16, 17c	**Overall commentary on cluster B :** **WGI:** Many aspects of climate change and oceans, and climate change and cryosphere (with sea level as a joint issue) have been addressed in depth in AR5, WGI and WGII, with however gaps in integrated cross-WG approaches, mitigation and adaptation options. New literature has emerged on issues related to marine ecosystem vulnerabilities with implications for ecosystem services (including integration of physical, chemical, dynamical changes with biological ones), on regional aspects for coastal sea level change, and on sea level commitment for two centuries (by 2200 CE) and need to be covered in climate change assessments (SR or AR6). A suggestion for a more focused special report could be on coastal issues (addressing regional aspects of sea level change, food security, health, cities and infrastructures, adaptation and mitigation options). Note that there is potentially an overlap with cluster A on food security. **WGII**: shares this view and emphasizes the lack of integrated cross-WG approaches in addressing relevant questions ranging from sea level rise, extreme events, ecosystem impacts, socioeconomic consequences, the ocean's role in mitigation strategies to regional specificities and implications (such as rapid coastal zone urbanisation). A special report in this cluster would integrate all WGs. An ocean report covers various regions of the globe and, together with the cryosphere, addresses the largest component in the earth's climate system, the largest living space on earth, with a wide range of societal and socioeconomic implications. 90% of all goods are transported across the oceans, largely fuelled by fossil energy. The contributions of the oceans to mitigation are also poorly addressed in AR5. The magnitude of the issue and overarching implications would speak for the preparation of such an SR. A focus on the sustainability of the oceans and their services to humankind would be relevant in the open ocean as well as in coastal areas. The latter would come into focus when assessing knowledge for ocean regions.				

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[2]Impact of Climate Change on the Cryosphere;	Mostly WGII (impact, vulnerability and adaptation) but with links to WGI	Specific chapters were dedicated to the cryosphere (WGI) and polar regions (WGII). Gaps for interplay between biogeophysical processes and socio-economic systems within impacted communities and vulnerable ecosystems.	Yes for a global approach but the Arctic Council is preparing a special report on "adaptation actions for a changing Arctic" including cryospheric changes (http://www.amap.no/adaptation-actions-for-a-changing-arctic-part-c) for 2017.	Limited new scientific literature since 2012. Emerging literature on ice sheet projections until 2200.	Some overlap between experts related to this proposal and those for AR6. Some overlap with proposals 12, 16 and 17 in this cluster B and with proposal 27 in cluster A.
[4]Climate Change and Ocean;	Mostly WGII (impacts and adaptation measures) but linkages with WGI and WGIII	AR5 had widespread coverage of ocean in WGI (dedicated chapter 3 on ocean observations, chapter 13 on sea level projections), II (chapter 5, coastal systems and low lying areas; chapter 6, ocean systems; chapter 30, ocean regions), and 50 direct references to oceans in WGIII (chapters 4, 6, 7, 11 and 13). There are gaps in understanding impacts of climate variability and change on phytoplankton, on the role of iron fertilization, in attribution of observed changes.	Yes. The focus on impacts of climate change for marine ecosystems and marine biodiversity, their consequences for socioeconomic activities at multiscale-multilevel and information relevant for decision making is not addressed elsewhere.	Yes, some new scientific literature has been published since 2012 and would be available for an assessment.	Some overlap between experts related to this proposal and those for AR6. Some overlap with proposals 8, 14, and links with those on cryosphere-sea level (12, 16, 17c) and potentially 1 (through the role of dust for marine biogeochemical cycles) and 17b (food security).
[7]Japan's view on potential themes for Special Reports;	*See related proposals*				
[8]Ocean and Climate Change;	Mostly WGII (impacts and adaptation measures) but linkages with WGI and WGIII	Broader proposal than number 4 including ecosystem services, economic sectors, legislation and adaptation policy challenges, and coastal areas. Gaps in AR5 for capacity of	Some aspects are covered by different international or intergovernmental institutions or organizations. The integrative dimension is unique. A focus on mitigation options involving the ocean (including ocean protection and mitigation of adverse impacts	Yes, some new scientific literature has been published since 2012 and would be available for an assessment. There is however limited literature on mitigation and links with SDGs which is	Some overlap between experts related to this proposal and those for AR6. Some overlap with proposals 8, 14, and links with those on cryosphere-

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		ocean ecosystems to cope with different rates of warming, and limited knowledge on coastal primary production. Limited knowledge on health impacts for coastal communities and harbour facilities.	of acidification) does not exist.	expected to be more mature for the AR6.	sea level (12, 16, 17c) and potentially 1 (through the role of dust for marine biogeochemical cycles) and
[12]Antarctic/Southern Ocean Region; Oceans and Climate Change;	Mostly WGI (observing systems, climate projections) with link to WGII	Some gaps in AR5 with respect to biogeophysical processes in this area, including processes for sea ice changes, and in the issue of future human activities linked with a warming climate.	Some aspects are covered elsewhere (e.g. update of SCAR report on Antarctic climate change and the environment).	Limited new scientific literature since AR5.	Some overlap between experts related to this proposal and those for AR6. Some overlap with proposals 2, 4, 8, 14 and 17 of cluster B.
[14]Evidences, Impacts and Adaptation to the Climate Change of the Oceans;	Mostly WGII with links to WGI and WGIII (role of ocean as carbon sink)	AR5 identified gaps related to vulnerability of ocean ecosystems to ocean acidification and critical thresholds but in general ocean issues covered in depth in WGI and WGII, AR5. Gaps for adaptation and mitigation options.	Some aspects are covered by different international or intergovernmental institutions or organizations.	Limited new scientific literature since AR5, but some extensive reviews have been published.	Some overlap between experts related to this proposal and those for AR6. Some overlap with proposals 2, 4, 8, 14 and 17c of cluster B.
[16]Global and Regional Consequences of Changes to the Frozen World;	Mostly WGII (impacts and vulnerabilities) but links to WGI and some implications for WGIII (transformation pathways, energy, agriculture)	Gaps in understanding of the changes in the cryosphere (including attribution) and what they mean for socioeconomic development activities of affected peoples, communities as well as vulnerable ecosystems.	Some aspects are covered by different international or intergovernmental institutions or organizations. The integrative dimension is unique.	Limited new scientific literature since AR5. Emerging literature on ice sheet projections until 2200.	Some overlap between experts related to this proposal and those for AR6. Some overlap with proposals 2, 12 (cluster B) and 27 of cluster A.

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	Is the topic relevant for more than one WG?	**Were there gaps in the AR5 on these topics?**	**Is the topic different from what is reported elsewhere?**	**Are there sufficient new scientific findings that motivate a specific focus on this topic?**	**Implications for AR6?**
[17C]Sea level rise and glacial melting	Mostly WGII with links to WGI	Gaps in understanding of the changes in the cryosphere and what they mean for socioeconomic development activities of affected peoples, communities as well as vulnerable ecosystems despite significant emphasis on cryosphere in AR5, WGI and WGII.	Some aspects are covered by different international or intergovernmental institutions or organizations. The integrative dimension is unique.	Limited new scientific literature since AR5. Emerging literature on ice sheet projections until 2200	Some overlap between experts related to this proposal and those for AR6. Some overlap with proposals 2, 12 (cluster B) and 27 of cluster A.
C 3, 19	**Overall commentary on cluster C :** **WGI:** Health was addressed in AR5, WGI could not identify gaps that would warrant a SR. Security appears extremely policy driven and maybe not in the remit of IPCC. **WGII:** Human health and security are core issues that will also come up more or less comprehensively in WGII AR6 chapters.				
[3]Climate Change and Human Health;	Yes, I (but limited), II The topic is mainly within the scope of the IPCC WGII, while WGI is expected to provide information and understanding on observed and projected climate changes (both in averages and extremes) against which effects on human health will be analyzed.	No substantial gaps were noted. The human health chapter of AR5 (chapter 11) summarized major results on the 'climate change – human health' problem.	No - The topic is covered in other international and national assessment documents, e.g., 'Second Assessment Report on Climate Change and Its Consequences in the Russian Federation' (2014) and the new AMAP arctic report (under preparation). But an integrated assessment could provide a different and innovative perspective on this topic.	Limited - There are some new research outcomes but these tend to be limited to the country level.	Yes - Experts are limited so the best way to handle the topic is to prepare a special chapter in the WGII contribution to the IPCC AR6 on climate change effects on human health in the preparation of which some experts from WGI will be involved. The problem should be considered both globally, regionally and sub-regionally.
[19]The Impact of Climate Change on National, Regional and International Security	Yes, I (limited), II The topic is mainly within the scope of the IPCC WGII. WGI experts might collaborate with WGII experts in assessing the key climate change related phenomena threatening regional and international security.	No substantial gaps were noted. Extensions in areas of conflicts have happened since the publication of AR5. They are not directly due to climate change, but some indirect links warrant certain discussion.	Yes - Some country level assessments exist, but no global assessment has been done.	Not clear - The amount and quality of scientific publications available on the topic is not clear. An IPCC ad hoc expert meeting can help obtain such information.	A chapter on Human Security is AR6 is seen as extremely desirable and an expert meeting helpful in determining new ways to consider the problem, No comment on the number of experts.

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D 5, 11, 18a, 22, 24b	**Overall commentary on cluster D**	**WGI:** Some topics may motivate expert meetings and workshops (e.g. guidelines to assess costs of adaptation). Aviation and shipping was not explicitly treated in AR5 and is of interest for policy making (not covered in the Paris agreement), this may be covered in a SR on 1.5°C for deep decarbonization scenarios. **WGII**: joins this view. **WGIII:** There is a gap in information about maritime and aviation sectors, however a special report on these two sectors alone may not be of the highest priority While there is a need to carry out a global adaptation assessment, and an urgency to look at the gaps and the costs, especially for developing countries, this may not be possible within the timeframe available for the Special Report. There is a consensus on looking at mitigation and adaptation strategies in an integrated manner. The efforts were initiated in AR5 and can be continued during the AR6 process. It is possible to have a SR dealing in general with the adaptation & mitigation interactions and/or treating those interactions with a more focused perspective (other A-M proposals) but ensuring adequate coverage of this topic within the AR6.			
[5]Integrating adaptation and mitigation in comprehensive near term solutions to climate change;	Yes. Most relevant for WG-II and WG-III. Would require input from WGI on physical changes in the climate system	Yes But considerable improvement in integrating WG-II and WG-III findings in the respective WG contributions to AR5.	Yes Several publications and IPCC ARs *refer* to the need for looking at adaptation and mitigation in an integrated manner. However, there exists potential for further contribution in terms of: treatment of scenarios and drivers, costs, regional and sectoral perspectives, technological options and impacts, among others, with a strong focus on the near-term perspective.	Yes. A significant amount of literature on integration of adaptation and mitigation and SD published	Having adaptation, mitigation and sustainable development" as a cross-cutting theme across the entire AR6 would be ideal but challenging. An SR could address this. There are major overlaps with proposals 11,22 and especially 24b, though this takes a near-term perspective
[11]Adaptation Costs in Developing Countries;	Yes. Mostly WG-I and WG-II, with possible contribution from WG-III	Yes AR5 recognized there are gaps, limitations and large uncertainties in the current knowledge on adaptation costs. These include gaps regarding methods, estimates and the application of this knowledge; gaps in current knowledge on the costs of adaptation at different scales	Not completely Possible for other organizations to carry out similar or overlapping studies. An IPCC assessment would probably be broader and more thorough given the infrastructure and process	Partly There are many studies on local and sectoral adaptation costs but little global analysis and very low confidence in the results.	Can be addressed in AR6, however there is an urgency of deriving cost estimates to obtain international funding and in line with the adaptation component of INDCs. Preparation of a special report may limit the availability of experts for the Assessment Report. Strong links to proposals 5, 20, 22, 23, and 24b.

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[18a]Aviation and Maritime;	Yes WG-I and WG-III. Can include WG-II if impacts on these sectors are considered	Yes Gaps in understanding the impacts on these two sectors especially under different scenarios Gap in the knowledge of the non-CO2 effects, especially assessment that is consistent with results from WGI	Partly Some aspects are covered in some recent short assessments. The SR would be broader and more comprehensive	Partly Literature on aviation has been published since the SR in 1999. Limited research on maritime emissions and policy options in the shipping sector. Improved understanding and quantification of impacts of non-CO2 components and calculation of emission can be useful for assessments and development of mitigation policies.	May limit the availability of experts for the assessment report to some extent Links to proposals proposal 17a, 23, 24a and 26.
[22]Global Adaptation Outlook	Yes WG-I and WG-II. Some contribution from WG-III possible.	Some Evolving area. Therefore there may be several topics where there is scientific progress that can form input to such an assessment.	Partly Maybe seen as seen a follow up to the UNEP Adaptation Gap Report 2014	The UNEP Adaptation Gap report.	Can be addressed in AR6 May limit availability of experts Links to proposal 5, 11, 20, 21, 23 and 24b
[24b]Interaction between Adaptation, Mitigation and Sustainable Development	Yes More relevant for WG-II and WG-III, Would require input from WGI on physical changes in the climate system	Yes See proposal 5	Yes See proposal 5	Yes See proposal 5	Having adaptation, mitigation and sustainable development" as a cross-cutting theme across the entire AR6 would be ideal but challenging. An SR could address this. Significant overlap with No. 5 though this would have a longer-term perspective.

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E 9 [9] Carbon pricing	**Overall commentary on cluster E**	WGIII: Despite the importance of carbon pricing for future climate policy, the assessment of the literature on carbon pricing can be an important component of AR6 and would enable linkages with other policies to be explored. This would also avoid overlap in terms of experts.			
	No. Primarily WG-III	Partly. AR5 contained chapters on policies and finance which included carbon pricing within their scope. However, there was relatively little on implementation and linking pricing schemes	No Carbon pricing has been covered extensively in the policy domain. IPCC assessment could draw on a wider range of disciplines and address for example links to the SDGs.	Yes There is a huge literature dating back 25 years. Recent literature focuses mostly on political economy and social aspects. The literature on ex-post evaluation of carbon pricing practice may be limited.	Likely to be a considerable overlap between the experts needed for a Special Report and policy experts engaged in AR6. This topic would be covered in AR6 as part of a wider assessment of the policy literature.
F 17a, 23, 24a, 26	**Overall commentary on cluster F**	WGIII: The core theme of this cluster linking the proposals under this cluster is that of scenarios and pathways. Each proposal emphasises different aspects and extends the core theme in different ways. Proposal 24a is more methodological and concerns the use of scenarios across all Working Groups; proposals 17a and 26 consider pathways that consistent with warming well below 2°C; proposal 26 explicitly draws attention to impacts associated 1.5°C; proposals 17a and 23 point to links between climate change and the SDGs; proposal 23 is concerned particularly with the link between top-down scenarios and mitigation measures from a bottom-up, sectoral perspective. Any SR arising from this cluster will need to take account of breadth and scope, with a view to scientific credibility, while avoiding an excessive overlap with the AR6 main assessment.			
[17a] Decarbonisation and low carbon development	Primarily WG-III. However, important linkages with WG-I and WG-II.	Yes. The assessment of low temperature scenarios was limited in AR5. AR5 took a top-down view and the two-way flow of insights between the top-down and bottom-up sectoral assessments was limited. There were gaps in terms of links between mitigation, adaptation and sustainable development.	Mostly. Studies on decarbonisation and low carbon development exist. Unique contributions are: i) emphasis on assessing literature to demonstrate pathways for 1.5°C target while simultaneously promoting sustainable development and the focus on recent technology development and ii) delineation of roadmap of evidence based effective mitigation and adaptation measures.	Partly. There is a moderate amount of new scientific literature on 2°C. The literature on pathways for a 1.5°C target is thin. An SR on decarbonisation could help advance and intensify research in this area.	There is likely to be some overlap between the experts required for this SR and the AR. Linkages to proposal 6; 17b and 18b; 23, 24a and 26

Clusters of proposals	Commentaries				
	Is the topic relevant for more than one WG?	**Were there gaps in the AR5 on these topics?**	**Is the topic different from what is reported elsewhere?**	**Are there sufficient new scientific findings that motivate a specific focus on this topic?**	**Implications for AR6?**
[23] Mitigation, climate stabilization scenarios and sustainability	No Primarily WG-III. However, linkages with WG-I and WG-II.	Yes Partially addressed in AR5. However, earlier assessment did not fully link sectoral and top down perspectives.	Yes The unique contributions of the SR are: i. The link between integrated scenarios and specific measures, ii. Addresses gap in the linkages between bioenergy with CCS (BECCS), and food security, water availability and biodiversity.	Partly Literature on adaptation-mitigation integration in the context of SD exists Little literature so far linking integrated scenarios with specific sectoral, technology and policy measures Much of the emerging literature does not address integration between top-down and bottom-up approaches	This primarily concerns mitigation. There is likely to be considerable overlap between the experts required for the proposed Special Report and the WG-III AR6 report Linkages with proposals 6, 17a, 17b, 18b, 24a and 26
[24a]Scenarios	Yes Relevant for all three WGs	Yes Though RCPs were included in AR5, SSPs were published after the AR5 timeline Using the scenarios as an integrating element of the three WGI reports was not fully realized during AR5 Also no coverage of scenarios below 2 °C, e.g. RCP 2.0	Yes Unique contribution is that it would explore in more detail the lower emission scenarios; i.e., 2 °C and below. As stated in AR5, very few studies were available for assessment of scenarios below 2 °C. Would start to address links to the SDGs and would bring the SRES up to date.	Yes Several new and relevant studies have been published after AR5 on analysis of the existing scenarios in the WG-III Scenario database, but few on new scenarios beyond the AR5 scenarios.	There is a strong overlap with what might be included in AR6. This would require careful coordination with the AR6 report with respect to timing and selection of authors and availability of scenarios. Related to proposals 6, 15, 17a, 18b, 23 and 26.
[26] Impacts of global warming of 1.5°C and related	Yes	Yes	Yes.	Partly	There is considerable

Clusters of proposals	Commentaries				
	Is the topic relevant for more than one WG?	**Were there gaps in the AR5 on these topics?**	**Is the topic different from what is reported elsewhere?**	**Are there sufficient new scientific findings that motivate a specific focus on this topic?**	**Implications for AR6?**
emission pathways	Relevant for all three WGs	The earlier assessment focused on near term and end of century time frames (RCP2.6 to RCP8.5). It did not include: i. an assessment of the avoided impacts of going beyond 2 °C or 1.5 °C; ii. full use of the CMIP5 scenarios by the impacts community during the AR5 assessment iii. adaptation and mitigation aspects (WGIII), including their risks, for a 1.5 °C vs. a 2 °C limit	A detailed assessment of 1.5°C scenario, pathways and mitigation, also vis-à-vis 2°C would be its unique contribution	New literature is emerging. especially on scenarios and pathways. The amount of literature becoming available in the narrow window for a report in 2018 will be critical. However, more research findings are expected to become available by the end of 2017 or early 2018 especially from the integrated assessment modelling community. Engaging the scientific community could help prepare new literature for assessment.	overlap between experts for this SR and AR6
G 13 [13]Managing the Diversity and Contradictions of Climate Change Data and Information]	**Overall commentary on cluster G:** WGI: the topic of climate change data is crucial for research on understanding physical science basis and on impact, vulnerability and adaptation assessments, and addressed in IPCC assessments based on published literature. The proposal is too oriented on WGI without new findings motivating a special report. It is more relevant for an expert meeting than a special report.				
	Mostly relevant for WGI (understanding physical change) but with implications for WGII (impact, adaptation and vulnerability assessment)	Issues related to data diversity and heterogeneity are a central part of IPCC assessments, based on published literature. AR5 identified gaps for aspects of climate observations (e.g. small-scale extreme events) and impact data for various sectors.	Several bodies are dedicated to support improved climate data for research and impact assessments (e.g. TGICA, GCOS, GFCS, UNEP PROVIA…).	There is limited published literature on this topic for an assessment. Improving resources for producing, analysing and disseminating climate data is crucial for climate research but not a mandate for IPCC. Other tools such as an expert meeting may be more relevant than a SR.	The topic is important for AR6 and more dedicated scientific literature is needed for an assessment. There is an overlap with topics of other SR proposals related to adaptation (e.g. cluster A, C, D and I).

Clusters of proposals	Commentaries				
	Is the topic relevant for more than one WG?	**Were there gaps in the AR5 on these topics?**	**Is the topic different from what is reported elsewhere?**	**Are there sufficient new scientific findings that motivate a specific focus on this topic?**	**Implications for AR6?**
H 15,20	**Overall commentary on cluster H:** **WGI and WGII**: some issues may be covered in a SR on 1.5. SR should not be focused on updates but new findings. WGIII: in principle, special reports should be motivated by new scientific findings previously not sufficiently covered, rather than updates of earlier reports. No major gaps were identified in AR5 or limited new scientific publications that would motivate such special reports before AR6 where regional aspects and cross-WG integration must be strengthened. There is potentially overlap with the UNFCCC invitation (proposal 26) which may embed an update on some aspects of SREX and AR5 (links between warming levels, emission trajectories and extremes).				
[15]Update of key policy-relevant messages in AR5 in support of review and assessment procedures in new UNFCCC agreement;	Yes, this would be an update of the WGI-WGII-WGIII aspects of the AR5 SYR.	No explicit gap was identified but science has been published since 2012 and could motivate an update of key policy relevant findings.	No other body is involved in such integrative assessment update.	New studies have been produced after AR5 on emission trends, temperature trends, carbon budget and cumulative emissions, bioenergy and negative emissions, the role of non CO2 drivers, analysis of INDCs, impacts of climate change (food production, vulnerability of ecosystems…). The Paris agreement also calls for a focus on 1.5°C scenarios (with limited existing literature).	Same scope as AR6. Relevance of such update for UNFCCC following the Paris agreement (2020), with overlap with proposals 17a, 24b and 26. Potential large implications for AR6 (circumvention of review process, conflicts in details), potential to divert effort of AR6 authors. Issue with renewal of author teams if produced by a subgroup of the core writing team of AR5.
[20]Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation – Update	Yes, the topic is mostly relevant for WGI and WGII	No compelling gap in AR5, which already provided comparisons and updates for many extreme weather and climate events from SREX. Room for improved coverage at regional to local scale, short-lived extremes, sector oriented	Yes	New studies on regional and national levels (detection, attribution, projections, impacts), including community resilience, and feedbacks (e.g. carbon cycle), and coordinated programmes underway with improved data quality and accessibility.	Strengthening of AR6 coverage of extreme events is expected (including integration across WGI and WGII).

Clusters of proposals	Commentaries				
	Is the topic relevant for more than one WG?	**Were there gaps in the AR5 on these topics?**	**Is the topic different from what is reported elsewhere?**	**Are there sufficient new scientific findings that motivate a specific focus on this topic?**	**Implications for AR6?**
		information.		Risk for insufficient new scientific literature and new findings for step progress in a new SR on the same topic. SR report topics should be renewed.	
I 25 [25]Special Report on Cities and Climate change (SRCC)	**Overall commentary on cluster I :** **WGI:** Important, but from a WGI perspective, mainly related to heat island effects, regional projections, including sea level. Downscaling at the scale of cities is an emerging field and could be mature to allow an assessment in AR6 but not in a SR in 2019 (lack of publications to allow an assessment and intercomparison of methodologies). This may be covered in an expert meeting on regional projections (guidelines for AR6)? **WGII:** 55% of the world's population is urban and it is anticipated that up to two-thirds of the world's population will live in urban areas by 2050. Much of the risk resulting from climate change is concentrated in cities. Over two-thirds of the world's carbon emissions also come from urban areas. Most of the urban infrastructure expected to be in place by 2050 has yet to be built. There is thus significant opportunity to map out solutions that prevent or reduce carbon lock-in into the future. However, these windows of opportunity are closing and without concerted climate action in cities and regions, the potential for both deep decarbonisation and transformative adaptation will be limited. In spite of special efforts to build an integrated assessment framework in AR5 the urban assessment was not integrated and such integration is unlikely to be achieved in the separate chapter treatments of AR6. An SR would thus provide an integrated view of the special climate conditions in cities and specific vulnerabilities can be compared across regions and shape the development of solution pathways in adaptation and mitigation of significant policy relevance. The fact that this report is not heavily reliant on CMIP6 outputs is also an advantage in terms of timing.				
	Yes, II, III The topic is clearly relevant for Working Groups II and III – with WGII assessing the special urban impacts (such as the impact of CC combined with urban heat island effect), vulnerabilities, resilience and adaptation options, and WGIII assessing mitigation opportunities at the city level, as well as linkages with many other urban processes and priorities to which both	Yes - substantial gaps remain due to sectoral approach adopted. A more integrative approach through a special report on cities would better be able to capture and portray the adaptation and mitigation opportunities in cities. Both literature and action are burgeoning on urban climate change issues currently. Most	Yes - although there are recent assessments on climate change and cities (e.g., ARC by UCCRN 2015), none of them has addressed the cross-section of cities and climate change in a comprehensive manner that is required for the key target audiences of IPCC.	Yes - there is an increasing recognition in recent years that cities often offer opportunities for more flexible and faster action on climate change than national governments, and thus both action at this level as well as the literature analyzing these actions have been burgeoning.	No - There is unlikely to be a difficulty in the availability of authors for AR6 due to the SR. The topic is so broad and scholarship is so rapidly increasing in the area that there is no shortage of highly qualified experts for both an SR and an AR; in this topic it is likely that even developing country

Clusters of proposals	Commentaries				
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	mitigation and adaptation actions can be integrated or linked.	importantly, integration of adaptation and mitigation at the urban scale is crucial and addressing urban issues in separate volumes of AR6 does not provide the pivotal integration required.			authors can be easily identified in large numbers. Furthermore, by having a detailed assessment of the urban scale, the pressure on AR6 to be balanced AND comprehensive related to cities will be lower.

ANNEX 2

Overall comments on Special Report (SR) proposals:

Working Group I:

- The timeline for potential special reports and the Sixth Assessment Report (AR6) should be carefully considered against the timeline for new WCRP/CMIP6 climate model projections, expected to be run in 2017-2018, with emerging literature in 2018-2020.
- Working Group I (WGI) suggests to avoid (i) topics of special reports that are already covered as chapters in the AR5, and (ii) requests for studies of single specific regions (which could be considered as cross-cutting synthesis topics).
- WGI suggests to focus on cross-Working Group integrative issues not fully addressed in the Fifth Assessment Report (AR5).
- The main focus should be the AR6 and the timeline for SR will be extremely tense. Considerations for SR must be carefully balanced against the limited amount of new scientific literature published since AR5 or expected to be produced until 2018.
- Three SR are only feasible if each Technical Support Unit (TSU) has a lead on one.

Working Group II:

- The evolution of shared socioeconomic pathways (SSP) and other impact as well as integrated assessment models will also require consideration. The latter concerns are met by the present scheduling of Working Group reports in the AR6 main assessment.
- The AR6 cycle would benefit from a regional report to support cross-cutting integration of WGI to WGIII aspects in chapters with regional focus (e.g. Africa, Europe etc.).
- Agrees with WGIII that any SRs could attempt to pick up appropriate elements of other proposals. For example, a 1.5°C report could also capture aspects of Cluster A associated with negative emission measures and implications for significant sectors such urban and rural.
- Also suggests to focus on cross-Working Group integrative issues not fully addressed in the AR5.
- Agrees that the main focus should be on the AR6, that the timeline for SRs will be extremely tight, and that considerations regarding SRs must be carefully balanced against the limited amount of new scientific literature published since the AR5 or expected to be produced until 2018.
- Three SRs (including a regional report) are only feasible if each TSU leads one.

Working Group III:

- Working Group III (WGIII) supports a separate regional report, regardless of its status (e.g. Special Report or other designation), but believes that its own contribution would be limited, focusing more on land use than on energy which calls for a global/sectoral perspective.
- Agrees with WGII that any SRs on regions and 1.5°C pathways could attempt to pick up appropriate elements of other proposals, e.g., a 1.5°C report could also capture aspects of Cluster A associated with negative emission measures.
- Many of the proposals within clusters could be blended to derive scientifically coherent SRs.
- SRs should be chosen to spread the load between WGs and not over-burden any one group.
- Careful consideration is needed as to whether some of the proposals cannot be addressed by other means, e.g. expert/co-sponsored workshops or by building the thinking into the process of scoping the full AR6 assessment.