

Chapter	From Page	From Line	To Page	To Line	Comment	Response
Box Art.2	117	42			<p>ERROR System tells me following: For comments on Topic 4, the "From Page" and "To Page" must be between 93 and 117.</p> <p>To avoid this problem I stated that my observation is in page 117 but it is in reality for page 118. See below...</p> <p>"Risks for warming between about 1°C and 2°C above pre-industrial"  The bullet points shown below line 42 of page 118 could be strengthened with the following points that are strongly supported by the TS of Working Group II. Above 2.6 °C: "very high" risks to systems with limited capacity to adapt, "particularly Arctic sea ice systems and coral reefs".  At "recent temperatures": "moderate" risks of extreme events, such as heat waves, extreme precipitation, and coastal flooding, are "moderate", but become "high" at 1.6 °C. At around 2.6 °C: risks go from "moderate" to "high" for crop production and water resources in some countries.  Around 1.6 to 2.6 °C: overall risks to the global economy and biodiversity are "moderate" and become "high" around 3.6°C.  At around 0.6 to 1.6 °C: "moderate" risks of abrupt or drastic changes to some physical systems or ecosystems . Becomes "high" somewhere between 1.6 and 4.6 °C. Between 1.6 and 2.6 °C there is a "disproportionate increase in risks" of drastic changes because at this warming level the melting of ice sheets could become irreversible and lead to large and irreversible sea level rise.  Note: The temperature increases in the above points are all relative to pre-industrial temperatures. But the TS text they are drawn from (pp. 18 and 66) talk about temperature increases relative to "recent temperatures". Therefore, the IPCC numbers for temperature increases from the TS text have been adjusted by +0.6 degrees to make them relative to pre-industrial.</p> <p>[Tabaré Arroyo Currás, Mexico]</p>	Noted

Review comments on the IPCC AR5 Synthesis Report First Order Draft - Box Art.2

Box Art.2	118	1	120	34	The Box on Information relevant to Article 2 of the UNFCCC jumps from topic to topic with no clear message. No confidence/agreement statements are included, but parenthetical references to the Reasons for Concern are included, which is confusing because it is the only place where this format is followed in the synthesis report. Much of the text is also redundant with statements elsewhere in the synthesis report and could probably be deleted. (Government of United States of America)	The RFC figure is included. The structure has been revised and improved, with a view to focus on the aspects most relevant to Article 2 and references to the topics for more information and other aspects. Attention is given to the confidence statements.
Box Art.2	118	1	120	34	Lack of consistency with warming above pre-industrial and additional warming (above present-day) statements makes this section difficult to read. Would suggest making all cited temperatures relative to pre-Industrial, or at least put the equivalent in brackets. (European Union)	Pre-industrial will be standard, except otherwise stated.
Box Art.2	118	1	120	34	This summary is as close as the SYR gets to an actual synthesis. You may consider to include it in the SPM, while shortening SPM sections 3.2-4.4. (European Union)	This is to be discussed in the context of the SPM.
Box Art.2	118	1	120	34	While this Box is clearly potentially useful to inform the UNFCCC process there is a risk that by cutting off uncertainties from the underlying reports language becomes policy prescriptive rather than policy relevant. I suggest that the authors re-check the content very carefully whether the statements can be justified if taken out of their context. (Jochen Harnisch, Germany)	Agreed, uncertainty statement checked and added when needed (+ see footnote)
Box Art.2	118	1	120	34	This whole Box should be in the SPM not as an addendum at the end of the report (Rachel Warren, United Kingdom)	This is to be discussed in the context of the SPM.

Review comments on the IPCC AR5 Synthesis Report First Order Draft - Box Art.2

Box Art.2	118	1	120	34	Overall comments on Box: Suggest reorganizing this box to more closely follow the SYR Scoping Document in order to simplify the presentation and enhance its understandability. The current formulation draws heavily upon the Reasons for Concern and Figure 3.4D. This is not needed, or can be dealt with in a single sentence cross-linking to the previous discussion. Suggest revising the Box to start with the current text on Article 2 (P. 188, l. 3-6), followed by the paragraph on "dangerous" (p. 118, l. 14-22) and then three paragraphs (with bullet points as needed) to address the aspects of Article 2, specifically 1 - allowing ecosystems to adapt naturally, 2 - ensuring food production is not threatened, and 3 - enabling economic development to proceed in a sustainable manner. Content on all of these is currently found in the Box, but it is organized by amount of warming. This information could be followed by discussion of the agreed global goal (p. 118, l. 6-11) followed by a paragraph that integrates the key aspects of the second and third paragraphs on p. 119. (Government of Canada)	The content is reorganized in a way that no longer uses the temperature levels in the structures and more closely follows the elements of Article 2. The reasons for using the RFC framework are now better explained.
Box Art.2	118	1	120	34	The Box with information relevant to Article 2 of the UNFCCC is highly appreciated. The overall structure and approach should be retained. However, we kindly ask you to implement the changes enumerated in the following comments. (Government of Germany)	Noted
Box Art.2	118	1	120	34	box structure could be changed to 1) present impacts / risks 1-2C / risks 2-4C / risks >4C, 2) what cuts do RCP scenarios require for successful mitigation, 3) interaction sustainable management. Figure 3.4D could be printed in the box again (Lena Menzel, Germany)	A figure based on the RFC is now inserted. The whole content was reorganised in way that more closely highlight the issues mentioned in Article 2.

Review comments on the IPCC AR5 Synthesis Report First Order Draft - Box Art.2

Box Art.2	118	10	118	10	<p>The proper term is "long-term global goal" not "target". Target implies you really want to go there, which is actually not true, since some formulations that have arisen from the UNFCCC negotiations state a goal of staying well below 2°C or even 1.5°C, not wanting to actually reach the 2°C. This should be kept in mind and I therefore suggest to stick to the word "goal".</p> <p>Moreover, I suggest to stick more precisely to the actual formulation. 1/CP.16 para 138 states that the COP "Decides to periodically review the adequacy of the long-term global goal referred to in paragraph 4 above, in the light of the ultimate objective of the Convention, and overall progress towards achieving it, in accordance with the relevant principles and provisions of the Convention;". The first review is currently undergoing and is called "The 2013-2015 Review" (I am co-facilitator of its Structured Expert Dialog). (Andreas Fischlin, Switzerland)</p>	This sentence was removed. We paid attention to the use of correct UNFCCC terminology.
Box Art.2	118	11	118	12	<p>Suggest the final sentence of this paragraph be deleted so that the paragraph is simply a factual statement of text that has been agreed to under the UNFCCC. The point that global GHG emissions continue to grow at an increasing rate is more appropriately made in subsequent paragraphs discussing timeframes and pathways for stabilization of GHG concentrations. (Government of Canada)</p>	This sentence was deleted.
Box Art.2	118	11			<p>Please cite the UNFCCC decisions correctly: "with a view of strengthening the target to 1.5°C" is not correct. Please provide balanced text. Please also refer to "ultimate objective" when referring to Article 2 of the Convention. (Government of Germany)</p>	Sentence deleted due to space constraints.
Box Art.2	118	14	118	22	<p>This paragraph should have a reference to WGI SPM because the statement "while human influence on the climate system is clear" comes from the WGI AR5 SPM. (Thomas Stocker/ WGI TSU, Switzerland)</p>	Added reference to topic 1.
Box Art.2	118	15		17	<p>THE SYR MUST MAKE THIS EXPERT JUDGEMENT: "This report documents the magnitude of current and future projected climate change and provides a basis for judgment about the level of climate change at which risks become dangerous." The IPCC, being comprised of global experts and policy makers, is the uniquely very best organization to assess and make the DAI conclusion. NOTE: The IPCC does make expert and value judgements throughout the assessment. (Peter Carter, Canada)</p>	The IPCC does expert judgement, but does not do policy-prescriptive judgement, since it's not in its mandate. This is now clarified.

Review comments on the IPCC AR5 Synthesis Report First Order Draft - Box Art.2

Box Art.2	118	17	118	17	Replace "become dangerous" by "can be considered of becoming dangerous". The current formulation somewhat defies the value judgement role. Terms such as "extreme vulnerability", "severe impacts" imply already some value judgement. Thus these formulations are questionable and call at least for some explanations (where, how defined?, traceability, line of sight, transparent expert judgement). (Andreas Fischlin, Switzerland)	This paragraph is reformulated.
Box Art.2	118	18	118	19	What are "low probability events with high and irreversible consequences" ? Are we talking about climate extreme events ? Then how the consequences can be "irreversible" ? And what is an "high consequence" ? Suggest to add clarifications. (Thomas Stocker/ WGI TSU, Switzerland)	Sentence rephrased, but we cannot add much details due to space constraints.
Box Art.2	118	20	118	21	The box starts by reporting the political decision, which included value judgements, on 2 jC, strengthening to 1.5 degC. Yet it goes on to say "The determination of which level of anthropogenic interference is considered dangerous is not done here, as it would require value judgments" (p.118, l 20-21). Some value judgement on what is dangerous HAS been made already, so why is the IPCC unable to provide further information? (Government of South Africa)	This sentence is modified to explain that determining what is DAI is not within the IPCC mandate.
Box Art.2	118	20		21	THIS IS AN EXPERT JUDGEMENT (NOT A VALUE JUDGEMENT) THAT THE SYR MUST MAKE HERE: ÒThe determination of which level of anthropogenic interference is considered dangerous is not done here, as it would require value judgments.Ó (Peter Carter, Canada)	disagree: this determination requires a value judgement, in particular because there are different approaches to value risks and there is no consensus. We clarified in the text that determining what is DAI is not within the IPCC mandate.
Box Art.2	118	21	118	21	assessment provide below Grammar? Typo? (Andreas Fischlin, Switzerland)	Rephrased and corrected
Box Art.2	118	21	118	21	It is suggested to substitute "provide" by "provided". (Government of Austria)	Rephrased and corrected
Box Art.2	118	24	118	25	Since the reasons for concern are cited everywhere inside this box, they should be clearly explained here (Thomas Stocker/ WGI TSU, Switzerland)	The figure showing the risk assessment associated with the RFCs was added, with explanations to the extent permitted by available space.
Box Art.2	118	24	118	26	It would be worth stating the five Reasons For Concern here instead of making the reader search for them on a figure. (European Union)	The figure showing the risk assessment associated with the RFCs was added, with explanations to the extent permitted by available space.

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Box Art.2	118	24	118	33	The authors should strongly consider moving this text to earlier in the SPM since SPM.8 refers to Reasons for Concern (RfCs) without sufficient explanation of that terminology. (Government of United States of America)	The content of this box was restructured. The RFC concept is a very useful way to synthesise information relevant to Art 2 and thus need to be part of this box. Efforts were done to use it in a consistent and appropriate manner.
Box Art.2	118	24	118	41	A reader should be informed here that risks etc. are assessed against pre-industrial climate. It is important for understanding the whole Box (Government of Russian Federation)	Pre-industrial is now the reference for all temperature increases (except the second axis in the figure)
Box Art.2	118	26	118	29	The second sentence in this paragraph is awkward and long and grammatically incorrect. Suggest editing carefully. Note also that while it is extremely important to recognize the vulnerability of LDCs, the approach throughout the AR5 has been to not use specific country groupings. A more appropriate formulation of this sentence could be "É particularly for countries and communities with limited ability to cope". (Government of Canada)	The language was corrected. The reference to least developed countries and associated wording is exactly as it appears in the approved WGII SPM.
Box Art.2	118	27	118	27	op should be "of" (Thomas Stocker/ WGI TSU, Switzerland)	Reworded
Box Art.2	118	27	118	27	typo "op" (Andreas Fischlin, Switzerland)	Reworded
Box Art.2	118	27	118	27	op?? (Akihiko Murata, Japan)	Reworded
Box Art.2	118	27	118	27	of (not op) (Peter Thorne, Norway)	Reworded
Box Art.2	118	27			Should read "exposure OF people". (Government of Brazil)	Reworded

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Box Art.2	118	35	120	34	<p>It took me quite a while to understand that there are perhaps main headings structuring the box: (i) Impacts from current changes in the climate system; (ii) Risks for warming between about 1°C and 2°C above pre-industrial; (iii) Risks for warming between about 2°C and 4°C above pre-industrial; (iv) Risks from warming above 4°C compared to pre-industrial; and perhaps (unclear); (v) Interaction with sustainable development? If so, why not making this clear with a numbering scheme or otherwise some graphical structuring means (background color, nested box within the box (separate colors without a frame?). The entire structure remains quite unclear and needs very, very careful reconsideration and attention.</p> <p>I suggest a structure using nested (color shaded boxes nested within box without frame) for the first 4 sections. In each section I suggest to describe the climate, its effects and risks and then the mitigational aspects. (i) in terms of mitigation one can here describe the commitment already made to further changes, even under "maximum" mitigation, telling the reader that some risks have become already inevitable. Then under (ii) to (iv) one can describe all Art. 2 relevant impacts (ecosystems, food security, sustainable development aspects and then what adaptation and mitigation could do to avoid this. This may also call for considering further commitments, irreversibility aspects if a particular degree of global mean warming was reached. For instance for levels of 4°C we are on a trajectory that makes further significant warming very likely and that needs to be expressed (AR5 provides new material that never existed along those lines, e.g. WGI TS, TFE.5, p. 70-72). (Andreas Fischlin, Switzerland)</p>	<p>The figure assessing the risks of concern is now included in the box, and the text is fully reorganised, taking into account various review comments calling for more clarity. Thanks for those suggestions. Some specific aspects cannot be covered due to space limitations.</p>
Box Art.2	118	36	118	37	<p>Please consider to replace "Arctic systems" with "Arctic biological and physical systems". Rationale: Climate induced biological changes are already observed in the Arctic, and are expected to be particularly dramatic there. These impacts are not addressed in other parts of the SYR and would therefore be important biological systems explicitly in this sentence. (Government of Norway)</p>	<p>Wording clarified (this box cannot contain more details due to very tight space constraints)</p>
Box Art.2	118	36	118	41	<p>Add bullet on extreme weather for the current changes in the climate system. In Assessment box SPM1 of WGII we say that climate change risks from extreme weather are already moderate. (Rachel Warren, United Kingdom)</p>	<p>Accepted and included.</p>

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Box Art.2	118	36	118	51	Is there a way of getting across RFC1 includes mountain ecosystems for example? That is, relating to what's at risk for 2C rise? May be the appropriate place is page 119 lines 38-39 to add to the list of systems at risk, eg by saying 'and also mountain ecosystems and many biodiversity hotspots' for example. (Rachel Warren, United Kingdom)	Unfortunately this is too detailed given the tight space constraints for this box.
Box Art.2	118	39	118	41	medium confidence is missing here (see. 1.4.2) (Thomas Stocker/ WGI TSU, Switzerland)	Accepted and corrected.
Box Art.2	118	42	118	42	It is very, very useful to use here pre-industrial levels for degrees of warming. Please keep this. (Andreas Fischlin, Switzerland)	Agreed. Pre-industrial is now used as the reference for temperature increases in all parts of this box.
Box Art.2	118	42	118	42	Why is the objective of introducing the title 'Risks for warming between about 1°C and 2°C above pre-industrial' here?. There is not any explanation and the following section refers to increases above 2¼C. (Maria Carmen Llasat, Barcelona)	Removed due to a revision of the structure of the text.
Box Art.2	118	42	118	42	Statement is misleading. Owing to existing cumulative emissions of greenhouse gases, the Earth is locked into a warming of at least 1 C above preindustrial levels. (European Union)	Removed due to a revision of the structure of the text.
Box Art.2	118	42	118	42	This header should apply to all text until the next header (about temperature change between 2 and 4degC). Therefore, we recommend revising it to say: "Pathways to and risks from warming between etc." or something to that effect. Also, it would be useful to address in this section the issue of whether or not the science presented in the AR5 allows any distinction to be made about impacts at 1.5degC . (Government of Canada)	Those headers were removed due to a revision of the structure of the text. Regarding 1.5°C, there are elements of response, in particular in the figure (some risks are increasing).
Box Art.2	118	42	119	8	Add bullet on extreme weather for the 1-2C range. Eg use text from Ass Box SPM1 WGII which reads Climate change related risks from extreme events are high between 1 and 2C of warming above preindustrial. Risks associated with some types of events eg extreme heat increase further at higher temperatures (Rachel Warren, United Kingdom)	The observed increase in extreme events is noted and taken into account in the figure assessing reasons for concerns, now included in this box. We lack space for more details.
Box Art.2	118	42	119	8	Some parts discuss the impacts of temperature increases of 2C or more above late-20th century levels, which do not correspond to the other parts referring to the temperature change from pre-industrial levels. Request revision to enable comparison. (Government of Japan)	We apologize for those inconsistencies. Pre-industrial is now used as the reference for temperature increases in all parts of this box.
Box Art.2	118	42	120	32	This entire section is difficult to follow as a result of the interchange of above pre-industrial temperature change, and above present-day temperature change. (European Union)	Agreed. Pre-industrial is now used as the reference for temperature increases in all parts of this box.

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Box Art.2	118	42		ØRisks for warming between about 1jC and 2jC above pre-industrialÓ (Joseph Alcamo, Germany)	no comment here (this appears to be a title for the following ocmments)
Box Art.2	118	42		Suggest changing to "Risks for warming between about 1jC and 2.5jC above pre-industrialÓ (Joseph Alcamo, Germany)	The text was restructured to provide more clarity, temperature levels are no longer used.
Box Art.2	118	42		The bullet points shown below line 42 of page 118 could be strengthened with the following points that are strongly supported by the TS of Working Group II. (Joseph Alcamo, Germany)	No response needed (introduction to following comments?)
Box Art.2	118	42		áÉÉÉÉÉÉÉ Above 2.6 jC: Övery highÓ risks to systems with limited capacity to adapt, Öparticularly Arctic sea ice systems and coral reefsÓ. (Joseph Alcamo, Germany)	This level of risk is now clearly indicated (in relation to RFC1); as the example you suggest are already provided on the basis of observed impacts (first page of this box), and given space constraints, it is not added again here.
Box Art.2	118	42		áÉÉÉÉÉÉÉ At Örecent temperaturesÓ: ÖmoderateÓ risks of extreme events, such as heat waves, extreme precipitation, and coastal flooding, but become ÖhighÓ at 1.6 jC. (Joseph Alcamo, Germany)	This is included in the paragraph on observations, and taken into account in the figure (RFC2).
Box Art.2	118	42		áÉÉÉÉÉÉÉ Around 2.6 jC: risks go from ÖmoderateÓ to ÖhighÓ for crop production and water resources in some countries. (Joseph Alcamo, Germany)	The details on the magnitude of the risk are provided in the figure which is now included in this box.
Box Art.2	118	42		áÉÉÉÉÉÉÉ Around 1.6 to 2.6 jC: overall risks to the global economy and biodiversity are ÖmoderateÓ and become ÖhighÓ around 3.6jC. (Joseph Alcamo, Germany)	Due to space constraints, we cannot describe all aspects of the assessment provided in the figure regarding RFCs.
Box Art.2	118	42		áÉÉÉÉÉÉÉ At around 0.6 to 1.6 jC: ÖmoderateÓ risks of abrupt or drastic changes to some physical systems or ecosystems . Becomes ÖhighÓ somewhere between 1.6 and 4.6 jC. Between 1.6 and 2.6 jC there is a Ödisproportionate increase in risksÓ of drastic changes because at this warming level the melting of ice sheets could become irreversible and lead to large and irreversible sea level rise. (Joseph Alcamo, Germany)	Due to space constraints, we cannot describe all aspects of the assessment provided in the figure regarding RFCs.
Box Art.2	118	42		Note: The temperature increases in the above points are all relative to pre-industrial temperatures. But the TS text they are drawn from (pp. 18 and 66) talk about temperature increases relative to Örecent temperaturesÓ. Therefore, the IPCC numbers for temperature increases from the TS text have been adjusted by +0.6 degrees to make them relative to pre-industrial. (Joseph Alcamo, Germany)	All temperatures increases are now based on the pre-industrial reference. We apologise for the errors in the FOD.

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Box Art.2	118	44	118	45	The formulaton is perhaps confusing for some readers when it is not made clear that "unique and threatened systems" refers to a particular RFC. I suggest to use italics when referring to any RFC (at least in this box). (Andreas Fischlin, Switzerland)	Rephrased in the context of the changes to the structure of the box
Box Art.2	118	44	119	8	It is unclear what logic is behind the bold text and then the bullets. Perhaps the bold text belongs to a bullet above or is a bullet in itself or is it a heading? Then why not simply having a bullet and make the text in bold? Or in case it is a heading, then the actual heading content should be picked up in the subsequent bullets, which it currently seems not to do. It seems also that some bold text and some bullets rather pertain on a particular RFC without clearly relating to them. Or whatever the authors actually have in mind. This needs to be carefully reconsidered and I believe substantially restructured/reordered to make a clear logic behind to become easy to understand. (note, there is also considerable redundancy and/or overlap with text further down on p. 119 (e.g. bullet on page 119, lines 52-54 vs. bullet on page 119, lines 5-7). (Andreas Fischlin, Switzerland)	Thanks for the comment. We check this carefully. As a rule, the role of the first sentence, in bold, is to convey the key policy relevant message.
Box Art.2	118	45	118	46	Ôas do risks associated with extreme eventsÔ is unclear. (Government of Russian Federation)	This sentence was removed in the context of the restructuring of the box.
Box Art.2	118	48	118	49	This section is headed 1-2 C above pre-industrial levels, yet this text talks about 2 C above late 20th century levels. Should this read late 19th century, or do the authors really mean 2 C above late 20th century? If so, should the text read "Without adaptation, additional warming of ..." (European Union)	We apologise for the inconsistencies. This is corrected in the context of the restructuring of the text.
Box Art.2	118	48	118	50	Local temperature increases of 2degC or more above late-20th century levels would put this impact into the next category of 2-4 deg above pre-industrial, which begins on page 119, line34. (European Union)	Corrected in the context of the restructuring of the text.
Box Art.2	118	48	119	4	The 2jC statements are related to present day conditions, therefore they do not fit in the para about 1-2 jC above pre-industrial. (Government of Germany)	We apologise for the inconsistencies. This is corrected in the context of the restructuring of the text.
Box Art.2	118	50	118	50	What is meant by saying "Adaptation is potentially effective up to about 2jC? Does it mean that adaptation is not effective above 2jC? If this is the case, please clarify. (Government of Germany)	This paragraph was revised to reflect the approved WGII SPM.
Box Art.2	118	50	118	51	Not clear if this is referring to 2 deg above pre-industrial, or late-20th century as in the preceding sentence? (European Union)	We agree, and adapted all temperature increases to a pre-industrial reference in the revised version.

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Box Art.2	118	50		51	Adaptation is potentially effective up to about 2°C, with greater benefits for crops in temperate than in tropical regions (RFC 3). {WGII 7.5 WGII SPM B.2} This comment bears no relation to the practicalities associated with agriculture. Assessments of the value of supposedly longer growing seasons, in tandem with elevated CO2 that should increase yields, are only one issue. Changes in weather patterns are delaying spring planting, severely damaging winter crops, and in the case of severe droughts, reducing anticipated yields; there is considerable evidence to support these statements. The continuing upward trend of the UN FAO Food Price Index, in tandem with recent forecasts by scientists for reduced worldwide agricultural production, is proof that the statement is misleading. (Harold David Tattershall, United States of America)	This text was revised in accordance with the approved WGII SPM. However, the SYR must be entirely based on existing IPCC material, and we cannot provide all details in this box.
Box Art.2	118	53	118	53	Footnote: except E unless (scott power, australia)	Footnote revised and simplified. Typographical and language errors will be checked.
Box Art.2	118		118		Footnote 19: The specific number of 0.61 [0.55 to 0.67] degrees C increase between preindustrial (1850-1900) and the end of the 20th century (1986-2005) should be added. (Keigo Akimoto, Japan)	The temperature reference is now pre-industrial in all parts of this box.
Box Art.2	118		120		The text in the box does not consider which level of climate change risk will be associated if countries do not increase the level of ambition beyond the Cancun pledges. However, such information would be very policy relevant and should be included. (Government of Austria)	There is not enough space in the Art 2 box to provide detailed information such as an analysis of the Cancun pledges; this is available in other parts of the SYR.
Box Art.2	118		120		The current text falls short to inform about the increasing role of CDR (eventual in combination with SRM) if emission reductions are further delayed and the global goal of 2 degrees should be met. It is suggested to include such additional information. (Government of Austria)	Negative emission technologies are mentioned but we lack space for more details.
Box Art.2	118		120		Delete the whole Box because the IPCC cannot make recommendations which in this context is very prescriptive and the whole text of the SPM must be relevant for article 2 of the Convention. (Government of Bolivia)	This box is part of the approved SYR outline. The first paragraphs explain how the box is non-prescriptive

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Box Art.2	118		120	Article 2 involves a long term objective to stabilize GHG concentrations in the atmosphere at a level that 1) would prevent dangerous anthropogenic interference with the climate system, and 2) should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure the food production is not threatened and to enable economic development to proceed in a sustainable manner. It is our view that the text in this box, while being kept concise, should cover all the afore-mentioned elements stated in Article 2. In addition to the risks under different temperature rise scenarios, the box should also include descriptions on the preconditions required for achieving stabilization at a given concentration level, including their interaction with food production and economic sustainability. (Government of China)	More consideration is given to all the aspects of Art 2, including food security and sustainability, and this is done both in the area of risks under different temperature increase scenarios and the requirements associated to stabilisation scenarios.
Box Art.2	118		120	Box: It is clear the author pay attention and effort to make this box. However, it is not sure whether this box is as effective as it was designed. We would like to suggest to improve this box, enhancing contents and more logical organisation would be necessary. (Government of Republic of Korea)	The structure was substantially revised.
Box Art.2	118			(Footnote) It would be useful to state the present-day warming above pre-industrial again at this point. Otherwise the statements in this section regarding additional warming (above present day) are hard to place with respect to the warming above pre-industrial. (European Union)	The reference is now pre-industrial for all temperature increases, and the footnote was adjusted.
Box Art.2	118			Following attentions are to be given in this boxed document: - Although the AR5 assesses the temperature increases and mitigation pathways during the 21st century basically, the UNFCCC does not specify any particular time point for stabilizing GHG concentration. - The temperature will continue to increase under a elevated constant concentration due to climate inertia. - From the viewpoint of long-term ice sheet melting, tendencies in the temperature on multiple century time scale after 2100 are more important than increases in the temperature in 2100. (Government of Japan)	Agreed. In particular, sentences on concentrations and sea-level after 2100 are added. The text does not assume concentration stabilisation by 2100 (but we cannot have all the details in a brief synthesis).
Box Art.2	118			Suggest inserting "The report does not recommend any particular option for mitigation" as the very first paragraph of WG3 SPM1 in order not to be understood as policy prescriptive information which is not. (Government of Japan)	New wording was introduced to explain the limits of the mandate of the IPCC. More details appear beyond the scope of this box (there are no references to specific technologies).

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Box Art.2	118			The lines of cite and referencing is not consistent. It should be between braces {} everywhere (now both parenthesis and braces are used). Some times "Topic" is written, some times not (e.g. {topic 4.1} versus {4.1}) Consistency is needed. (Thomas Stocker/ WGI TSU, Switzerland)	Agreed. The guidelines for the SYR require that references to the SYR are provided between parenthesis, while braces are used for references to other parts of AR5.
Box Art.2	118			Here Reasons for Concern is abbreviated as RFC, in the SPM as RfC (no capital f). It should be consistent. (Thomas Stocker/ WGI TSU, Switzerland)	Agreed, will ensure consistency, but it is possible that the acronym will no longer be used in the SPM.
	118			ERROR System tells me following: For comments on Topic 4, the "From Page" and "To Page" must be between 93 and 117. To avoid this problem I stated that my observation is in page 117 but it is in reality for page 118. See below... "Risks for warming between about 1°C and 2°C above pre-industrial" The bullet points shown below line 42 of page 118 could be strengthened with the following points that are strongly supported by the TS of Working Group II. Above 2.6 °C: "very high" risks to systems with limited capacity to adapt, "particularly Arctic sea ice systems and coral reefs". At "recent temperatures": "moderate" risks of extreme events, such as heat waves, extreme precipitation, and coastal flooding, are "moderate", but become "high" at 1.6 °C. At around 2.6 °C: risks go from "moderate" to "high" for crop production and water resources in some countries. Around 1.6 to 2.6 °C: overall risks to the global economy and biodiversity are "moderate" and become "high" around 3.6°C. At around 0.6 to 1.6 °C: "moderate" risks of abrupt or drastic changes to some physical systems or ecosystems . Becomes "high" somewhere between 1.6 and 4.6 °C. Between 1.6 and 2.6 °C there is a "disproportionate increase in risks" of drastic changes because at this warming level the melting of ice sheets could become irreversible and lead to large and irreversible sea level rise. Note: The temperature increases in the above points are all relative to pre-industrial temperatures. But the TS text they are drawn from (pp. 18 and 66) talk about temperature increases relative to "recent temperatures". Therefore, the IPCC numbers for temperature increases from the TS text have been adjusted by +0.6 degrees to make them relative to pre-industrial. [Tabaré Arroyo Currás, Mexico]	The figure assessing the risks of concerns, as well as several parts of the associated text quoted in this review comment, are now included. The temperature reference is changed to pre-industrial in all statements in this box.

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Box Art.2	119	1	119	4	This statement is already included on p. 85, lines 36-37, of the synthesis report. However, unlike on p. 85, here the estimates of global annual economic losses of between 0.2 and 2.0 percent of income are not accompanied by nuanced caveats (p. 85, lines 37 - 40), only stating that they are difficult to value and monetize. The authors should delete this statement here as it is repetitive of the earlier bullet, or if there is a preference for discussing it here need to use the more nuanced language from page. 85 to describe the findings. (Government of United States of America)	The revised text clarifies that "Impact cost estimates are incomplete and depend on a large number of assumptions".
Box Art.2	119	1	119	4	The 'additional temperature increases of 2 deg C' would place this impact in the 2-4 degrees above pre-industrial section beginning line 34. (European Union)	Temperature categories are no longer used in the revised text.
Box Art.2	119	1		2	Many impacts are difficult to value and monetize; estimates of global annual economic losses for additional temperature increases of ~2°C are between 0.2 and 2.0% of income. How these numbers were derived is at best highly questionable. The case could be made that due entirely to increasing tree mortality and crop failures, considerable pressure could be exerted on the extremely fragile world's financial system. In the event of a sustained food crisis it is quite conceivable that system will be placed under stress to the point where there will be extremely deleterious economic impacts. Any doubts about this possibility should be assuaged by reviewing the commentaries of the IMF relative to the fragility of the world's financial system. (Harold David Tattershall, United States of America)	The uncertainties are now highlighted, showing as in WGII that these are incomplete estimates.
Box Art.2	119	2	119	2	Rephrase 'additional temperature increases' as 'additional warming' for consistency. (European Union)	additional temperature increases is no longer used since all increases now have a pre-industrial reference. Other language verifications will be done.

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Box Art.2	119	5	119	8	<p>A reference to AMOC should also be made. While indeed the WGII SPM/TS makes no reference to this, this is the SYR and WGI could provide something on AMOC. Since AR4 SYR states on p. 14 "Based on current model simulations, the meridional over- turning circulation (MOC) of the Atlantic Ocean will very likely slow down during the 21st century;" readers wish to know latest scientific understanding on the impacts of CC on AMOC. this needs to be picked up again (cf. also page 32, lines 47-49 and page 70, lines 16-20 of this SYR). Again I wish to draw authors attention also to WGI TS, TFE.5, p 70ff. Furthermore, what about WAI or even EAI (e.g. Mengel &amp; Levermann, 2014; what is the cut-off date of literature for the SYR?).</p> <p>Cited References: ----- Mengel, M. &amp; Levermann, A., 2014. Ice plug prevents irreversible discharge from East Antarctica. Nature Clim. Change, 4(5): 451-455. <a href="http://dx.doi.org/10.1038/NCLIMATE2226">http://dx.doi.org/10.1038/NCLIMATE2226</a> Me301 (Andreas Fischlin, Switzerland)</p>	<p>We agree that this is one of the mechanisms of climate change, but we cannot have all the details in this box due to space limitations. RFC5 deals with large-scale singular events. Information on AMOC is available in topic 2. Note : the SYR can only include information already assessed in existing IPCC reports, which each have specific cut-off dates.</p>
Box Art.2	119	5	119	8	<p>There is something up with this sentence structure. I think there may be an unintended full stop? (Peter Thorne, Norway)</p>	<p>Sentences are separated in the revised version.</p>
Box Art.2	119	10	119	17	<p>This part should be consistent with the description in the page 27 of the approved WG1 SPM. Especially, this part should describe concrete amounts of &gt;33% probability because abbreviating the information of &gt;33% probability is artificially biased. (Hirofumi Kazuno, Japan)</p>	<p>We cannot have all the details in this box : see topics 2 and 3 for additional information on other levels of probability.</p>
Box Art.2	119	14	119	17	<p>Since most of these numbers are clearly given in WGI SPM, we suggest that you rephrase the existing finding to only describe the remaining amount of CO2 available for the likely case. Please consider the following shorter formulation: "Limiting the warming to likely stay below 2°C relative to pre-industrial require future cumulative CO2 emissions to stay below about 1000 GtCO2, when accounting for non-CO2 forcings.". Also, since this is the SYR SPM it would be very helpful for policymakers if you could provide guidance that would help them to understand that there is a clear linkage with respect to the 2 degree goal between remaining emissions (1000 GtCO2), atmospheric concentrations in 2100 (~ 450 ppm), and the Representative concentration pathway (RCP2.6). (Government of Norway)</p>	<p>This comment is taken into account in the revised text, which provides the remaining cumulative emissions in a simple and clear way. It is not possible to provide more details in this box.</p>

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Box Art.2	119	17	119	17	Typo: blank between "CO2forcings" (Andreas Fischlin, Switzerland)	Noted
Box Art.2	119	17	119	17	The "when accounting for non-CO2 forcings" is not very feasible to understand here. How large are these non-CO2 forcings, how much have already occurred and how much is there fore the future viz. 2oC? (Government of Sweden)	The sentence is simplified and clarified.
Box Art.2	119	17	119	17	Suggest stating plainly that "About two-thirds of this amount has already been emitted" then put the numbers in brackets. This important point should be stated clearly. (Government of Canada)	We used other words but improved the text to clarify this.
Box Art.2	119	17	119	20	Other probability levels need also to be mentioned here, see WGI SPM E.8, 1st bullet, page 27 (Andreas Fischlin, Switzerland)	We cannot have all the details in this box : see topics 2 and 3 for additional information on other levels of probability.
Box Art.2	119	17	119	20	Suggest adding the reference to the Ómeeting the 2;C goal with a >50% probability caseÓ from the WG3 SPMTTable.1 as below.  Ò..and meeting the 2_ goal with a >50% probability will require GHG emissions reductions of roughly 40% to 55%(without overshoot), 25%~55%(overshoot of 530ppm )in 2050 relative to 2010Ó (Government of Japan)	We cannot provide all the details in this box. Please see topic 3.
Box Art.2	119	17	119	20	Based on the Table 6.3 of WG3 Final Draft, this part should describe "Meeting the 2;C goal with a >50% probability will at most require GHG emissions reductions of roughly 55% and at least accept GHG emission increase of 4% in 2050 relative to 2010" because abbreviating the information of >50% probability is artificially biased. (Hirofumi Kazuno, Japan)	We cannot have all the details in this box : see topics 2 and 3 for additional information on other levels of probability. Note : the numbers provided in this review comment do not appear to be consistent with the approved WGIII table SPM.1.
Box Art.2	119	17	119	20	According to the Table 6.3 of WG3, should be the number of ">66%" changed to ">63%" (or ">73%" when the middle of the range is used.)? Please describe it precisely. (Keigo Akimoto, Japan)	The numbers cited in the FOD version of this box are from WGIII SPM. We did not find inconsistencies.
Box Art.2	119	17	119	20	Add the case of 480-530 ppm CO2eq, which is >39% (or >54% when the middle of the rage is used) for 2 deg C increase. In this case, the emission in 2050 is between -57% and +4% relative to 2010. This should be added. (Keigo Akimoto, Japan)	The numbers provided in this comment are not consistent with the approved WGIII SPM and report. Additional numbers a provided in the topics, while the Art 2 box needs to be very concise and thus concentrate on the numbers most closely associated with Art 2.

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Box Art.2	119	17			Meeting the 2°C goal is not appropriate language. The correct citation should refer to the "long-term global goal to reduce GHG emissions so as to hold the increase in global average temperature below 2°C above pre-industrial levels". It is important to note that 2°C is not a goal, but a limit. (Government of Germany)	Thank you, this comment is well taken, and is taken into account in the revised text.
Box Art.2	119	19			Numerous modeling results reviewed in WG I and III indicate emissions that are near zero, zero or negative before 2100 in order to stay below a two degree limit. (Joseph Alcamo, Germany)	The wording was changed to "by 2100" for clarity (emissions levels near zero GtCO <sub>2</sub> eq or below in 2100 are a characteristic of those scenarios, see WGIII SPM page 13).
Box Art.2	119	19			Please use the text from the WG3 SPM P15: "Scenarios reaching atmospheric concentration levels of about 450 ppm CO <sub>2</sub> eq by 2100 (consistent with a likely chance to keep temperature change below 2°C relative to pre_industrial levels) include substantial cuts in anthropogenic GHG emissions by mid_century through large_scale changes in energy systems and potentially land use (high confidence). Scenarios reaching these concentrations by 2100 are characterized by lower global GHG emissions in 2050 than in 2010, 40% to 70% lower globally <sup>16</sup> , and emissions levels near zero GtCO <sub>2</sub> eq or below in 2100. [..]. At the global level, scenarios reaching 450 ppm CO <sub>2</sub> eq are also characterized by more rapid improvements of energy efficiency, a tripling to nearly a quadrupling of the share of zero_ and low_carbon energy supply from renewables, nuclear energy and fossil energy with carbon dioxide capture and storage (CCS), or bioenergy with CCS (BECCS) by the year 2050 (Figure SPM.4, lower panel). These scenarios describe a wide range of changes in land use, reflecting different assumptions about the scale of bioenergy production, afforestation, and reduced deforestation. All of these emissions, energy, and land_use changes vary across regions. (Government of Germany)	Thanks for the comment. We use this text as a basis, but cannot have all details in this box, which needs to be concise and cover several aspects related to Article 2.
Box Art.2	119	19			0 °C and emission levels near zero GtCO <sub>2</sub> eq or below in 2100. (Joseph Alcamo, Germany)	no comment provided.
Box Art.2	119	20	119	20	Not "in 2100" but "by 2100" or perhaps even "before 2100" (several scenarios start with negative emissions before that date) (Andreas Fischlin, Switzerland)	The wording was changed to "by 2100" for clarity (emissions levels near zero GtCO <sub>2</sub> eq or below in 2100 are a characteristic of those scenarios, see WGIII SPM page 13).

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Box Art.2	119	22	119	27	<p>This paragraph seems to be biased in favour of highlighting risks of mitigation rather than benefits of mitigation especially in terms of synergies with sustainable development and opportunities for co-benefits. The statement on line 26 that "some mitigation efforts could undermine action to promote sustainable development and equity", when provided alone without other text highlighting the threats to sustainable development and equity of unmitigated climate change, is misleading. This is especially the case when read in conjunction with following sentence stresses that such risks would be incurred more rapidly with mitigation aimed at limiting warming to 2degC. Recommend revising to provide a more balanced discussion of the risks of both mitigation and climate change for sustainable development and equity. (Government of Canada)</p>	<p>Agree. Most of this paragraph has been rewritten.</p>
Box Art.2	119	22	119	32	<p>Language is not always fully balanced and a bit much emphasis is given to the negative consequences of ambitious mitigation without proper balance. Co-benefits are only mentioned first by saying that they were excluded from mitigation cost estimates and then in a particular context only (line 31). While I do not believe that cost-benefit analysis is the only, let alone best possible approach to get a better balance, value judgment is to be enabled by all the information given here. I ask therefore authors to carefully consider this para while being mindful of a proper balance.</p> <p>Finally I also believe something needs to be said here in terms of keeping warming below 1.5jC relative to pre-industrial. By how much would here the negative effects become stronger relative to a 2jC goal? (Andreas Fischlin, Switzerland)</p>	<p>Agree. Most of this paragraph has been rewritten.</p>

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Box Art.2	119	22	119	32	<p>This paragraph remains obscure. It is not clear to the reader what is meant by risks of reducing emissions, and the fact that no-action would entail potentially even larger risks is omitted. Furthermore, several statements are ambiguous and easy to be misunderstood. Particularly:</p> <ul style="list-style-type: none"> <li>- Line 23: It should say "will entail its own risks AND CONSEQUENCES. There may be different perceptions whether or not some consequences are considered as "risks".</li> <li>- Line 30-32: The words "to varying degrees" should be inserted. Thus the sentence would read: "All energy technologies <math>\text{\textcircled{D}}</math> including bioenergy, nuclear power, carbon capture with storage, hydropower, and even wind power <math>\text{\textcircled{D}}</math> are, to varying degrees, associated with both risks and possible co-benefits when deployed at large-scale." Otherwise one might have the impression that the risks of the technologies enumerated are considered to be equal. (Government of Germany)</li> </ul>	<p>Agree. Most of this paragraph has been rewritten.</p>
Box Art.2	119	23	119	25	<p>The description of "between 0.04 to 0.14% per year" should be changed to "3% to 11% (median: 4.8%) in 2100 relative to consumption in baseline scenarios", as described in the page 17 of the approved WG3 SPM in order to compare easily the economic losses for additional temperature increase (0.2-2.0%) with the reduction of the economic growth (3-11%) caused by 2 degree target. It is misleading to show only the reduction of the economic growth caused by 2 degree target in the form of annual rate. (Hirofumi Kazuno, Japan)</p>	<p>Both mitigation and impacts related costs were annual costs in the FOD draft. However those numbers cannot be directly compared, due to their limitations, as explained in the revised text.</p>
Box Art.2	119	23	119	25	<p>between 0.04 to 0.14% per year should be deleted. If you do not delete this, the same kinds of description is needed for climate change impact costs of 0.2-2.0% in Line 2. (Keigo Akimoto, Japan)</p>	<p>Both mitigation and impacts related costs were annual costs in the FOD draft. However those numbers cannot be directly compared, due to their limitations, as explained in the revised text.</p>

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Box Art.2	119	23	119	32	Though there seems to be much attention given to the economic impacts of reducing emissions in the text here, , request revision to more balanced text, based on text from SPM of the 3 AR5 working groups. In association with potential reduction of aggregate economic growth by 0.04% - 0.14%, request reference to other aspects of a cost-effective scenario, including forecasts for economic growth at a rate of 1.6 Ð 3% in this century, potential cost reductions resulting from stringent measures accompanied by co-benefits including mitigated air pollution and energy security, as well as other non-monetary co-benefits. (Government of Japan)	Most of this paragraph has been rewritten and the points made in this comment have been taken into account in the final paragraph.
Box Art.2	119	23	119	32	Under the absence or limited availability of technologies, mitigation costs can increase substantially depending on the technology considered. Delaying additional mitigation further increases mitigation costs in the medium to long term.(WG3 SPM, p.17) should be added here. (Keigo Akimoto, Japan)	The consequences of delay or unavailability of technologies are mentioned in the revised text.
Box Art.2	119	24	119	24	There are two sets of numbers about economic impacts on page 119 : this set, stating that reductions in aggregate economic growth of 0.04 to 0.14% per year over the century are possible from mitigation consistent with limiting warming to 2degC, and the numbers on line 2 stating that annual global economic losses of 0.2 to 2.0% of income are possible with global warming of about 2degC this century. This Box needs to address these two numbers directly and state whether or not they can be compared in order to make this clear to the reader. (Government of Canada)	Agreed. The costs of mitigation and of impacts cannot be directly compared, due to their limitations, as explained in the revised text.
Box Art.2	119	24	119	25	We suggest to add to the sentence in the parenthesis: "..., not including benefits from reduced climate change or the value of co-benefits of mitigation action" (Government of Denmark)	Agree, taken into account in the revised text.
Box Art.2	119	25	119	25	Typo: blank at begin of sentence (Andreas Fischlin, Switzerland)	Indeed.
Box Art.2	119	30	119	32	Request addition of discussion that the co-benefits of energy-demand side measures outweigh adverse side effects to ensure a more balanced message, as currently this paragraph only refers to energy-supply side technologies such as bioenergy, nuclear energy, CCS, hydropower, and wind power and that they are associated with possible co-benefits. (Government of Japan)	Paragraph entirely rewritten following restructuring of the box.

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Box Art.2	119	30	119	32	This sentence lumps together energy technologies, without delivering any differentiation in regard to particular technologies and their particular risks. We question, whether this broad statement is helpful for policymakers. In addition, this statement is already given in topic 3.4, which raises a question: Does the information given here not suit better at the beginning of the subsection? Our impression is, that the relevant framework of the IPCC work should be displayed more prominent, at least not at the end of this document. (Government of Germany)	This sentence is deleted.
Box Art.2	119	31	119	31	Please consider to replace "carbon capture with storage" with "carbon capture and storage" and delete "even" before "wind power" (Government of Norway)	This sentence was deleted.
Box Art.2	119	34	119	34	As per our comment on line 42 of page 118, this header needs to encompass not only the risk information but also the scenario information and therefore should be revised to say (e.g.) "Pathways to and risks from warmingÉetc." (Government of Canada)	This subtitle was deleted when restructuring the contents of the box.
Box Art.2	119	38	119	40	I doubt this term "many" is appropriate here (in both bullets). I suggest "The majority" in the 2nd bullet. Rationale: This is first inconsistent with previous formulations (e.g. page 63, line3 talks of "major groups", while "many" is already used on p. 61, lines 21-23 for any scenario > RCP2.6, while not saying that significant numbers, e.g. coral reefs may already be at very high risk < 2°C! or p. 119, and finally not the least between the two bullets) and secondly inappropriate when talking about such BAU scenarios as RCP 8.5. It also does not justice to aforementioned fact that some species - which means in the biodiversity rich case of coral reefs even a very signifant fraction of marine biodiversity - may already be at considerable risk with RCP2.6. More precise, more balanced, clearer language is needed in lines 38-47. (Andreas Fischlin, Switzerland)	We considered this and checked the consistency with other sections. The wording used in this box is taken from the SPM of WGII. The restructuring of the Art2 box text places this sentence in a more appropriate context.
Box Art.2	119	38	119	54	Please check the temperature indications. A mix of "additional warming" and "warming" are used now and these are in footnote 19 on page 118 mentioned to refer to different base periods. If the present alternative usage is correct, suggest quoting numbers based on same reference period. (Government of Sweden)	All temperatures increases are now relative to pre-industrial. We apologise for the errors in the FOD.
Box Art.2	119	39	119	39	The use of "additional warming" is confusing; why not simply say 4 C above preindustrial levels, as is used on line 47? (European Union)	Agreed. All temperature increases are now based on a pre-industrial reference.
Box Art.2	119	40	119	40	Lack of consistency in mid-high, medium-high statements. Suggest using 'medium or 'mid' but not both. (European Union)	This wording is from the approved WGII SPM. We think that it is appropriate in this context.

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Box Art.2	120	5	120	12	<p>This section is very short, yet discusses very serious problems that are likely to occur if warming exceeds 4C. It should be expanded to clearly state all risks under a high amount of warming.</p> <p>Section should contain key statements on risks and impacts of 4 C warming or more, yet is very brief. For example, there is no discussion of a potential AMOC slowdown or collapse; a collapse under sustained warming beyond 2100 cannot be ruled out. Such a collapse would result in much colder temperatures over Europe and other parts of the Northern Hemisphere. Similarly, mass loss from Greenland and Antarctica could accelerate resulting in high sea level rise. Does the risk of large amounts of methane release from permafrost, wetlands or gas hydrates increase substantially? (European Union)</p>	<p>This paragraph was rewritten due to the restructuring of box. However, not all details can be provided explicitly. The added figure provides a more comprehensive coverage of RFCs.</p>
Box Art.2	120	5	120	12	<p>The section on the risks of a 4°C warming is very short and does not properly convey the message of the risks of this level of warming. Please improve text. (Government of Germany)</p>	<p>This paragraph was rewritten due to the restructuring of box. However, not all details can be provided explicitly. The added figure provides a more comprehensive coverage of RFCs.</p>
Box Art.2	120	7	120	7	<p>Does "above 4oC warming" imply that this is not the case for &lt;4oC? Or is the statement worded as it is because the assessment has focused on 2 and 4 degrees, respectively? It would be good to be clear whether 4oC is a clear threshold and what occurs between 2 and 4oC warming. (Government of Sweden)</p>	<p>This paragraph was rewritten due to the restructuring of box. There is no longer any suggestion that 4°C could be a threshold, and the figure also contributes to provide more clarity.</p>
Box Art.2	120	8	120	8	<p>I am against the use of "species extinction" in general and suggest to use the term "extinction risk" (write here: "include substantial species extinction"). Extinction themselves may require lots of time to realize, even in BAU scenarios for species perhaps already now committed to extinction, while humans can also possibly influence this by conservation measures etc. etc. (actually a very long story). Conservation biology on the other hand uses the well established term "extinction risk" that has also an entire body of standardized handling behind (e.g. IUCN criteria). I suggest therefore to use "extinction risk" and to stay away from any statements on actual extinctions, the latter being so hard to project/predict. (Andreas Fischlin, Switzerland)</p>	<p>Agreed, wording adapted.</p>

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Box Art.2	120	14	120	24	In the section of "Interaction with sustainable development", it is not mentioned that the assessment of mitigation policies should be conducted in the framework of sustainable development which is one of the key messages from SPM, WGIII. The following sentence from the SPM of WGIII should be quoted: "Sustainable development and equity provide a basis for assessing climate policies". (Songli Zhu, China)	We need to focus on the main aspects relevant to Article 2, and we cannot include each key message from the WG SPMs.
Box Art.2	120	16	120	24	This paragraph should explain the possibility that mitigation costs have impact on economic growth and cause economic losses. (Hirofumi Kazuno, Japan)	Information on the costs of mitigation is provided in the last paragraph of the revised text.
Box Art.2	120	16	120	24	Negative impacts due to climate change hamper sustainable development but large mitigation costs also hamper sustainable development. The possibility to hamper sustainable development due to climate mitigation costs should be also described. (Keigo Akimoto, Japan)	Information on the costs of mitigation is provided in the last paragraph of the revised text; an explanation on the difficulty to compare costs related to impacts and to mitigation is also provided.
Box Art.2	120	25	120	26	The statement that "some mitigation .efforts could undermine sustainable development and equity efforts" should be deleted as it is misleading and inconsistent. At a minimum it should be qualified with a caveat adding after the words "for some" because the majority of findings across WG 2 and 3 show losses from every degree of warming (Farhana Yamin, United Kingdom)	This sentence was deleted (note : the comment relates to page 119)
Box Art.2	120	30	120	34	Is this now another topic or does it belong under the heading "Interaction with sustainable development". I believe this to be rather a separate topic that should be set apart. (Andreas Fischlin, Switzerland)	Agree. This paragraph is now removed from the box on Art 2.
Box Art.2	120	30	120	34	This paragraph that doesn't add much to what is already said in this Box. Consider deleting. (Government of Canada)	Agree. This paragraph is now removed from the box on Art 2.
Box Art.2	120	56	120	57	Line 56 said "more likely than not to exceed 2 degree C for RCP4.5" but following the Table 6.3 at WGIII (page 24) RCP4.5 is "likely to exceed 2 degree C because its probability is "74-93" and "88-95". I am sorry I confused.. (Takashi Hongo, Japan)	This comment relates to page 119. The numbers were from WGI SPM and are appropriate when considering a specific RCP scenario. Those numbers could not remain in the revised text due to space constraints.