

## Expert and Government Review Comments on the IPCC WGIII AR5 Second Order Draft – Chapter 13

Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
34018	13					This Figure is in general useful, but the indicated link between the EU ETS and the Australian ETS is misleading as this link has not been formally established yet. The status is that a link is to be negotiated. In general, care should be taken that this figure incorporates the most recent information on the state and trends of global carbon markets. The World Bank publishes a comprehensive annual review of this topic, usually in May, which should be considered in the Third Order Draft.	Accepted. Info checked. The mentioned report has been released. It confirms advanced official negotiations are in place between EU and Australia (full linking is expected by 2018). Text clarified accordingly. There will be a last minute check on this.
25474	13					In general this chapter is quite repetitive and contains unnecessary details and hence it is very long. In particular Sections 13-5 to 13-13 should be shortened. On the other hand, section 13.14. 'Gaps in knowledge and data' is extremely short and quite superficial	Taken into account
34437	13					A box highlighting key issues for LDCs as included in almost all other chapters should be added to the chapter.	Accept
33189	13					As agreed in Vigo, could you please insert a cross-reference to Chapter 15, section 15.10.2, for discussions of the capacity to formulate and implement policies	Accepted. Cross reference to chapter 15 of WG III is added.
20651	13					Cut by 25%.	Rejected. Proposed cut is too severe.
33190	13					A cross-reference to the relevant chapters in the Working Group II report should be included here.	Accepted. Cross reference to relevant sections in WG II report included here 2.2.21 dealing with "institutions for capacity building", as well as 3.6.4 dealing with capacity building.
20652	13					Cut by 25%.	Taken into account - All sections have to be cut down, so this has also been reduced a little.
20653	13					Cut by 25%.	Noted – this comment does not make a specific suggestion
33187	13					With the performance assessment at the end of the chapter some redundancies regarding the description of international policies and cooperation approaches are introduced. A thorough edit should remove this material from this section (and other sections in the chapter) and collate it in one place, possibly section 13.4.	Accepted. Very careful read of 13.4, 13.5 and 13.13 undertaken. Significant edits to 13.13 carried out to minimize redundancy.
20654	13					Cut by 25%.	Taken into account. Substantial textual edit of the whole section undertaken.
20643	13					Cut by 25%.	Taken into account - text is being edited to remove repetition and to reduce length of text.
23372	13					This section could be shortened since it is (at least in parts) repetitive to subsequent subsections; e.g. explanation of cost efficiency, cost effectiveness is almost at the same level of depth	Taken into account - text is being edited to remove repetition and to reduce length of text.
20644	13					Cut by 25%.	Reject at this general level, though major cuts of the texts have been implemented.
33185	13					Redundancies and suggestion for shortening: this section may be combined with section 13.3.4 on compliance to streamline the discussion and avoid redundancies.	Accept: Text has been substantially shortened, despite compliance and participation remain two subsections.

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33188	13					Redundancies and suggestion for shortening: this section may be combined with section 13.3.3 on compliance to streamline the discussion and avoid redundancies.	Accept: Text has been substantially shortened, despite compliance and participation remain two subsections. In particular the discussion on compliance has been reduced substantially.
20645	13					Cut by 25%.	Taken into account. Extensive edits carried out have shortened the section.
31194	13					This section on Current Features appears to be very mitigation-specific. Are there policy architecture issues related to adaptation, finance, geoengineering, etc. that may also merit consideration, either within the context of these sub-headings or as additional sub-sections?	Accepted. Added sentences at the beginning of 13.4 to flag that although this discussion focuses on GHG mitigation, the four elements also apply to adaptation, finance, etc.; and added mention that "measures to facilitate adequate adaptation" are also called for in FCCC Art. 4(1)(b).
33186	13					Some of this material - especially of a descriptive nature - may be better moved to and merged with section 13.3.3 and/or 13.3.4.	Reject. 13.3 refers to eplanations of why actors may cooperate and thus how participation in agreements may be elicited. 13.4 describes more empirically different elements that are contained in the content of agreements. So even if terms like "participation" are used, the context and purpose is different. 13.4 has however been edited down to be more concise and precise.
33191	13					Please note that according to the glossary definition of WGIII, mitigation is "a human intervention to reduce the sources or enhance the sinks of greenhouse gases.". As such, it does not include activities related to Solar Radiation Management. Hence, when discussing climate policy and SRM options a careful wording is required to make this distinction clear and to provide a balanced assessment of this controversial issue.	Taken into account. First sentence of 13.4.4 deleted and following sentence revised. The text is careful to avoid referring to SRM as mitigation.

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29723	13					<p>We suggest that this section, which is about the governance of geoengineering, be DELETED or heavily EDITED to more accurately reflect the speculative nature of CDR and SRM. The UN CBD Decision X/33 is relevant here and should be made noted. Deployment of geoengineering cannot be left up to private actors or a group of countries. The United Nations is the only forum for the governance of such technologies. In our comments on the FOD, we suggested text to discuss the governance of geoengineering, which was not accepted. For the SOD, we suggest the following text:</p> <p>The only multilateral decisions on geoengineering technologies to-date are those established at the Convention on Biological Diversity (CBD) on ocean fertilization (2008) and all geoengineering activities that may affect biodiversity (2010) and the decision of the London Convention/Protocol (which has limited membership as compared to the CBD -- 87 States are Parties to the London Convention; 42 States are Parties to the London Protocol; 193 States are Parties to the CBD), which holds that, given the uncertainty surrounding negative impacts, ocean fertilisation other than 'legitimate scientific research' should not be permitted. The London Convention/Protocol has established an assessment framework, including criteria for determining legitimate scientific research. The CBD's Technical Series papers on geongineering impacts deserve a mention in Chapter 13 and a place in chapter 13's bibliography: CBD study on the impacts of climate-related geoengineering on biological diversity (UNEP/CBD/SBSTTA/16/INF/28) and CBD study on the possible impacts of geoengineering techniques on biodiversity and associated social, economic and cultural considerations (UNEP/CBD/SBSTTA/16/INF/30). The environmental modification treaty (ENMOD) also has relevance for the governance of geoengineering. See ETC Group 2012. (ETC Group, "Darken the sky and whiten the earth: The dangers of geoengineering," _Development Dialogue_ no. 61, September 2012, pp. 210-237.)</p>	<p>Taken into account. Additional qualification added regarding the character of these techniques, although the term "speculative" is too strong at least for some such techniques. Cross-references to chapter 6 and to WG I chapters also contain additional detail not relevant for this section. References to the CBD and the London Convention/Protocol included now that paragraph has been moved from 13.5.1.2 to this section - moving up this paragraph also makes clear that the focus of the section is on international cooperation around the regulation of CDR/SRM deployment. Text also edited down significantly.</p>
20646	13					Cut by 25%.	Accept
26636	13					ISO50001 or other relevant standards negotiation may be referred to as Non-UN forums.	Rejected - ISO50001 is an energy management standard. While it is climate-relevant, it is not explicitly focused on climate change mitigation. Other fora mentioned here are more relevant.
33184	13					Redundancies and suggestion for shortening: material from this section may be better moved to and merged with section 13.3.3.	Accept: Section 13.3 has been shortened with aim to avoid redundancies.
20647	13					Cut by 25%.	Taken into account - Although there are no reasons given for cutting down the text, we have edited the text.
20648	13					Cut by 25%.	Noted. Need to cut text already known. No specific reason given for focusing on this section. Will short other subsections. This one is balanced.
33183	13					Redundancies and suggestion for shortening: sections 13.3.3 and 13.3.4 both briefly discuss trade-related matters; this material may be shortened and moved to 13.8. Also, section 13.8 itself may be shortened and focused.	Taken into account - sections coordinated and shortened.

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20649	13					Cut by 25%.	Taken into account - some deletions have been made to reduce length by about 15 lines but at the same time additions have been necessary to respond to many of the comments+W518
20650	13					Cut by 25%.	Taken into account. The text will be edited down to the appropriate length
20187	13					The effects of IP as an obstacle for the transfer of technology, incidentally mentioned in Chapter 3 should be further elaborated on here (see comment 10 above). Since patents and other IP rights confer exclusive rights, right-holders can decide whether to grant or not a license and determine the price and other conditions (often including restrictive practices such as grant-back provisions, tying clauses and export restrictions). Hence, the existence of IP, by its very nature, creates an obstacle to transfer of technology, particularly when the right-owner opts to supply a foreign market through exports. Compulsory licenses may be used in such situations, and competition laws applied in cases of abuses of such rights.	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.
33193	13					The discussion of the impact of IPR on technology transfer should ensure to incorporate a broader set of perspectives and take note of the framing provided by Chapter 4 in section 4.3.6 (page 30, lines 11-25).	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.
35299	13	0				UNFCCC and its Kyoto Protocol are the legal basis and fundamental framework for the international cooperation to combat climate change, and are widely recognized as the main channel of international climate change negotiations. Any international or regional cooperation initiatives may facilitate the implementation of the Convention, but shall not replace the Convention. As an intergovernmental body, the IPCC is expected to strengthen the understanding of climate change in order to better address climate change. It should therefore attach more attention on the UNFCCC process where the major intergovernmental efforts have been and will be made instead of various other initiatives which are far less influential and effective. We are very concerned that the deviation of focus will eventually undermine the efforts made under the UNFCCC process and compromise the achievement to be made in future. Therefore, it is suggested to adjust the content and underlying structure of Chapter 13 accordingly.	Reject. UNFCCC and KP is already included in the discussion. Regime complex is a fact.

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35300	13	0				This chapter should have had adequate discussions on how the principle of equity and CBDR can be reflected in various international agreements, and on the technology transfer and financial support which are of deep concern to developing countries. Although a specific section is devoted to technology transfer and financial support, it provides only general discussion on these issues and lacks targeted discussion on the concerns of developing countries. It is suggested to rewrite this section accordingly.	<p>Taken into account by adding to Section 13.4.2.4, which already discusses equity and CBDR. In section 13.13, each architecture and policy design is assessed for its performance by applying the criteria set forth in section 13.2.2, including distributional equity.</p> <p>Taken into account - several sentences with references added to section 13.9 and with cross references to other sections in chapter 13 and to chapters 3 and 4</p> <p>How CBDR can be applied (empirically) is becoming more complicated because emissions shifting – insert reference to Ch. 4.7.3 and expand the discussion in Ch. 13 @13.2.1.2</p>
35301	13	0				When referencing to the provisions of the Convention and COP decisions, it is required to be precise and accurate. The IPCC report should not prejudge the outcome of the negotiation, such as the description about ADP on page 19, line7-8, and line 26-29.	Accept: appropriate changes have been implemented. Combined with comment #22345
35302	13	0				Discussion on technology transfer is insufficient in this chapter. Thus, it is suggested to add systematic and coherent discussion on technology transfer to this chapter, focusing on international cooperation on promoting TT	Taken into account - Technology transfer is covered in a whole section (13.9) that has been significantly revised.
40947	13	0				Chapter (13) should address in particular the pros and cons of MBM SOD of Chapter 13 highlights MBM as part of discussion on 'Assessment of further agreements under the UNFCCC'. It is however, necessary to provide review of pros and cons to the use of MBM for mitigation and adaptation in developing countries in relation to energy prices, energy access, sustainable development, burden sharing, distributive and spillover implications.	Reject - This topic is considered in 13.4.2.3. and assessment is provided in 13.13. Comment is not specific enough on what should be added.
40957	13	0				Some judgmental/value statements made in Chap. 13 regarding nature of Durban Platform reflect the political perspectives of developed countries in the UNFCCC – particularly with respect to what the outcome could be of the ADP negotiations.	Accept: appropriate changes have been implemented. Combined with comment #22345
40958	13	0				In evaluating the international cooperation arrangements or mechanisms, the SPM, the Technical Summary, and Chapter 13 present a theoretical construct of a graduation from “strong multilateral” to decentralized mechanisms, classifying the UNFCCC and the Kyoto Protocol as an example of a “strong multilateral” mechanism that, however, is not effective, and then contrasting that theoretical scenarios and assumptions regarding the utility and effective of decentralized mechanisms.	Reject, we do not refer to “graduation” of one to the other. We also distinguish between ex-post and ex-ante assessment.
31114	13	0				Please verify consistency of uncertainty assessment in this chapter with the guidance note on uncertainty. In many cases, both confidence and agreement/evidence qualifiers are provided. Are both to be used simultaneously? In some cases, uncertainty assessments also seem to be used for statements of fact as well.	Accept

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34017	13	0				The treatment of the international cooperation option "Linking of domestic emissions trading schemes" is dispersed across Chapters 13, 14 (14.3.2.1), and 15 now, and requires integration. It seems obvious that the major treatment should be in Chapter 13, with Chapter 15 adding the national perspective and effects on this option. Even within chapters, integration can be improved: In Chapter 13, treatment of linking ETS is now dispersed across Sections 13.4.1.3, 13.6, 13.7.2, and 13.13.2.1 with the latter two offering the most comprehensive list of relevant references and offering the qualitatively best review of the topic which should be the point of reference of all other reviews of the overall WGIII report. In Chapter 15 the issue is treated in 15.5.3.6, and in 15.8.1 where the treatment is remarkably sloppy without references, not taking into account (in terms of quality of content, and referencing) the level of the available peer-reviewed literature. It is not obvious that this topic should be treated in Chapter 14. As a side note, the following publication attempts to offer a comparative analysis of different international emissions trading architectures and may be useful in structuring the assessment of linked schemes: Flachsland, C., R.Marschinski, O. Edenhofer (2009): Global Trading versus Linking. Architectures for international emissions trading. Energy Policy 37, 1637–1647.	Accept. Check links with chapter 14 and 15. Comment with CLAs. Related to #1007. Other similar references to the one suggested are already in the chapter
21305	13	0				While the current text provides a thorough description of the current situation in international cooperation, it does not provide policy-relevant information for policymakers in a way that will assist them to weigh the options and make decisions about the functions and content of the 2015 UNFCCC Agreement.	In process to sharpen key findings without making policy recommendations. Table 13.4 does this.
21306	13	0				While the importance and advantages of international cooperation to addressing climate change are mentioned a few times in the chapter, the tone is somewhat negative, focusing more on the challenges. The chapter should put a greater emphasis on the need for international cooperation to address the threat of climate change and the benefits it can provide. For example, the authors should add the following text on p. 9 after line 15 to the end of the paragraph: "As described below, international cooperation is essential in addressing global climate change to reduce costs, improve transparency and enhance ambition." In addition, the advantages of international cooperation (e.g. cost-effectiveness, improved efficiency, etc.) should be addressed in greater detail. It is recommended that the following be added at the end of the FAQ 13.1 on page 10: "For additional discussion of the advantages of cooperation in addressing global warming see Hare, W. et al. (2010) The Architecture of the Global Climate Regime: A Top-Down Perspective. Climate Policy 10, pp. 600-14 (discussing how global cooperation on climate change can increase ambition, reduce transaction costs and improve transparency); Biermann F. et al. (2009) The Fragmentation of Global Governance Architectures: a Framework for Analysis. Global Environmental Politics 9(4) (emphasizing the need for cooperation to achieve results on climate change); Winkler, H. & Beaumont, J. (2010) Fair and Effective Multilateralism in the Post-Copenhagen Climate Negotiations. Climate Policy. 10 (6) (highlighting the need for countries to cooperate on global climate change rather than put national interests first); Bell, R. et al. (2012) Building International Climate Cooperation: Lessons from the Weapons and Trade Regimes for Achieving International Climate Goals. WRI: Washington, DC. <a href="http://pdf.wri.org/building_international_climate_cooperation.pdf">http://pdf.wri.org/building_international_climate_cooperation.pdf</a> (stressing the importance of international cooperation and how it could be improved based on lessons from other regimes); Schneider, S.H. et al. (eds) (2010) Climate Change Science and Policy. Island Press: Washington, DC (discussing throughout the reasons for international cooperation)."	Accept. Related to #1000. Most references suggested are already included in our chapter
22162	13	0				The overview of country policies is not an accurate representation of the state of play or of the literature. Country work on LEDS is not reflected, the number of countries with pledges has been misquoted. There are also problems with the methodology to identify whether a country has a climate policy which leads one to say that Colombia or the US has not policy which is not accurate.	Reject. This chapter is not on domestic policies. Colombia is only cited in terms of its participation in alliances.

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19735	13	0				Suggest to add the content of global integrated platform for CO2 emission, water resources, and food supply.	Reject - comment unclear
41620	13	0				On p. 5, line 9-10 - and throughout the chapter - there is a lot of focus on how "cooperation" is necessary. But, actually it's global "ambition" that's needed, not necessarily cooperation; a slew of disjointed policies - while perhaps not the most efficient path - could readily achieve a given climate goal, but only if global (mitigation) ambition is great enough.	Accepted, the ES has been rewritten
41621	13	0				The chapter often reads in a fairly disjointed manner. A better narrative would be along the lines of here is the problem, here are the theoretical issues associated with addressing the problem, here are the variety of responses which have been made and their effectiveness, and here are some alternative approaches which have at least been suggested.	Taken into account
41622	13	0				The nature of the challenge. Yes it is an international public good, but the authors need to be a little clearer on why international collective action is difficult in response. They make the argument that international collective action is necessary, but they fail to address from the outset the major impediments to international collective action. This is pretty consensual in the political economy and international relations literature, and involves the difficulty of verifying policies, difficulty of enforcement, and enduring doubts (many strategic) about the impartiality and utility (or "usefulness") of the climate science summarized by the IPCC. For their application to climate change see (Victor 2006; Haas 2008) These are important analytic themes which could be used as subheadings for the discussion of actual efforts to address climate change. Solutions to such collective action problems take the forms of leadership, institutional incentives (most of what get called policies in this chapter) and the diffusion of strong new information. (for general literature review see Haas 2010, for analysis of effective scientific inputs see Haas and Stevens 2011) (Haas 2010; Haas and Stevens 2011) These broader mechanisms need to be recognized, beyond the narrow institutional solutions and sweeping normative solutions that this chapter offers. FAQ 13.1 seems limited in this regard.	Taken into account. Related to #1000.  Accepted reviewing references by Haas and Victor (including more recent references)  FAQ also rewritten accordingly
41623	13	0				The authors should consider revising the discussion in the chapter with consideration given the following references: Haas, P. M. (2008). "Climate Change Governance After Bali." <i>Global Environmental Politics</i> 8(3): 1-7 Haas, P. M. (2010). <i>Environment in the Global Political Economy</i> . The International Studies Encyclopedia. R. A. Denemark. Malden, MA, Blackwell. 3: 1490-1511. Haas, P. M. and C. Stevens (2011). <i>Organized Science, Usable Knowledge and Multilateral Environmental Governance</i> . <i>Governing the Air</i> . R. Lidskog and G. Sundqvist. Cambridge, MIT Press: 125-161. Victor, D. (2006). "Toward Effective International Cooperation on Climate Change." <i>Global Environmental Politics</i> : 90-103.	Taken into account. References already suggested in #1024.
41624	13	0				The term "Policy" is used frequently and is never sufficiently defined. Sometimes policy seems to be creating the setting for policies - such as international institutional design (section 13.4) - and sometimes it is more traditional policy instruments - such as taxes, permits, etc. More clarity is warranted.	Noted - definition of policy should be clarified in framing chapters, if at all
41625	13	0				There seems to be a lot of redundancy in this chapter. Many of the topics were touched on more than once, often with very little difference in approach; the background/theory/context might be laid out once in the absence of assessment of how well an instrument or suite of instruments might be working and then later, the assessment would come in, with a bunch of accompanying background. It was dense and repetitive. A thorough read by one author and strong editor is necessary to pare down redundant, extraneous, repetitive text.	Noted

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41626	13	0				It is unfortunate that a Chapter on Agreements and Instruments does not mention the recent Global Energy Assessment (2012) which contains 4 chapters and some 200 pages on policies to achieve various ends. At the very least the GEA provides an opportunity for AR5 to bridge the gap between specific policies and their role in international cooperation, the subject of this chapter. The authors should consider including a discussion on this effort.	Accepted. Reference to GEA added
41627	13	0				Authors present framing concepts and potential criteria for assessing means of international cooperation. But the chapter fails to compare the relevant literature reviewed in this assessment report to the one reviewed for AR4. What has been the knowledge gain in concepts and criteria for assessing international cooperation since the last assessment report? How has the literature and the scholar community evolved on framing the concept of international cooperation to solve the urgent problem of climate change? The same can be said about climate policy architectures.	Rejected - while the suggested assessment would be interesting, it is beyond the mandate of WGIII.
41628	13	0				Generally speaking, this chapter focuses significant attention on Kyoto and its mechanisms, and doesn't even assess the current de facto agreements in place (Copenhagen/Cancun pledges and MRV system). Further, there seems to have been some element of selection in reviewing the other international agreements and fora where climate comes up. Organizations like UNEP or the UNGA, who have regular work/discussions on climate change are not mentioned, and there is no clear criteria for why some fora are mentioned and others are not.	Reject. Copenhagen/Cancun and MRV are discussed along the chapter. Fora are cited with the criteria to be examples, not to provide an exhaustive list. That fact is mentioned on page 16.
41629	13	0				Throughout the chapter, the U.S. status vis a vis Kyoto is unclear. The U.S. was a signatory to the Protocol, but did not ratify the treaty, and therefore was not a participant in the first commitment period. This should be revised in several places where it is unclear.	Reject. There is no explicit mention on any country particular position. So, no clarification regarding the US should be added.
41630	13	0				The term "socio-economic contexts" is too narrow. Expand the perspective. For example, the phrase "economic drivers, human development needs, and societal contexts" would be more accurate.	Reject: An F2 search for socio-economic contexts shows that it was not used in the chapter
41631	13	0				Mentions of "global commons" or public goods" should be carefully scrutinized. While the world has shared interests in climate issues and addressing climate change, many legal experts - including those within our own government - would disagree with the notion that the atmosphere or climate issues are a "global commons" or a "public good." There is no internationally agreed definition of what constitutes a public good or global commons, and it is incorrect to conclude that because an issue affects more than one country and lends itself to multilateral cooperation that it is properly addressed as a public good or global commons. Instead, this document could/should refer to "shared interests." (This same comment applies for other chapters, too, if this terminology is used there.)	Reject: There is sufficient literature arguing that climate change is a global commons, common concern and public good.
28019	13	0				The whole chapter 13 uses a different reference method than the other chapters. It should not be " (Smith, 2009) explains ...", but "Smith (2009) explains...".	Noted - reference management in progress
29240	13	0				Chapter could do with some editing to join it together better - rather than just a collection of sentences.	Taken into account
25892	13	0				additional statement is preferable about how to treat the most vulnerable countries, since such countries have less linkage because of little energy consumption and consequent GHG emission	Taken into account - The developing country box notes the particularly vulnerable developing countries in the context of adaptation financing
25899	13	0				additional statement is preferable about how to treat the most vulnerable countries, since such countries have less linkage because of little energy consumption and consequent GHG emission	Combined with comment 25892
26679	13	0	0	0	0	This chapter generally describes existing agreements and policies and in majority of cases avoids drawing conclusions (partially due to lack evidence). This needs to be made clear in the introduction.	Reject. As a general rule, AR5 reviews existing literature. If there is no strong conclusion it is because there is no evidence.



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24188	13	1		75		overall this chapter ignore the difference between developed countries and developed countries but emphasize the decentralization. While other chapters deliberated distinguish developed countries and developing countries.	Taken into account. A new box that pulls together developing country issues has been included
32318	13	1		75		There are discussions on the Montreal Protocol anywhere in this chapter and others as well. There are distinct difference against other IEAs, in particular, KP. There are economic alternatives for the gases subject for reductions. In other words, we can do without the gases while CO2 emissions cannot be eliminated as long as fossil fuels are used somewhere. Living things also cannot live without emitting CO2. Second, there are technology transfer program to developing countries. The program is much easily designed as compared to KP as the economic alternatives are clearly defined and so are the technologies. Therefore fundamental background is significantly different between MP and KP. This point should be clearly mentioned.	Noted - discussion of the Montreal Protocol is nuanced
41654	13	10	10	10	11	This is not true. MEF countries, for example, account for 75% of global emissions, so a small set of countries could reach a solution.	Accepted - text revised to elaborate on the threat to success of a minilateral agreement.
25480	13	10	22			add 'broad' before participation.	Accepted - 'broad' added before participation.
41656	13	10	25	10	26	The text here is overly strong without any effort to quantify.	Taken into account - text rephrased to reflect an assessment of the incentive.
41655	13	10	25	10	32	More clarity on the extent to which claims apply to mitigation or adaptation is warranted.	Rejected, first sentence refers to reducing emissions, clearly mitigation
41657	13	10	26	10	26	It's not necessarily international cooperation, but an assurance of minimal economic harm and action by fellow large emitters.	Taken into account, combined with response to comment #1130
41658	13	10	26	10	29	This paragraph is highly energy-centric; energy CO2 is only 60% of the problem. What about LULUCF emissions, for example?	Accepted, text revised to include examples beyond energy
31117	13	10	33	11	7	This FAQ is not particularly useful and could be deleted to save space. This text is repetitious.	Accepted, text revised to avoid repetition (esp in first point; later points add new content; some consolidation has been done)
41659	13	10	39	10	40	"Protection" in I39 and "policy" in I40 might be replaced with "mitigation" since adaptation measures often do not have the 'global public goods' that mitigation activities do.	Accepted - text rephrased
41662	13	10	42	10	44	Should "given" in I43 be "in light of"?	Accepted - text revised.
26706	13	10	44	10	46	insert on this sentence after'. . .may reduce mitigation costs,' " create opportunities for sharing the adaptatation burden.'	Taken into account, combined with response to #1136
25479	13	10	6	10	7	to be consistent with theoretical jargon, replace 'over-consumption' with 'defection' and add '(overconsumption or underproduction)'	Accepted, text revised to replace "over-consumption" with 'non-compliance', and the suggested phrase '(overconsumption or underproduction)' added.
30258	13	10	9			The Keohane and Victor (2011) piece is referenced on 9 separate occasions and I am unsure whether a synthesis/review/opinion article, whilst proposing an interesting notion for further empirical analysis, warrants this extensive coverage.	Taken into account - the use of the Keohane and Victor (2011) article has been reviewed to ensure it has been used only when appropriate; twice in 13.2.

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40725	13	10	21	10	23	Treaty is not the only legal form.(ex. Protocol) This part should be written down as such "Because each country must consent to be bound by any kind of international agreements, any participation is based on voluntary will of the country. If these to be effective, the agreements must be attractive enough to gain participation."	Accepted - text revised to reflect that international agreements are not limited to treaties.
24106	13	10	33	10	35	The question and answer are useful. However, the insertion of the phrase ", whom governments have jurisdiction over," seems more an induced answer within the question. It may be deleted and include the concept of "jurisdiction over" in the answer.	Taken into account - text rephrased as suggested.
26705	13	10	39	10	42	Delete the sentence on lines 41 to 42 on 'free ride' as it does not really contribute to answering the FAQ 13.1 there need to be a sentence on historical responsibility, need to support countries that have not contributed being supported to deal with the problem .	Taken into account, combined with response to #1110
22338	13	11	14	11	22	This paragraph should be expanded in order to accurately and fully capture the language and articulation of the principles under Article 3 of the UNFCCC that are supposed to guide UNFCCC Parties' actions.	Taken into account, combined with comments # 1001, 1149, 1151, 1157, 1165, 1198
41663	13	11	21	11	21	Revise "will" to "ought to" as many have a static, non-evolutionary view of these principles. It's worth including a statement here about the growing focus on risk assessment in the climate context.	Accepted, text removed in order not to be policy prescriptive. Risk management dealt with in several places, e.g. 13.10
35307	13	11	23	12	8	The discussion on the five principles does not focus on how these principles are implemented in the international mechanisms (neither in chapter 3/4). It is strongly suggested that these principles, particularly sustainable development, CBDR, equity and concepts of ethics (discussed in chapter 3) shall be further elaborated in much more details, in particular, on how they can be reflected in the international mechanisms.	Taken into account, combined with comments # 1001, 1149, 1151, 1152, 1157, 1165, 1198
24455	13	11	25			Might be good to link with chapter 3, although its discussion of cobenefits is also weak.	Accepted, text revised to include co-benefits and cross-reference to 3.5.3
25481	13	11	3	11	7	this short paragraph is both redundant and out of place; delete it.	Accept, text deleted.
22339	13	11	38	11	41	There should also be a reference to the multilaterally accepted definition of sustainable development as contained in paragraph 2 of the 2002 Johannesburg Plan of Implementation (see <a href="http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf">http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf</a> ) and in paragraph 4 of the 2012 Rio+20 Outcome Document (see <a href="http://www.uncsd2012.org/content/documents/727The_Future_We_Want_19_June_1230pm.pdf">http://www.uncsd2012.org/content/documents/727The_Future_We_Want_19_June_1230pm.pdf</a> ), in order to clarify that sustainable development is not only a principle/concept that is being discussed at an academic level but has also been negotiated and agreed upon at the multilateral policy level. This is particularly important for this Chapter which talks about international cooperation arrangements.	Accepted, text revised and references added
41664	13	11	39	11	39	Revise "resource" to "socioeconomic", which is broader and more accurate.	Accepted - text revised as suggested.
41665	13	11	45	11	45	Insert, "... countries with regard to ACTION TO ADDRESS climate change..."	Accepted - text revised, referring to climate action and impacts.
40728	13	11	48			The wording "legal status" should be replaced with phrases such as "normative status." because the wording may causes misleading that CBDR is already a legal principle.	Rejected, the text makes clear that there are competing views about the legal status.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41661	13	11	8	12	32	This document, in section 13.2.1.2, refers to what it calls "the precautionary principle." (See, e.g., various places starting in line 30, and in the table following -- and, it appears from a cross-reference, in chapter 2 as well.) As the United States has affirmed on many occasions, there is no such thing as "the precautionary principle." Precaution is an approach or tool which is context-specific, used differently in different international fora, and cannot be reduced to a single formulation, let alone considered a "principle." To the extent this document in this chapter or elsewhere refers to precaution as formulated in a particular instrument (like the UNFCCC), it is critically important that it refer to "a precautionary approach" (not "the precautionary principle" or a "principle" of precaution listed in the UNFCCC, the Rio Declaration, or elsewhere). Similarly, headings in section 13.2.1.2 and in the embedded table wherever precaution is mentioned need to refer to "Principles and Approaches" or "Principles, Approaches, and Related Issues," not only to principles. Furthermore, this section (13.2.1.2) calls a number of other terms "principles" that are not in fact principles. It might be best to delete this section altogether, or else characterize the concepts more in line with their true nature (and with the content of the UNFCCC, in the case of concepts taken from that agreement).	Accepted, text revised, including reference to a precautionary approach among the principles of the Convention
40726	13	11	10			the word "principle" must be clarified whether it is used as a "legal principle" or a "political principle". ILA's Sophia Report on legal principles relating to Climate Change describes that the disagreements over CBDR principle's content and the nature of the obligation it entails have spawned debates over the legal status of this principle. See International Law Association, Sophia Report(2012) at 9. Also there are scholar aquitions that CBDRRRC has not acquired the status of customary international law given this disagreement. See L Rajamani, Differential Treatment in International Environmental Law"(Oxford University Press, 2006);P Birnie, A Boyle and C Redgwell, International Law and the Environment (Oxford University Press, 3rd edn,2009) at 135 (referred in the ILA Report.)	Taken into account, combined with # 1147
40727	13	11	23			Principles should be written down as "Principles of climate change policies" according to the context.	Accepted - text rephrased as suggested.
25970	13	11	42			The claim that "international cooperation helps to give every country the same opportunities to ascertain how responsibilities are to be divided among them given principles adopted in international agreements" is a very naïve formulation of how multilateral negotiations work. The best that can be said is that inclusive, rule-based multilateralism provides better protection for small and weaker states than bilateral or minilateral negotiations because of the principle of consensus. That said, in practice the major emitters have far more influence in the negotiation due to their veto power than smaller emitters who are typically more vulnerable to the impacts of climate change and also typically disadvantages at climate negotiations due to their small delegations and technical capacity.	Taken into account - text rephrased to indicate that "international cooperation helps to give every country AN opportunity..." without making a statement about equality of opportunity.
24176	13	11				CBDR and equity principle should be introduced first, just like how international environmental law is discussed.	Accepted, text reordered
24107	13	11	23	12	8	Although the principle "equity" is mentioned in the UNFCCC and in line 16 of page 16 of the text, it is not elaborated and even mentioned in the elaboration on the proposed grouping of principles. This principle should be mentioned under the groups of "common but differentiated responsibility" and "fairness".	Taken into account - equity explicitly discussed in 13.2.2.3, but definitional issue will be handled in Ch. 4
24108	13	11	4	11	8	The fact described could happen and happens also in case that there is not absence of collective action. Possibly, this summary of views of different authors could be written in a more clear way.	Taken into account, combined with #1141
25482	13	11	8			the concept of 'principles' needs to be defined	Accept, text revised to include reference to ch3.2, where principles are defined and their role explained

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41660	13	11	8	12	8	Greater legal support for the origin and depth of these principles should be provided. There is great debate in international relations and legal circles about the degree of influence of soft law declarations such as these principles, so it needs to be demonstrated that these are akin to the Charter of the UN or suchlike in terms of the degree of support by the universe of countries. Otherwise this section should belong in section 13.4.3.	Accepted, text revised to reflect debate on hard and soft law in literature
26707	13	11	8	12	18	While equity is mentioned in the introduction of the principles, it is not discussed amongst the five principles listed	Accepted, text revised to refer explicitly to equity
25486	13	12				the construction of this table seems to be quite arbitrary.	Taken into account - Table 13.1 has been deleted.
28028	13	12				"Principles it draws on": What draws on those principles? The criteria?	Taken into account - Table 13.1 has been deleted.
25485	13	12	10	12	13	these two sentences are really confusing; what does it mean 'the principles may inform the identification of criteria for choosing among agreements and instruments to solve the collection action problem'? How are 'instruments' defined? What does it mean 'the set of possible instruments displays a considerable variety of interactions'? Please explain.	Accepted, text revised rephrasing first sentence and deleting second
24456	13	12	14	22		You may want to use this to push ch 13 authors to recognize the importance of equity in the policy negotiations - while they are discussing ethics it sometimes gets swallowed by the economics. Cross-linking here would strengthen both chapters.	Taken into account, combined with comments # 1001, 1149, 1157, 1165, 1198
41667	13	12	17	12	18	What does "economic efficiency" mean? Please clarify.	Accepted, text deleted as it introduced Table 13.1.
26708	13	12	19	12	20	On this table Principles and criteria, equity be added. Insert equity and fairness where currently only fairness is entered.	Taken into account - Table 13.1 has been deleted. On equity, see response to #1163
41671	13	12	19			There is much more to institutional feasibility than this. As is, the text focuses exclusively on willing participation, but excludes the fact that countries can be coerced (politically pressured) into participation.	Taken into account - Table 13.1 has been deleted.
25487	13	12	20	12	32	what is 'the metrics of success'? what is the purpose of this discussion? How is it related to the criteria and to the table? Please explain.	Accepted - text rephrased to clarify that the criteria are applied for a "metrics of success".
41668	13	12	23	12	25	There are a lot of drivers of ex-ante overestimation of costs; over-estimating the extent of implementation is one, but to single it out suggests we only overestimate because we think we'll do more than we get around to. In fact, we often get our data from regulated parties with incentives to aim high for cost estimates, we often ignore or underestimate learning-by-doing and scale effects, and for international agreements we have underestimated the spread of technology across countries. Possible citations include Bailey et al (2002, Environmental Policy and Governance) or Ackerman (2005, Fordham Law Journal) as well as work showing declining costs over time for abatement of ODS (in Norman et al 2008, Global Environmental Change - though see Parry 2003 Environment and Development Economics for a discussion of the kinds of innovations that lower costs in response to rising stringency).	Accepted, text revised to expand list of reasons for over- and under-estimation
41669	13	12	25	12	27	This sentence is confusing - it's said that ex ante estimation favours a policy, because of a poor understanding of multiple policy interactions, but then studies saying that interactions may be benign, counterproductive, or beneficial are cited. Is there reason to believe they will tend to be one or the other? Any sense of scale/scope? Doesn't seem like the first clause is supported as written.	Accepted, rephrased to make clear effect is ambiguous, not favourable.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
35308	13	12	3	12	8	The principle of equity is fundamental to international cooperation to combat climate change; but the expression of such principle is inconsistent across the report. Words such as "fairness", "equity" and "justice" are used in different parts of the report, which is obscure, confusing and misleading and undermines the importance of this concept. It is strongly suggested to apply consistently the original word "equity" throughout the report, and the meaning of equity in this chapter shall be consistent with the discussion on historical responsibility and equity in Chapter 3.	Taken into account - combined with comment #1157.
23373	13	12	3	12	3	Specific: It could be added/clarified that principles are not disjoint; e.g. CBDRRC is related to fairness (of outcome) principle; also, "fairness" seems more overarching than other principles;	Taken into account. General approach in WGIII will be to use equity, justice and fairness interchangeably; with ch3 authors explaining in a FAQ the conceptual relation
41666	13	12	3	12	3	Is "fairness" here considered to be equivalent to "equity"? If so, it should be stated explicitly, given the prominence of "equity" elsewhere in the WG3 report and in the Convention, more broadly. Additionally, these 'principles' are rarely operationalized within countries: e.g., income/wealth, resources, etc. are not distributed equally within borders.	Taken into account, combined with response to comment #1163
41670	13	12	31	12	32	It's worth citing the Kyoto Protocol here and the fact that it excludes some major emitters from acting	Rejected - comment is too specific to be relevant to the discussion of criteria.
25484	13	12	9			the concept of 'criteria' should be clearly defined.	Rejected - the concept of 'criteria' is introduced in 13.2.1.2.
25971	13	12	42			The discussion of principles does not include vulnerability and the special needs of the least developed countries. Also the discussion of common but differentiated responsibilities and capabilities does not include a discussion of the clear lines of disagreement between the USA and the BASIC group, and the relationship between this agreement and the shift in the balance of economic and 'emissions power'. These are major developments that have powerfully shaped the post-Bali the negotiations and there is a considerable literature analysing this shift ranging from standard realist accounts to constructivist accounts that argue that the allocation of special responsibilities is the via media between the formal equality of sovereign states and the unequal distribution of material capabilities and vulnerabilities. See, for example, Bukovansky, Mlada, Ian Clark, Robyn Eckersley, Richard Price, Christian Reus-Smit and Nicholas J. Wheeler. 2012. Special Responsibilities: Global Problems and American Power (Cambridge: Cambridge University Press), especially chapter four.	Accepted, text revised in 13.2.1.2 to include nuanced application of CBDR in recent literature.  Taken into account - for section 13.5, revised text better describes the Cancun Agreements and thus the shift from only Annex I countries taking commitments under Kyoto Protocol towards a large group taken different types of commitments (see also Figure 13.3)
25483	13	12	9	13	2	this sub-section is poorly written	Taken into account, with response to #1169
24006	13	13	16			The phrase "can be reduced" is speculative, since permanent long-term storage is unproven. Also note that report sometimes uses the term geoengineering and other times geo-engineering.	Accepted - combined with comment #1185.
28029	13	13	16	13	16	A more cautious wording would be advisable. Please reformulate, e.g.: "...concentrations might potentially be reduced...".	Accepted - text rephrased to use more cautious tone.
21293	13	13	18			Correct the spelling with no hyphen: "geoengineering"	Taken into account, combined with response to #1104
28030	13	13	18	13	18	A more cautious wording would be advisable. Please reformulate, e.g.: "as well as other, more remote geo-engineering forms...".	Taken into account, combined with response to #1104

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
24458	13	13	19			Table 13.1. I am not convinced by this table. It is an oversimplification and while simplifications are sometimes helpful, this one is not right. First, some of the principles you have listed above fall out (protection of most vulnerable), second some of the principles such "sustainable development" are vague as a principle and could be interpreted so broadly that they could fit in almost any of these categories in which case it isn't entirely clear what use the matrix is, third, are you evaluating principles or policy options? It seems like it would be much more effective to skip the step of trying to link principles and criteria and go right to the use of this criteria to set up ideas of assessing actual policy architectures - or - to discuss other criteria that have been proposed for this. A more useful section would look at a review of the criteria options.	Accepted - Table 13.1 has been deleted.
24457	13	13	2			CBDRRC is hardly discussed in Ch3 although its central to the topic.	Taken into account in response to comments # 1001, 1149, 1151, 1152, 1157, 1165, 1198
21294	13	13	20	13	22	"change the earth's surface albedo, or reflectivity, to intercept sunlight before it reaches the Earth or reflect more heat back out into space."  Change to the more scientifically correct, "increase Earth's albedo, or reflectivity, reducing the amount of solar energy absorbed by the climate system."	Taken into account, combined with response to #1104
28031	13	13	20	13	20	A more cautious wording would be advisable. Please reformulate, e.g.: "...might potentially be directly reduced..."	Taken into account, combined with response to #1104
28032	13	13	20	13	21	A more cautious wording would be advisable. Please reformulate, e.g.: "...projects that aim to change..."	Taken into account, combined with response to #1104
21295	13	13	22			"13.4.3" Change to "13.4.4"	Accepted - cross-reference corrected.
28033	13	13	23	13	23	A more cautious wording would be advisable. Please reformulate, e.g.: "...might potentially be reduced..."	Accepted - text rephrased as suggested.
26682	13	13	25	13	36	as above plus there are other economic criteria that could be used for policy assessment, such as employment, consumption, GDP, trade	Rejected - the comment offers indicators rather than criteria for assessment.
22168	13	13	25	13	36	As above, plus there are other economic criteria that could be used for policy assessment, such as employment, consumption, GDP, trade.	Taken into account - combined with comment #1193.
41673	13	13	26	13	29	What about costs and benefits that can't be monetized?	Accepted, text revised.
25488	13	13	3			define environmental effectiveness.	Taken into account - combined with comment #1180
28034	13	13	37	13	37	The title says "Distributional and social impacts", but in Table 13.1 the criteria is named "Distributional impacts". To be consistent you should change either the title of this chapter by deleting "and social" or change the criteria name by adding "and social".	Accepted, Table 13.1 has been deleted
26709	13	13	38	13	40	Where is distributional equity discussed above? Its not discussed hence my comment number 7.	Accepted, text revised.
28035	13	13	38	13	44	"Fairness" and "equity" are mixed up in this section. While "fairness" is elaborated in chapter 13.2.1.2 and defined as one of the framing principles, "equity" isn't clearly defined and neither is said, that "fairness" and "equity" are used in a similar way. Furthermore you have chosen "fairness" as one of your framing principles, but almost this whole part seems to focus on "equity". Both words are not part of the glossary and since "equity" is such an important part of the whole AR5, I think it would be important to define the concept of equity in the glossary.	Taken into account - combined with comment #1157.
35309	13	13	43	13	44	The cross reference here is invalid. It is strongly suggested to provide detailed quotations when addressing key issues instead of procedurally using "cross reference" in such situations.	Rejected - Chapters 3 and 4 both deal extensively with equity, and inter- and intra-generational issues are not in one place.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
22340	13	13	6	13	6	The word "Presumably" should be deleted. Article 2 of the UNFCCC does not make reference to any "presumption" with respect to the relationship between the stabilization level goal contained in the first sentence of Article 2 and the contextual elements for achieving such level contained in the second sentence of Article 2. The relationship is in fact an explicitly normatively linked one given that the second sentence of Article states that "Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner." Subjective interpretations of existing treaty text should be avoided where the treaty text is clear and explicit. This is a standard rule of treaty interpretation.	Accepted, text revised as suggested
41672	13	13	9	13	10	This seems to imply that while Kyoto set emission reductions, Copenhagen did not. The insertion after "Copenhagen Accord" of "in addition to endorsing specific mitigation pledges by developed and developing countries." We recommend that the authors correct this.	Accepted, text revised
25489	13	13				this subsection instead of discussing the concept of environmental effectiveness, which is quite controversial, elaborates on the possible means of emissions reductions. To be consistent, at least with the following related subsections, concentrate on the definition	Taken into account - text revised to give definition of 'environmental effectiveness'
24099	13	133	18	133	20	The reference is wrong, The study cited is not by UNEP, but by the Convention on Biological Diversity: The study has two parts: : Geoengineering in Relation to the Convention on Biological Diversity: Technical and Regulatory Matters. Secretariat of the Convention on Biological Diversity. Montreal, Technical Series No. 66 (2012), available at <a href="http://www.cbd.int/ts/">http://www.cbd.int/ts/</a> . Part I: Williamson, Phillip, et al., Impacts of climate-related geoengineering on biological diversity. Part II: Bodle, Ralph, with Homan, Gesa., Schiele, Simone, and Tedsen, Elizabeth, The Regulatory Framework for Climate-Related Geoengineering Relevant to the Convention on Biological Diversity.	Accepted

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
32563	13	1373				<p>The page numbers refer to the pages of the pdf document (and do not coincide with the page numbers as printed in the bottom right of the document. Life Cycle Assessment (LCA) is standardised by ISO with that name. Therefore, it should never be referred to as Life Cycle Analysis. Furthermore, once defined, it can be referred to simply as "LCA". Many important works of Brandão et al. (e.g. 2013) and Levasseur are missing, which are particular relevant to chapters 8 and 11. These are:</p> <ul style="list-style-type: none"> <li>-Brandão M, Levasseur A, Kirschbaum M, Cowie A, Weidema B, Jørgensen SV, Hauschild M, Chomkamsri K, Pennington D (2013) Key issues and options in accounting for carbon sequestration and temporary storage in life cycle assessment and carbon footprinting. The International Journal of Life Cycle Assessment 18 (1) 230-240. DOI: 10.1007/s11367-012-0451-6. <a href="http://link.springer.com/article/10.1007%2Fs11367-012-0451-6">http://link.springer.com/article/10.1007%2Fs11367-012-0451-6</a></li> <li>-Levasseur A, Lesage P, Margni M, Brandão M, Samson R (2012) Assessing temporary carbon sequestration and storage projects through land use, land-use change and forestry: comparison of dynamic life cycle assessment with ton-year approaches. Climatic Change. DOI: 10.1007/s10584-012-0473-x. <a href="http://www.springerlink.com/content/b3251u56v728m870/?MUD=MP13">http://www.springerlink.com/content/b3251u56v728m870/?MUD=MP13</a>.</li> <li>-Levasseur A, Brandão M, Lesage P, Margni M, Pennington D, Clift R, Samson S (2012) Valuing temporary carbon storage. Nature Climate Change 2, 6–8. doi:10.1038/nclimate1335. <a href="http://www.nature.com/nclimate/journal/v2/n1/full/nclimate1335.html">http://www.nature.com/nclimate/journal/v2/n1/full/nclimate1335.html</a>.</li> <li>-Brandão M, Mila i Canals L, Clift R (2011) Soil Organic Carbon changes in the cultivation of energy crops: implications for GHG balances and soil quality for use in LCA. Biomass &amp; Bioenergy 35 (6). 2323–2336. Special issue: Modelling Environmental, Economic and Social Aspects in the Assessment of Biofuels. <a href="http://www.sciencedirect.com/science/article/pii/S0961953409002402">http://www.sciencedirect.com/science/article/pii/S0961953409002402</a></li> <li>-Brandão M, Clift R, Mila I Canals L, Basson L (2010) A Life-Cycle Approach to Characterising Environmental and Economic Impacts of Multifunctional Land-Use Systems: An Integrated Assessment in the UK. Sustainability 2(12): 3747-3776. Special issue: Life Cycle Sustainability Assessment. <a href="http://www.mdpi.com/2071-1050/2/12/3747/pdf">http://www.mdpi.com/2071-1050/2/12/3747/pdf</a></li> <li>-Mueller-Wenk R and Brandão M (2010) Climatic impact of land use in LCA - carbon transfers between vegetation/soil and air. The International Journal of Life Cycle Assessment 15(2) 172-182. <a href="http://www.springerlink.com/content/02628184t2q98051/fulltext.pdf">http://www.springerlink.com/content/02628184t2q98051/fulltext.pdf</a></li> <li>-Brandão M (2012) Food, Feed, Fuel, Timber or Carbon Sink? Towards Sustainable Land Use: a consequential life cycle approach. Springer. 125pp.</li> <li>-Brandão M (2012) Food, Feed, Fuel, Timber or Carbon Sink? Towards Sustainable Land Use: a consequential life cycle approach. PhD thesis. Centre for Environmental Strategy (Division of Civil, Chemical and Environmental Engineering), Faculty of Engineering and Physical Sciences, University of Surrey, UK. 246 pp. Appendices 541 pp.</li> <li>-Mulligan D, Edwards R, Marelli L, Scarlat N, Brandão M, Monforti-Ferrario F (2010) The effects of increased demand for biofuel feedstocks on the world agricultural markets and areas. Luxembourg: Publications Office of the European Union. ISBN 978-92-79-16220-6. <a href="http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/16193/1/en24464_iluc%20workshop.pdf">http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/16193/1/en24464_iluc%20workshop.pdf</a></li> <li>-Brandão M, Levasseur A (2011) Assessing temporary carbon storage in life cycle assessment and carbon footprinting: outcomes of an expert workshop. Joint Research Centre, European Commission, Ispra, Italy</li> </ul>	Noted. Misplaced comment.



## Expert and Government Review Comments on the IPCC WGIII AR5 Second Order Draft – Chapter 13

Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
32564	13	1376				<p>The page numbers refer to the pages of the pdf document (and do not coincide with the page numbers as printed in the bottom right of the document. Life Cycle Assessment (LCA) is standardised by ISO with that name. Therefore, it should never be referred to as Life Cycle Analysis. Furthermore, once defined, it can be referred to simply as "LCA". Many important works of Brandão et al. (e.g. 2013) and Levasseur are missing, which are particular relevant to chapters 8 and 11. These are:</p> <ul style="list-style-type: none"> <li>-Brandão M, Levasseur A, Kirschbaum M, Cowie A, Weidema B, Jørgensen SV, Hauschild M, Chomkamsri K, Pennington D (2013) Key issues and options in accounting for carbon sequestration and temporary storage in life cycle assessment and carbon footprinting. The International Journal of Life Cycle Assessment 18 (1) 230-240. DOI: 10.1007/s11367-012-0451-6. <a href="http://link.springer.com/article/10.1007%2Fs11367-012-0451-6">http://link.springer.com/article/10.1007%2Fs11367-012-0451-6</a></li> <li>-Levasseur A, Lesage P, Margni M, Brandão M, Samson R (2012) Assessing temporary carbon sequestration and storage projects through land use, land-use change and forestry: comparison of dynamic life cycle assessment with ton-year approaches. Climatic Change. DOI: 10.1007/s10584-012-0473-x. <a href="http://www.springerlink.com/content/b3251u56v728m870/?MUD=MP13">http://www.springerlink.com/content/b3251u56v728m870/?MUD=MP13</a>.</li> <li>-Levasseur A, Brandão M, Lesage P, Margni M, Pennington D, Clift R, Samson S (2012) Valuing temporary carbon storage. Nature Climate Change 2, 6–8. doi:10.1038/nclimate1335. <a href="http://www.nature.com/nclimate/journal/v2/n1/full/nclimate1335.html">http://www.nature.com/nclimate/journal/v2/n1/full/nclimate1335.html</a>.</li> <li>-Brandão M, Mila i Canals L, Clift R (2011) Soil Organic Carbon changes in the cultivation of energy crops: implications for GHG balances and soil quality for use in LCA. Biomass &amp; Bioenergy 35 (6). 2323–2336. Special issue: Modelling Environmental, Economic and Social Aspects in the Assessment of Biofuels. <a href="http://www.sciencedirect.com/science/article/pii/S0961953409002402">http://www.sciencedirect.com/science/article/pii/S0961953409002402</a></li> <li>-Brandão M, Clift R, Mila I Canals L, Basson L (2010) A Life-Cycle Approach to Characterising Environmental and Economic Impacts of Multifunctional Land-Use Systems: An Integrated Assessment in the UK. Sustainability 2(12): 3747-3776. Special issue: Life Cycle Sustainability Assessment. <a href="http://www.mdpi.com/2071-1050/2/12/3747/pdf">http://www.mdpi.com/2071-1050/2/12/3747/pdf</a></li> <li>-Mueller-Wenk R and Brandão M (2010) Climatic impact of land use in LCA - carbon transfers between vegetation/soil and air. The International Journal of Life Cycle Assessment 15(2) 172-182. <a href="http://www.springerlink.com/content/02628184t2q98051/fulltext.pdf">http://www.springerlink.com/content/02628184t2q98051/fulltext.pdf</a></li> <li>-Brandão M (2012) Food, Feed, Fuel, Timber or Carbon Sink? Towards Sustainable Land Use: a consequential life cycle approach. Springer. 125pp.</li> <li>-Brandão M (2012) Food, Feed, Fuel, Timber or Carbon Sink? Towards Sustainable Land Use: a consequential life cycle approach. PhD thesis. Centre for Environmental Strategy (Division of Civil, Chemical and Environmental Engineering), Faculty of Engineering and Physical Sciences, University of Surrey, UK. 246 pp. Appendices 541 pp.</li> <li>-Mulligan D, Edwards R, Marelli L, Scarlat N, Brandão M, Monforti-Ferrario F (2010) The effects of increased demand for biofuel feedstocks on the world agricultural markets and areas. Luxembourg: Publications Office of the European Union. ISBN 978-92-79-16220-6. <a href="http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/16193/1/en24464_iluc%20workshop.pdf">http://publications.jrc.ec.europa.eu/repository/bitstream/111111111/16193/1/en24464_iluc%20workshop.pdf</a></li> <li>-Brandão M, Levasseur A (2011) Assessing temporary carbon storage in life cycle assessment and carbon footprinting: outcomes of an expert workshop. Joint Research Centre, European Commission, Ispra, Italy.</li> </ul>	Reject - This comment is not relevant for this text. It appears misplaced
41676	13	14	19	14	20	The drivers of participation stability have been studied, but what do they show? This last sentence is an incomplete thought.	Accepted - text revised to describe findings.
41677	13	14	25	14	27	Might it be valuable / educational to discuss how the issue of compliance is a central flaw of KP?	Rejected - this is not relevant for this section, which only introduces the framework for assessment, 13.3.4 discusses compliance, with reference to Kyoto Protocol

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
25490	13	14	3	14	8	how is institutional feasibility defined?	Rejected, institutional feasibility is defined in general in the glossary for WGIII, and the next paragraph identifies 4 criteria which are relevant to international cooperation
26683	13	14	6	14	28	This section needs to include a discussion on available assessments of conflicts and complementarities. For example, integrated assessments, whole system analysis	Rejected - the important notion is that fulfilment of the criteria vary with context.
22169	13	14	6	14	28	This sections needs to include a discussion on available assessments of conflicts and complementarities. For e.g., integrated assessments, whole-system analysis.	Taken into account - combined with comment #1209.
25491	13	14	8			please cite Putnam (1988) Putnam, Robert D. 1988. Diplomacy and Domestic Politics: The Logic of Two-Level Games. International Organization 42(3): 427-460.	Rejected; no clear motivation to include much earlier reference; the two cited are more recent.
41674	13	14	3	15	5	The level of ambition should be another sub-criteria for institutional feasibility. Consider including a paragraph on this, as well.	Taken into account - as ambition is important, text has been revised to include ambition earlier; however, criteria are applied across WGIII and not changed in this place
41675	13	14	3	15	5	One element of institutional feasibility that is critical, but which does not appear in the list of sub-criteria is transparency in countries' actions and/or emissions. Clarity and confidence in the GHG emissions of each country, the commitments they have made (whether on mitigation targets or provision of finance), and tracking of progress toward those commitments are important elements of trust in the system and in other players, to enable further action and ambition. This may be a part of compliance, but it is not related to penalties for non-compliance, but the benefits of a compliance system in which transparency of countries actions both ex-ante and ex-post are critical to reaching agreement and implementation over time. It would be helpful to raise this either as a separate criterion, or integrated into the others. The literature on the importance of transparency and MRV is quite extensive and there is plenty to draw on here.	Accepted - text revised to include a discussion of transparency issues as they relate to compliance.  Accept: This issue, which is discussed under compliance, includes now a cross reference to section 2.4.3.3 and hence a more detailed discussions is not necessary in this chapter
40729	13	14	35	14	36	In practice, the legitimacy of substantive rules is typically based on acceptance of the authority ruling legitimacy ". This reference part should be deleted because the relevancy is unclear in this context.	Taken into account - text revised to clarify how legitimacy of substantive rules in cooperation are assessed.
25494	13	15	14			Page 15: 14: Please cite Downs et al (1996) Downs, George W., David M. Rocke, and Peter N. Barsoom. 1996. Is the Good News About Compliance Good News for Cooperation? International Organization 52 (3): 379-406.	Rejected, no clear motivation for earlier reference
41678	13	15	18	15	18	Explain what "utility" and "redistributive policy" mean in this context.	Rejected, not every term can be defined within the space constraints, and these are clear in context
25492	13	15	2			you should also cite von Stein (2008) here since she shows that one of the Kyoto Protocol's flexibility mechanisms, namely carbon sinks, contributed to the ratification of the Protocol by Annex I countries. von Stein, Jana. 2008. The International Law and Politics of Climate Change. Journal of Conflict Resolution 52 (2): 243-268.	Accepted - text revised to include suggested literature.
41679	13	15	26	15	26	This is the first time "ambition" appears in this chapter; it should be featured more prominently.	Accepted, concept of ambition included in 13.2.1.1

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
22341	13	15	30	15	44	The references to "international agreements" in these lines should be reworded to "international arrangements". There are clear legal and policy differences between the UNFCCC as the primary treaty-based universal international agreement/legal regime on climate change and any other kind of non-treaty-based international cooperation arrangements such as those referred to in, for example, Figure 13.1.	Accept idea: Line 32 – "agreements" becomes "cooperation".  Change title of 13.3.1 to "the landscape of climate agreements and institutions".  Figure 13.1 is okay as it is.
41680	13	15	34	17	2	There is too much focus here - and throughout the chapter - on the UNFCCC. The authors should mention other efforts such as forestry agreements, GEF and World Bank and other MDBs activities that affect economic activities with climate change effects.	Reject: Figure 13.1 makes it clear that UNFCCC is just one of many institutions. This is discussed throughout the chapter.
41681	13	15	34	17	2	Some discussion of the positive and negative interactions between these regimes is required. On unanticipated consequences between ozone and climate change regimes see (Oberthur, Dupont et al. 2011). Since one of the take away messages is that there are no magic bullets for addressing climate change, greater attention to the interplay between institutional approaches is necessary (or at the very least highlighted in section 13.14) Oberthur, S., C. Dupont, et al. (2011). Managing Policy Contradictions between the Montreal and Kyoto Protocols. Managing Institutional Complexity. S. Oberthur and O. S. Stokke. Cambridge, MIT Press.	Accept: Point briefly mentioned in section 13.3 but main discussion will be in 13.14.
28036	13	15	36	15	37	"international agreement" sounds like legally binding. Maybe it's better to talk about "international cooperation".	Taken into account in 13.3 (with #22341)
25493	13	15	4			you should cite Goldstein and Martin (2000) here. They posit that international agreements should incorporate only some flexibility in their enforcement procedures since too little enforcement may encourage opportunism and too much may deter cooperative deals all together. Goldstein, Judith, and Lisa L. Martin. 2000. Legalization, Trade Liberalization and Domestic Politics: A Cautionary Note. International Organization 54 (3): 603-632.	Accepted - text revised to include suggested literature.
24177	13	15	42	15	44	suggest that replace the sentence "many of the regimes now addressing climate change have previously focused on other issues, e.g. trade ..., among other topics" to "many of the regimes previously focusing on other issues, e.g. trade ..., among other topics, began to address climate change." The current expression may lead to a confusion that those international regimes completely shift their focus on climate change issues.	Accept - text revised
24100	13	16	1			in the legend, the term "Other UN intergovernmental organizations" should be replaced by "other UN intergovernmental institutions". The term "international organisation" used in the current SOD in common international legal usage suggest organisations that have separate international legal personality - which is not the case for UNDP, UNEP, the UN Global Compact.	This comment may apply to the legal literature but not the political science/IR literature, for which the distinction between organization and institution is between something with buildings, offices, people, etc., (organization) and a set of norms, procedures, rules which guide action (institution). This is the usage of the distinction for the most part in the chapter in my view.
31119	13	16	1			This diagram would benefit from further refining. The list of what is included is inconsistent (e.g., most bubbles are institutions/mechanisms, but others are less tangible, like regional governance and partnerships). Why is the "partnerships" bubble floating without connecting arrows?	Taken into account - figure revised

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31118	13	16	1	16	1	Suggest adding the Climate and Clean Air Coalition to the examples list for "other multilateral clubs"	Reject: this was not intended to be an exhaustive list.
41682	13	16	1			Reference to "Methane to Markets" should be revised to its new name: "Global Methane Initiative"	Taken into account - change in name has been noted
41683	13	16	1			"Regional Governance" and "NAMAs, NAPAs" are not mentioned in the text below the figure; please add them. Additionally, please defined "NAMA" and "NAPA".	Noted - NAMAs and NAPAs are defined in the text later
41684	13	16	1			It could me misleading to depict UNFCCC and the center of all climate policy actions	Reject: given the position of the UNFCCC in the current climate negotiations, the central place seems not unwarranted.
28037	13	16	3	16	6	To shorten the chapter, you might consider putting the explanation of the figure (line 4-6) directly after the bold printed "Figure 13.1.", like this: "Figure 13.1. The landscape of agreements and institutions on climate change, with some linkages to regional, national and sub-national scales (addressed in Chapters 14 and 15 of this report) For a more detailed discussion of these initiatives, see Sections 13.3 and 13.5.	Noted - will consider reducing redundancies in figure captions at the copyediting stage
21308	13	16	7	16	12	The text should provide recommendations on how the design of future agreements could encourage linkages among institutions. Suggested text "Linkages with the Montreal Protocol, International Civil Aviation Organization among others could enhance international cooperation to mitigation climate change." Moncel, R. et al. Building the Climate Change Regime: Survey and Analysis of Approaches. WRI: Washington, DC. <a href="http://pdf.wri.org/working_papers/building_the_climate_change_regime.pdf">http://pdf.wri.org/working_papers/building_the_climate_change_regime.pdf</a>	Reject -- the IPCC does not make recommendations. The cited source is not peer reviewed
26710	13	17	3	18	12	This should be deleted. Noting the need to cut down on pages, it does not add much value.	Partially accepted: Section has been substantially shortened, now only briefly discussing the methodology and qualifies this, but results ar eonly discussed in the subsequent subsections which also have been shortened.
41685	13	17	33	17	34	What about local co-benefits? A discussion of them here is warranted.	Accept: Note, however, that this section has been shortened and the entire paragraph has been deleted. Results are now only discussed in section 13.3.3 and 13.3.4.
34768	13	17	36	17	36	The cross-reference to section 13.2.2.1 does not support the statement being made. I think the correct cross-reference is 13.2.2.4.	Accept: This has been corrected.
25495	13	17	42			Please cite Bernauer et al (2013) who show that assistance provisions in IEAs have a significant and substantial positive effect on participation. Bernauer, Thomas, Anna Kalbhenn, Vally Koubi and Gabriele Spilker.2013. Is there a 'depth versus participation' dilemma in international cooperation? Review of International Organizations	Accept: reference has been added.

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25496	13	17	45	17	48	Please note that there exists a recent literature in Political Science which shows that international interdependence has a very strong effect on a country's cooperative behavior in an IEA (Bernauer et al. 2010; Dorussen and Ward 2008; Ward 2006). For instance Bernauer et al (2010) show that membership in international organizations and contingent behavior (i.e., the extent to which cooperative behavior of any given country in an IEA is affected by whether other countries, or specific other countries cooperate) have a stronger effect on states cooperative behavior (in the form of treaty ratification) than democracy or national economic wealth. Bernauer, Thomas, Anna Kalbhenn, Vally Koubi and Gabriele Spilker. 2010. A comparison of international and domestic sources of global governance dynamics. <i>British Journal of Political Science</i> 40(2): 509–538. Han Dorussen and Hugh Ward. 2008. Intergovernmental Organizations and the Kantian Peace: A Network Perspective. <i>Journal of Conflict Resolution</i> 52 (2): 189-212. Ward, Hugh. 2006. International Linkages and Environmental Sustainability: The Effectiveness of the Regime Network. <i>Journal of Peace Research</i> 43 (2): 149-166.	Accept: Bernauer reference has been included. Further references cannot be included due to very restrictive space limitations.
32319	13	17	46	27	44	The for a mentioned here such as IEA have different types of cooperation. IEA Implementation Agreements are basically for tasksharing or information sharing on R&D. CERT or CLT are basically for information exchange and no obligation. On the other hand, emergency oil program has a very different feature with detailed provisions for obligatory collaborations on the reserves and their release of oils to the market. These different modes of cooperation are for specific objectives which derive from different nature of motivations and incentives, and therefore, should be clearly distinguished.	Reject: reference to text is not clear.
30259	13	17	3			It is unclear why lessons from game theory is given a dedicated section, particularly when the following is regarded as a key lesson: "it is difficult to engage broad participation by all countries, or even by major emitting countries, in an environmentally effective climate change treaty"...Clearly, there is ample empirical evidence of this. Perhaps this section would be more balanced and informative if it explored explanations in the alternative perspectives it identifies (lines 45-6) that seek to understand the role of legitimacy, norms, acculturation etc. I realise these approaches are given more space later in the chapter, but they also offer important insights here.	Partially accepted: there are limitations to game theory and we mentioned those, including other perspectives. Those other perspectives are discussed later in this chapter. In the revised version we make it clear that section 13.3 is only on game theory.
31215	13	18	10			More explicit discussion of Copenhagen/Cancun process of pledge and review could have been detailed more here.	Reject: Though interesting, this section 13.3 entirely focuses on game theoretic lessons, in particular after the last revision; specific proposals have to be discussed somewhere else.
41686	13	18	13	21	49	This is too abstract. What does the literature say about which actor groups have been involved, which haven't, and to what effect? Who should be involved to improve things? P 19 lines 30-40 is an inadequate response to this concern.	Reject: Section 13.3 entirely focuses on game theoretic lessons, in particular after the last revision; specific details have to be discussed somewhere else.

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31214	13	18	2			There are limits to reputation based measures to induce participation and compliance. Busby and Sundstrom discuss the fact that reputation played an important part in inducing some countries to ratify the Kyoto Protocol but weren't enough to induce them to take costly measures to comply. Downs et al and Guzman suggest that reputation is not an especially power mechanism, that the reputational costs of noncompliance may be small and that states care about many things, the reputation for compliance being only one of them. Busby, Joshua. 2008. The Hardest Problem in the World: Leadership in the Climate Regime. In The Dispensable Hegemon: Explaining contemporary international leadership and cooperation, edited by Stefan Brem and Kendall Stiles, 73–104. London: Routledge. Busby, Joshua. 2010. Moral Movements and Foreign Policy. Cambridge: Cambridge University Press. Harrison, Kathryn, and Lisa Sundstrom. 2007. The Comparative Politics of Climate Change. Global Environmental Politics 7 (4): 1–17. Downs, George W., David M. Rocke, and Peter N. Barsoom. 1996. Is the good news about compliance good news about cooperation? International Organization 50 (3): 379–406. Andrew T. Guzman, "The Design of International Agreements," The European Journal of International Law 16, no. 4 (2005): 579–612.	Reject: Though we agree with the statement of the referee, the point here is to acknowledge simply the fact that there are alternative views to the rationalist's approach. This section 13.3 focuses exclusively on this approach.
41687	13	18	22	18	23	This statement should be qualified by adding, "IF the mitigation effort is offsets, etc., vs domestic-constrained actions [then depth without breadth...]"	Reject: Statement is general as it stands and is general enough.
41688	13	18	46	18	48	The desire to remain members of the EU was pretty powerful too -- not just a negotiation over the ETS in isolation	Reject: this comment is difficult to address because negotiations between member states on ETS is not public; there is no reference about this in the literature.
21309	13	18	48	19	2	The text should clarify that the groups mentioned (i.e., MEG, APP, and AOSIS) are very different types of coalitions with varying purposes. Different membership and structures might be advantageous for different purposes ranging from technology cooperation to negotiation within the UNFCCC.	Accept: because of the difficulty of being precise and short, all examples have been deleted.
28038	13	18	48	19	2	AOSIS is not a coalition like the MEF, it is a group of interest in the UNFCCC negotiations (like the EU, LDCs, Umbrella or EIC).	Accept: because of the difficulty of being precise and short, all examples have been deleted.
22342	13	18	48	19	1	The MEF is not a "coalition" in the sense of engaging in commonly agreed actions or positions, it is more of a discussion forum. The MEF should not, therefore, be placed in the same category as the AOSIS as that would be factually inaccurate.	Accept: MEF has been deleted.
25497	13	18	5	18	8	it is not clear what you mean by 'problems in arranging incentives'. In game-theoretical literature, the relevant concepts are interests, preferences, utilities and payoffs. Hence I believe that what you want to say is that a broad climate change treaty is difficult to materialize because of the heterogeneity and conflict of interests. That is cooperation in the climate change regime is difficult to be achieved because a) states have different policy preferences due to different tastes over goods and relative factor endowments (ex-ante heterogeneity of interests), and b) self-interested states are in conflict over distribution of a good or the cost of providing it (ex-post heterogeneity of interest).	Accept: The text was unclear. The entire paragraph has been deleted in the course of shortening section 13.3.
33853	13	18	48	19	2	The section covers 'Participation in climate agreements' and mentions in these lines the MEF and AOSIS as exclusive/minilateral climate coalitions. These are indeed coalitions, one more than the other, but they are not (based on) climate change agreements or aiming at concrete climate action in the sense of the rest of this section. They are primarily an "ad hoc lobby and negotiating voice for small island developing States (SIDS) within the United Nations system" (AOSIS) and a forum "to facilitate a candid dialogue among major developed and developing economies [and] [...] to achieve a successful outcome at the annual UN climate negotiations"(MEF). Consider deleting these references.	Accept: all examples have been deleted.
41689	13	19	1	19	2	APP was referred to (by name) as something similar, but different earlier in the chapter. Please reconcile the different definitions	Accept: for other reasons, examples have all been deleted.

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26154	13	19	13	24	13	The discussion on participation and compliance appears to be focused on IEAs/multilateral agreements, rather than with the range of different forms of climate governance depicted in Figure 13.1. Either this could be more explicitly expressed, or additional text is needed to explain/explore how/why participation and compliance are secured in alternative governance arenas. Bulkeley, H. (2012) in Environment and Planning A, Bulkeley, H. et al. (2012) in Environment and Planning C provide some starting points/references.	Accept: Figure 13.1 has been moved and section 13.3 focuses exclusively on the game theoretic literature with an aggregate view.
24180	13	19	14	19	15	"But mechanisms such as ... foster participation" need references to support	Reject: The sentence just summarizes what is explained in detail below with adequate references. Please note that this paragraph has been deleted in the revised version.
22345	13	19	27	19	29	The statement "also the advance of the Durban Platform to build on the universal design of the UNFCCC through emissions limits by all major emitters, moving beyond the Kyoto Protocol's discrete Annex I/non-Annex I distinction" is speculative and should be deleted. All that the Durban Platform COP decision (decision 1/CP.17) states is that the process is "to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties." Nothing in the decision states that the Durban Platform negotiations will result in "emissions limits by all major emitters, moving beyond the Kyoto Protocol's discrete Annex I/non-Annex I distinction", as such an outcome will depend on the negotiations whose outcome is, at this moment, uncertain. Hence, including such a statement is purely speculative rather than scientific, particularly since such a statement portrays only one possible interpretation of what the negotiated outcome of the Durban Platform negotiations could be. There could also be other possible outcomes - such as the continuation of the distinction between Annex I and non-Annex I countries - that could arise from the Durban Platform negotiations that would still be consistent with the negotiating mandate coming out from decision 1/CP.17.	Accept: appropriate changes have been implemented.
34770	13	19	28	19	29	Delete lines 28 and 29 in their entirety. There is no agreement yet that the Durban Platform will include "emissions limits" for all major emitters. Similarly, although some Parties have indicated they would like to move beyond the Kyoto Protocol's discrete Annex I / non-Annex I distinction, moving away from this type of differentiation has not yet been agreed. To make these statements would be to pre-judge the outcome of the ADP negotiations and so should be deleted.	Accept: appropriate changes have been implemented.
27310	13	19	28	19	29	The phrase "by all major emitters, moving beyond the Kyoto Protocol's discrete Annex I/non-Annex I distinction" is a subjective statement that presents an unbalanced political perspective, and should be therefore removed.	Accept: appropriate changes have been implemented.
35310	13	19	48	20	21	The definition of "international transfer" is vague, and needs further clarification. The successful experiences of Montreal Protocol including its technology transfer and funding mechanisms is highly valuable for strengthening the implementation of the Convention. It is suggested to provide further elaborations.	Accept: changes implemented.
41691	13	19	48	20	21	It would be a good idea to mention Wara's work on the CDM here, and the environmental (in)efficiencies of the bulk of those projects. If the CDM is replacing more straightforward transfers, the authors ought to be clear that it seems to be doing so at some cost to the credibility of additionality standards and thus the functioning of systems that accept those credits - the authors mention the tightening standards of programs like the ETS later and cite Wara even further on but his work seems most relevant here.	Taken into account in 13.13 instead in the performance assessment

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34769	13	19	5	19	8	Delete: from "and efforts" in line 5/6; to "2011 Durban Platform)" in line 8. The reference to the efforts of non-Annex I Parties is not strictly necessary to illustrate the point made by the preceding sentence and the statement in brackets is speculation as to the future regime and should not be included.	Accept: Changes implemented.
28039	13	19	5	19	6	There was only 1 non Annex I party that wanted to have a QELRO in CP1. It was not admitted because the commitment was not ambitious enough, not because it was a non Annex I country. Please delete that sentence.	Accept: Changes implemented.
24178	13	19	6	19	8	delete "and efforts by some non-annex1 countries to ....Durban Platform" . The sentence is not accurate. Which parties have quantified emission reduction commitment is the decision of KP since its entrance into force.	Accept: Changes implemented.
22343	13	19	6	19	6	The statement that "efforts by some non-Annex I countries to join such quantified commitments were not accepted" should be verified as it may be factually wrong. Those non-Annex I countries wishing to accept Kyoto Protocol quantified commitments should be identified. While Belarus and Turkey are listed as UNFCCC Annex I Parties, they were not UNFCCC Parties when the Kyoto Protocol was adopted hence they were not included in Annex B of the Kyoto Protocol. When the Kyoto Protocol entered into force, Kazakhstan declared that it wanted to take on the commitments of UNFCCC Annex I Parties but since it did not make this declaration at the time the Kyoto Protocol was adopted, it was not included in Annex B of the Kyoto Protocol. See UNFCCC, at <a href="http://unfccc.int/kyoto_protocol/items/3145.php">http://unfccc.int/kyoto_protocol/items/3145.php</a> . Aside from these countries, there does not seem to have been any non-Annex I countries that had actively and officially sought to be treated as Annex I countries and then been subsequently not accepted to be an Annex I country.	Accept: Changes implemented.
28040	13	19	7	19	8	The text in brackets "(though this distinction ... Durban Platform)" can be deleted, because later in the text (page 19, line 27-29) it is explained again.	Accept: Changes implemented.
22344	13	19	7	29	8	This statement "(though this distinction may be relaxed or superseded in subsequent agreements pursuant to the 2011 Durban Platform)" is purely speculative as to what the negotiated outcome of the Durban Platform negotiations will be. This should hence be deleted. All that the Durban Platform COP decision (decision 1/CP.17) states is that the process is "to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties." Nothing in the decision states that the distinction between Annex I and non-Annex I countries may be relaxed or superseded, as such an outcome will depend on the negotiations whose outcome is, at this moment, uncertain. Hence, including such a statement is purely speculative rather than scientific.	Accept: Changes implemented.
24179	13	19	8	19	9	replace the sentence "that distinction ... less effective" to "some major emitters in Annex I take the distinction as an excuse of non-participation"	Accept: Changes implemented.
28041	13	19	8	19	9	This sentence is not true as it stands. What about major emitters from Annex I not taking part in CP1 and CP2? Please clarify or delete.	Accept: Changes implemented.
21310	13	19	9	19	11	The text needs to include a statement regarding the inadequacy of the pledges. "However, the aggregate of these pledges is not adequate to keep global warming below 2 degrees Celsius." United Nations Environment Programme (UNEP) (2012). The Emissions Gap Report: A UNEP Synthesis Report. UNEP: Nairobi, Kenya. <a href="http://www.unep.org/pdf/2012gapreport.pdf">http://www.unep.org/pdf/2012gapreport.pdf</a>	Accept: Changes implemented, respectively, text completely revised.
41690	13	19	9	19	11	It's worth noting that these actions are of a very different nature than those from A1 (which are cuts against historic levels), whereas NA1 commitments are reductions against an undefined BAU trajectory at some future date - lacking any assurance of actual emissions "reductions", which are needed to achieve politically-agreed to temperature goals.	Accept: Changes implemented, respectively, text completely revised.



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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
40730	13	19	1	19	2	Given the current UN negotiation status, these plurilateral and regional initiatives became effective forums to advance measures against climate change among major emission countries including China, India and other Non-Annex B countries. These groups can also advance the overall process of UNFCCC. Only the risk of carbon leakage should not be emphasized while ignoring this reality in UNFCCC negotiation.	Accept: for other reasons, examples have all been deleted.
21389	13	19	35	19	38	Good example.	Accept: no change required.
31120	13	19	45	19	47	Suggest addition of an example. The text refers to aspects of administrative law being developed under the UNFCCC but does not provide a specific example to clarify.	Accept: However, entire paragraph was deleted due to the need to substantially shorten of the text.
23374	13	19	48	20	21	Specific: This paragraph discusses the role of transfer payments (e.g. via emission permit allocation) to induce participation. In addition (here or elsewhere), the role of no-lose targets could be highlighted as well. If a country (or alternatively a sector) reduces emissions below a pre-specified target, it may sell the difference to other countries (sectors)., while - unlike in a cap-and-trade emissions trading system - there will be no penalty if emissions exceed the target. By over-achieving its no-lose target, a country can generate revenues which might (over-) compensate the associated abatement costs, and hence induce participation. No lose targets are seen as a possibly effective - and transitory - measure to induce (voluntary) participation in a global climate deal by developing countries, (Bodansky 2003, Philibert, 2000; Philibert and Pershing, 2001) and are also discussed in the context of the new market mechanisms within the UNFCCC framework (United Nations 2012). So far only few empirical studies on no lose targets exist. For example, Duscha and Schleich (2013) argue that the current emission targets under the Cancun Accord/Copenhagen Pledges, no lose targets are only attractive for a few developing countries, and will not contribute significantly to reducing global emissions. For this to happen, targets for Annex I countries would have to be much stricter than currently foreseen (so prices for credits from no lose targets schemes are high, rendering participation beneficial. a) United Nations, 2012b. Views on the new market-based mechanism - Submission from Parties. FCCC/AWGLCA/2012/MISC.6. 11 April 2012. b) Philibert, C., 2000. How could emissions trading benefit developing countries. Energy Policy 28, 947–956. c) Philibert, C., Pershing, J., 2001. Considering the options: Climate targets for all countries. Climate Policy 1, 211–227. d) Bodansky, D., 2003. Climate Commitments: Assessing the Options, in: Beyond Kyoto: Advancing the international effort against climate change, Pew Center on Global Climate Change, 37–60. e) Duscha, V. and Schleich, J. (2013): Can no-lose targets contribute to a 2 °C target? Climate Policy 13 (3), 305–327. <a href="http://dx.doi.org/10.1080/14693062.2013.763529">http://dx.doi.org/10.1080/14693062.2013.763529</a>	Reject: this is a good point but we have been requested to shorten section 13.3 substantially.
24104	13	2		75		The Chapter provides detailed and useful information. The chapter plays an important role for the working group III contribution to the AR5. The text still has several repetitions in different sections that make the chapter unnecessarily long (e.g. sections 13.4 with 13.13.2; 13.5.1-3 with 13.13.1.4). To avoid this it may be necessary to change the current chapter's structure and to merge parts that repeat the same information. The chapter, in general, seems well balanced, however subsection 13.9.2 is not. This may be addressed to avoid criticism.	Yes, text will be tightened up. Go with draft response 2.  (Check to see which comments to merge this one with)
26264	13	2	33	2	34	13.4.4 The special case of international cooperation regarding carbon dioxide removal (CDR) and solar radiation management (SRM) could be shortened to 13.4.4 Carbon dioxide removal (CDR) and solar radiation management (SRM)	Reject. The text makes clear that the issues surrounding CDR and SRM are sufficiently distinct from other sorts of international cooperation, and our reasons for discussing it here are also distinct. Without this being clear there is no obvious rationale for this heading.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
34771	13	20	22	20	39	<p>Although this section specifically talks about trade sanctions against non-Parties to an international environmental agreement, it may be useful to also consider the effect on participation of trade sanctions against Parties which default under an international environmental agreement. See, for example, the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES") (<a href="http://www.cites.org">http://www.cites.org</a>). Numerous trade suspensions have been recommended (see: <a href="http://www.cites.org/eng/resources/ref/suspend.php">http://www.cites.org/eng/resources/ref/suspend.php</a>). Nigeria, in particular, which was subject to a trade suspension between 2005 and 2011 (see: <a href="http://www.cites.org/eng/news/pr/2011/20110826_nigeria.php">http://www.cites.org/eng/news/pr/2011/20110826_nigeria.php</a>), may have been encouraged to pass the relevant legislation as a result of its participation in CITES. For more on other examples of trade sanctions see: <a href="http://www.legalresponseinitiative.org/download/BP14E%20-%20Briefing%20Paper%20-%20Sanctions%20and%20penalties%20in%20environmental%20treaties%20(19%20July%202010).pdf">http://www.legalresponseinitiative.org/download/BP14E%20-%20Briefing%20Paper%20-%20Sanctions%20and%20penalties%20in%20environmental%20treaties%20(19%20July%202010).pdf</a>. See also comment 12 below.</p>	Reject: In this section, the focus is on participation. The issues suggested by the referee are covered under compliance.
21311	13	20	22	20	39	<p>The current discussion is unbalanced. It mentions trade measures as a possible means of encouraging participation in an agreement, but then only mentions the drawbacks and risks of such an approach. Some of the potential advantages should be mentioned as well and the issues should be presented in some more 'neutral' language. A few suggested changes for more neutral language:</p> <ul style="list-style-type: none"> <li>- lines 22-23: "trade measures applied to the exports of non-parties to..." instead of "trade sanctions against non-parties" (it can be argued that border carbon adjustment is not a sanction, it simply serves to equalize the cost differences between participants and free-riders)</li> <li>- line 24: "border adjustment measures" instead of "offsetting border measures" (that is the terminology used in chapter 13.8)</li> <li>- line 22, 25, 27, 28, 35: "measures" instead of "sanctions"</li> <li>- line 27: Add "and in almost all climate bills considered by the U.S. Congress" after "EU ETS"</li> </ul> <p>In order to achieve a more balanced treatment, include some of the potential benefits mentioned in:</p> <ul style="list-style-type: none"> <li>- Ismer, Roland and Karsten Neuhoff, 2009. "Border Tax Adjustments: A feasible way to address nonparticipation in emission trading." Cambridge Working Papers in Economics 0409, University of Cambridge</li> <li>- J Pauwelyn, U.S. Federal Climate Policy and Competitiveness Concerns: the Limits and Options of International Trade Law. Duke University, Nicholas Institute for Environmental Policy Solutions, NI WP 0702, April 2007. (section II.A)</li> <li>- G Hufbauer, S Charnovitz, J Kim, Global Warming and the World Trading System, (PIIE: March 2009)</li> <li>- Brack, Duncan 2000 (with Michael Grubb and Craig Windram), International Trade and Climate Change Policies (Earthscan, 2000).</li> <li>- Stokke, Olav Schram 2003, Trade Measures and Climate Compliance: Institutional Interplay between WTO and Marrakesh Accords, 2003.</li> <li>- Victor 2011 is already quoted in this paragraph, but some of his arguments in favor of trade measures could be mentioned in the discussion</li> <li>- Chapter 13.8.1 also includes a much more detailed review of the pros and cons of BAMs mentioned in the literature (starting on page 47, line 38) - some of that should be reflected here.</li> </ul>	Accept: Note that this paragraph has been rewritten to focus only on the basic incentive structures. Details are covered in section 13.8 and chapter 17.
26687	13	20	26	20	27	Trade sanctions in the EU ETS. This should be further discussed and referenced or omitted.	Accept: Note that this paragraph has been rewritten to focus only on the basic incentive structures. Details are covered in section 13.8 and chapter 17.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
25498	13	20	3	20	4	Please cite Bernauer et al (2013) who provide empirical evidence that assistance provisions in an IEA increases the probability that a country ratifies the particular IEA.	Accepted
31216	13	20	33			Discussion of trade sanctions is overall very negative. But, could reference some positive attributes of sanctions made part and part of legal right in WTO in the same way that WTO dispute mechanisms allow states to impose sanctions for those that are found to have violated trade law. It could also be important to note that in terms of institutional feasibility and participation by some countries that border tax adjustments might need to be countenanced. One possible citation along these lines is work by Nigel Purvis Purvis, Nigel. 2008. Climate Trading: The Case for the 'Climate Protection Authority'. Harvard International Review. Available from < <a href="http://www.harvardir.org/articles/1774/2/">http://www.harvardir.org/articles/1774/2/</a> >. See also Mind the Gap piece for Resources for the Future <a href="http://www.rff.org/Publications/Pages/PublicationDetails.aspx?PublicationID=20523">http://www.rff.org/Publications/Pages/PublicationDetails.aspx?PublicationID=20523</a> . This gets more sustained attention on page 47 but seems to come quite late in the chapter	<p>Accept: this paragraph has been rewritten and focuses only on the basic incentive structure through trade measures. Details are discussed in section 13.8.</p> <p>Rejected/taken into account - although the basic organization of the section remains the same, there are new references and two new sentences in the introductory paragraph. The two suggested references in the comment are country-specific and concern domestic legal-political institutional issues and are thus not appropriate to include here.</p> <p>Removed the details in 13.3 about trade sanctions and save the detailed discussion for 13.8</p>
24181	13	20	4		5	MP includes technology transfer which should be made explicitly here	Accepted
41692	13	20	4	20	4	The Montreal Protocol example is not well developed. It is not clear how transfers were important in this agreement.	Accepted
22170	13	20	40	20	51	An interesting statement that "linkages across issues may help encourage participation".	Accept: no change required.
41695	13	20	40	20	40	The authors should make explicit how certain linkages can enhance cooperation/negotiations but how too much linkage can make the negotiations all the more difficult.	Reject: on page 21, line 11, we already say that there are transactions costs, so this is already in.
41694	13	20	40	20	42	"linkage" should be more clearly defined in this context.	Accept: definition added.
34387	13	20	42			Please cross-reference section 3.5.3, 5.10 and 6.6 here. Please note that FDI and national security issues are not among those effects discussed in chapters 5 through 12. However, energy security and employment effects are.	Accept: cross references have been added.
41693	13	20	6	20	10	"...important in international and regional climate policies" --which ones?	Accepted

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
22346	13	20	6	20	10	The text here provides an uncritical acceptance of the concept of emissions trading. However, both the concept and practice of emissions trading has been critiqued substantively. There should also be text that indicates that there are critiques to emissions trading. Such text could be as follows, to be inserted after the reference to (Ellerman, 2012) on line 10: "However, it should be noted that both the theory and practice of emissions trading and carbon markets as applied to mitigation have also been viewed critically and with caution both academically and, in the context of the UNFCCC negotiations, politically." For published academic critiques, see, e.g., Larry Lohmann, Carbon Trading, Climate Justice and the Production of Ignorance: Ten examples, Development (2008) 51, pp. 359–365; Michael Hopkin, Emissions trading: The carbon game, Nature 432, 268-270 (18 November 2004); Heather Lovell et al., Carbon Offsetting: Sustaining Consumption?, Environment and Planning A 2009, volume 41, pages 2357-2379, at <a href="http://sciencepolicy.colorado.edu/students/envs_4100/lovell_2009.pdf">http://sciencepolicy.colorado.edu/students/envs_4100/lovell_2009.pdf</a> ; Steffen Bohm and Siddhartha Dabhi (eds), Upsetting the Offset: The Political Economy of Carbon Markets (MayFlyBooks, 2009), at <a href="http://www.libros.metabiblioteca.org/bitstream/001/314/8/978-1-906948-07-8.pdf">http://www.libros.metabiblioteca.org/bitstream/001/314/8/978-1-906948-07-8.pdf</a> . For political critiques in the context of the UNFCCC negotiations, see, e.g. Bolivia, at <a href="http://unfccc.int/files/bodies/awg-lca/application/pdf/20120518_bolivia_nmm_2100.pdf">http://unfccc.int/files/bodies/awg-lca/application/pdf/20120518_bolivia_nmm_2100.pdf</a> and at <a href="http://unfccc.int/resource/docs/2012/awglca15/eng/misc06a02.pdf">http://unfccc.int/resource/docs/2012/awglca15/eng/misc06a02.pdf</a> ; and Philippines on behalf of a group of like-minded developing countries, stating that "Another important lesson to take stock of is the current collapse of the carbon markets. In this light, the effectiveness, viability and environmental integrity of market mechanisms for mitigation need to be reviewed and considered with caution, especially proposals for their expansion", at page 8 of their submission ( <a href="http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_lmdc_workstream_1_20130313.pdf">http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_lmdc_workstream_1_20130313.pdf</a> ).	Reject: discussion here is solely about the distributional impacts of permit trading and not about permit trading in general.
30178	13	20	22	20	39	This section could benefit from a broader examination of the literature on trade as a motivator for participation in international agreements and in domestic actions. See, e.g., climate change and the political game theory of border carbon adjustments, Dieter Helm, Cameron Hepburn and Giovanni Ruta, May 2012, Centre for Climate Change Economics and Policy, Working Paper No. 92, Grantham Research Institute on Climate Change and the Environment Working Paper No. 80 <a href="http://www.dieterhelm.co.uk/node/1326">http://www.dieterhelm.co.uk/node/1326</a> ; see also	Accept: Note that this paragraph has been rewritten to focus only on the basic incentive structures. Details are covered in section 13.8 and chapter 17.
33854	13	20	38	20	39	Twice 'absence' in one sentence. Consider changing the sentence to: "In the absence to date of any instances of the actual imposition of such measures, there is an absence of no empirical evidence about their effects".	Accept: Note entire paragraph has been shortened.
24909	13	20	40	21	10	Suggest this section has marginal relevance and could be shortened or deleted if the chapter length is being shortened	Accept: The text has been streamlined.
41696	13	21	11	21	19	This insight would seemingly entirely dismiss the utility of issue linkage and regime linkage within the UNFCCC context, where the "transaction costs" of coordinating 193 countries' views would more or less be insurmountable. While this paragraph may be a segue into the following paragraph's discussions of the opportunities for linking adaptation and mitigation policies to yield a more binding treaty, the argument is too powerful to be left alone.	Reject: the current formulation leaves it open whether transaction costs dominate the positive effects of issue linkage.
22347	13	21	11	21	19	An additional sentence should be added to this paragraph to state: "It should, however, be noted that the UNFCCC's policy architecture as seen in its various provisions (particularly Article 4.1, 4.2, 4.3, 4.4, 4.5, 4.7) envisages and establishes a regime in which the issues referred to - 'mitigation, financing of adaptation and mitigation in developing countries, and technology transfer' - are in fact explicitly linked." Adding such a sentence will highlight that any theoretical discussion of issue linkage has to take cognizance of the fact that the existing multilateral policy regime under the UNFCCC does mandate such issue linkages.	Accept: text has been changed.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
34772	13	21	18	21	19	Separate negotiations (particularly if between a smaller group of key countries) may also lack the legitimacy of more universal (and/or linked) negotiations - this is a key point and should also be included.	Accept: change has been implemented.
41697	13	21	20	21	38	Requires greater resolution in terms of which countries are driven by concerns about mitigation, adaptation, or both, and whether the linkages would be likely to generate a winning coalition at the international level. To some extent this question may tie in with other chapters, but the linkage should be made.	Reject: This is still an open issue and hence no more details can be added.
34388	13	21	25			Please provide cross-references for parts of the report that discuss trade-offs and synergies across adaptation and mitigation measures.	<p>Synthesis report has a section that addresses tradeoffs and synergies between mitigation and adaptation</p> <p>Taken into account - section on research gaps now includes interaction and synergy of adaptation and mitigation</p> <p>Taken into account - additional coverage of synergies between adaptation and mitigation added throughout, including a cross-reference to Ch. 3 here</p>
34773	13	21	39	21	49	In talking about uncertainty, reference should also be made to the precautionary principle or approach (as provided for in Article 3(3) of the UNFCCC). While it is true that in developing a NEW regime, uncertainty may affect participation, the UNFCCC already attempts to limit the impact of uncertainty by including that precautionary measures should be adopted even if there is a lack of full scientific certainty. Therefore, the Durban Platform (which seeks to further implement the EXISTING UNFCCC regime) should be guided by this approach.	<p>Taken into account in 13.2 - the precautionary approach is already discussed as a guiding principle for climate change policies in 13.2.1.2, the text in that section has been revised to include that Article 3(3) encourages precaution even when there is scientific uncertainty.</p> <p>Rejected in 13.3: the precautionary principle, though very important, is not part of this strand of literature, which exclusively focus on the strategic effects of coalition formation. The precautionary principle is discussed at several places of this report.</p>

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41698	13	21	44	21	44	As a general matter, "transfers" are likely to only increase participation among those that *receive* the transfers; it could be just as much of a dis-incentive for those giving the transfer.	Reject: Though the comment is generally true, we always assume that transfer balance asymmetries such that those who receive more than required to stay in an agreement transfer money to those which require more to stay or join the agreement, without changing the incentives of the former group to stay in the agreement.
25972	13	21	38			There is much more that could be said about border measures. For example, such measures are realistically only available to powerful trading nations, not small countries with little market power. Moreover, even when applied by powerful trading nations, such measures may merely divert trade rather than discipline firms in so-called 'carbon havens'. See, for example, Trevor Houser et al., Leveling the Carbon Playing Field: International Competition and US Climate Policy Design (Washington, D.C.: World Resources Institute and Peterson Institute for International Economics, 2008), chap. 3. Finally, the discussion fails to acknowledge the fundamental tension between the principle of non-discrimination in the multilateral trading system, which admits certain border measures provided they are non-discriminatory, and the principles of CBDR in the UNFCCC. From the standpoint of developing countries, non-discriminatory border measures applied equally to developed and developing countries amount to 'back-door' targets. See Robyn Eckersley, 'The Politics of Carbon Leakage and the Fairness of Border Measures', Ethics and International Affairs 24(4) (2010): 367-93.	Reject: It is true that more details could be discussed. In this section, we focus only on the basic incentive structure introduced through trade measures. The details are discussed in section 13.8 and other policy chapters.
21390	13	21	6	21	10	Important- should not be deleted	Accept: no change required.
30511	13	21	6	21	10	Important- should not be deleted	Accept: no change required.
31121	13	22	13	22	15	Two hypotheses are presented with respect of a party's decision to withdraw from international agreements if it cannot meet its obligations, or stay within the agreements without full compliance. It follows the hypotheses by saying, "There is only one case of withdrawal from the Kyoto Protocol, that of Canada in December 2011. It is not clear which dynamic is dominant in this case". The rationale for the second sentence's conclusion is not provided. We suggest that the last sentence is deleted and replaced by Canada's official position, which is that the Kyoto Protocol was not effective in reducing global GHG emissions and that Canada will work instead towards its 2020 target under the Copenhagen Accord. In withdrawing from the KP, Canada exercised its legal right under Article 27 of the treaty.	Accept partially: we agree that the reason for Canada's withdrawal is speculative. Hence, we only state the fact that Canada has withdrawn and deleted the last sentence.
34774	13	22	2	22	2	The cross-reference to section 13.3.3 does not support the statement being made. I think the correct cross-reference is 13.2.2.	Accept: the correct cross reference is 13.3.2.
31217	13	22	26			On evaluating treaties, you might also cite Busby, Joshua. 2010. International Organization and Environmental Governance. In International Studies Encyclopedia, edited by Richard Denemark. New York: Wiley-Blackwell.	Reject: the current text is already supported by enough references and we are forced to cut down the text substantially.
24910	13	22	36	22	45	The paragraph is valuable - suggest it is important to keep if the chapter is shortened	Accepted as suggested.
22348	13	23	11	23	11	The reference to "and its follow-on accords" should be deleted because as far as the UNFCCC regime is concerned, there has not been any other related legal instrument under the UNFCCC that has been negotiated and agreed to "follow-on" from the Kyoto Protocol.	Accepted and changed.
28042	13	23	15	23	17	Good sentence! Should go to SPM!	Accepted: no changes required.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41699	13	23	16	23	16	It's worth explaining in more detail how compliance in KP has been imperfect.	Reject: The space in this section is not enough for detailed analysis on how compliance in KP has been imperfect. Moreover, the first paragraph in 13.3.4 indicates the possible reasons for how compliance in KP has been imperfect. Please note that this section had to be shortened substantially.
34776	13	23	27	23	41	Discussion of trade sanctions in other international environmental treaties would be helpful as would consideration of whether they (or their threats) have ensued in higher compliance.	Reject: Note that this paragraph has been rewritten to focus only on the basic incentive structures. Details are covered in section 13.8 and chapter 17.
34775	13	23	28	23	28	The cross-reference to section 13.3.1 does not support the statement being made. I think the correct cross-reference is 13.3.3.	Accepted: cross reference changed.
31218	13	23	33			There may need to be some discussion that trade sanctions might need to be included as for regime feasibility to induce some countries' participation.	Rejected: Participation has been discussed in the previous sub-section 13.3.3.
34777	13	23	45	23	48	Could the work programme on loss and damage under negotiation in the UNFCCC be considered to have the effect of a compliance mechanism? If so, reference should be made to it here.	Reject: Suggestions unclear without further references.
24911	13	23	15	23	17	The sentence is valuable - suggest it is important to keep if the chapter is shortened	Accepted and considered.
31191	13	23	42	24	13	It may be worth putting this discussion on liability in the UNFCCC context of "Loss and Damage," which received attention by negotiators at the Doha COP. Liability could be one interpretation of "Loss and Damage," and thus this discussion could be informative as negotiators and stakeholders attempt to address this new issue in the negotiating agenda.	Reject: Suggestions unclear without further references.
21312	13	24	11	24	11	Add a reference to Elbert Jong and Jaap Spier (2012), Shaping the Law for Global Crises: Thoughts about the Role the Law Could Play to Come to Grips with the Major Challenges of Our Time. (Boom Eleven International)	Rejected: There are already enough references to support our statement and we had to cut down on the text in section 13.3.
22349	13	24	21	24	23	The sentence needs to be reworded because as currently written, it implies that a globally centralized allocation of emissions rights can be undertaken without need of a globally negotiated agreement among countries. This is incorrect. Such a centralized allocation would STILL need to be the subject of an international cooperation agreement in any case. Furthermore, any international cooperation arrangement or agreement will necessarily involve States primarily if these are to be effective. Hence, the first part of the sentence should be deleted, such that the sentence will read "Approaches to international cooperation on climate change all arise out of the negotiated agreements among independent States, primarily, and may also engage other participants."	Not taken into account. The source cited (Tickell) does argue explicitly for a shift in global politics towards a global authority that could impose rules on national governments. Text revised to make clearer that this is highly unlikely.
28043	13	24	32	24	33	This is a very helpful remark to improve the understanding of figure 13.2. You might consider putting this remark also in the SPM and TS.	Noted.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41701	13	24	38	24	38	"Ideal" should be "idealized"; "ideal" instills a subjective preference to all others, which IPCC cannot be in the business of doing.	Reject. The term "ideal type" is well established within social scientific terminology to refer to categories that describe the main elements in a particular approach without implying that every instance of the category actually contains all the elements involved.
41702	13	24	40	24	40	The authors should clarify more explicitly the difference between "top down" vs "bottom up". It has been likened to binding targets and timetables rather than state based decisions enforced domestically - but, in any case the authors should define how they mean it in this context.	Reject. The first paragraph of Section 13.4.1 offers a clear definition of these two terms.
24109	13	24		34		The whole section needs to be revised to specify in a more clear way to the reader what approaches and schemes have been applied in practice and what only have been theoretically elaborated or suggested by scholars. This recommendation is also relevant to table 13.3 and to FAQ 13.2	Reject. The section provides a general typology of different types of possible agreements and their elements. It is made clear where existing agreements are mentioned and by implication where particular types of agreements are simply proposals. Further editing has clarified this more effectively. Further detail in figure 13.2 which distinguishes explicitly between existing and proposed agreements also helps this clarification.
41700	13	24	14	34	42	Much of the text does not provide a very compelling read - in part because the paragraphs are too abstract, wordy and lacking in conclusions/findings. Many paragraphs could benefit by having their abstract components shortened and/or expanding upon the key messages/findings by providing actual details.	Taken into account. Extensive further edits for clarity undertaken.
31501	13	24	14			Although the three ideal types of architecture may be useful distinction, putting Kyoto Protocol to the one extreme of the "centralized authority" is misleading. Kyoto Protocol's compliance scheme is not the most "strict" compliance scheme in the history of international regimes and the introduction of emissions trading and other mechanisms give actors (Parties) considerable room of flexibility. The way in which targets are set was not "ideal" top-down as individual targets are essentially a sum of what Parties brought up, not derived from scientifically required for certain purpose (i.e. "ultimate objective"). Kyoto Protocol should be rather understood in the spectrum.	Reject. The text does not refer to the KP as the "extreme" of centralized authority, but rather within that ideal type. The text makes clear the typology is of ideal types and Figure 13.2 makes clear it is a continuum rather than a strict set of distinctions.
40732	13	25				Policy means on this figure are far from exhaustive, and it is impossible to be exhaustive. The figure should be deleted because In anyway this kind of figure can not avoid being labeled arbitrary.	Taken into account. Figure 13.2 has been revised to include more types and examples of agreements. It remains however illustrative rather than exhaustive.
40733	13	25				This figure 13.2 is presumably based on AR4 (2007) after which many developments in findings have been made. Therefore the overly simplified figure does not adequately exhibit approaches to international cooperation and should be omitted.	Reject. The figure was not based directly on AR4 but rather on the 'architectures' literature surveyed in section 13.4. The figure has been revised significantly to add in other examples.



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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41704	13	25	1			It is hard to distinguish if elements reflect cooperation over means or ends - such as pledge and review. A better way of presenting this might be in terms of centralized/decentralized and regulatory/voluntary.	Reject. The proposed distinction would be tautologous in that the way centralization is conceptualized refers in effect at the same time to the mandatory/regulatory quality of an agreement - the more centralized the authority that is generated, the more the agreement relies on mandatory action, and vice versa. It is true that some sorts of agreements are simultaneously about ends and means - they have been differentiated in the table where possible (e.g. Article 2 of the FCCC, Kyoto targets, flexibility mechanisms, MRV rules).
28044	13	25	12	25	12	In the text you're using "global emission tax", but in figure 13.2 you're using "global carbon tax". Please check.	Taken into account. The term carbon tax is used much more widely in the chapter than emission tax. It has been standardized to carbon tax.
22922	13	25	22			Since in Pittsburgh G20 Leaders agreed to rationalize and phase out over the medium term "inefficient" fossil fuel subsidies that encourage wasteful consumption, I suggest incorporating the word "inefficient" in the text.	Taken into account. See response to #1325
41703	13	25	6	25	8	This description of strong, centralized multilateralism sounds like the Cancun agreement system. Why is that not mentioned/assessed? It really ought to be.	Reject. The Cancun agreements are an extension of the Copenhagen version of "pledge and review" (as discussed in the main text) and are thus represented in the figure in that context.
25776	13	25	9	25	16	This part should explain that market-based mechanism such as emission trading has several problems. Volatility of emission permit prices affects volatility of product prices as evidenced by fluctuating price developments in the EU-ETS. Therefore, the market-based policy tools of cap-and-trade cannot provide credible incentives for the technological change, as described in (Montgomery, 2005, abstract) and (Baldursson, 2009, page29). In addition CO2 leakage caused by the implementation of the ETS happened actually through transfer of industry from one country to others. Market mechanisms at least under Kyoto-like international scheme, where the condition of all countries' meaningful participation is not met, do not work well, as shown in (Rosendahl, 2011, abstract), (Aichele, 2012, page336), and (Peters, 2011, page1). These literatures are listed in the No9 line of this table.	Taken into account. Combined with comment #1357 which is a more general comment on our treatment of emissions trading in the chapter. The EU ETS specific comments are more relevant for chapter 14 than 13 and the general assessment of emissions trading more relevant for ch 15
24912	13	25	21	25	22	Reference to the "phase out of fossil fuel subsidies" is incomplete - suggest change to "...fossil fuel subsidies that encourage wasteful consumption" to avoid being misleading	Accepted, text revised.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
40731	13	25	25			As another scholarly achievement shows that taxing is one of the most firm and conservative topic of nation sovereignty. Carbon tax is not an appropriate example of harmonized national policies in other part of the world given this diversity of opinion. Even in EU, this has not been implemented as it needs EU member consensus for final decision. Taxing is a core element of nation sovereignty and no rules of international law exist to limit the extent of any country's tax jurisdiction, and this is one of the most difficult area to establish international cooperation and harmonization. See M Akehurst ,Jurisdiction in international law,Brit. YB Int'l L.(1972);Tax Integration Under NAFTA: Resolving the Conflict Between Economic and Sovereignty Interests,AJ Cockfield,Stan. J. Int'l L. (1998 );Jurisdiction on tax and international income, M Norr,Tax L. Rev.(1961) etc.	Rejected. The text does not suggest any agreement has attempted to harmonize tax, nor does it advocate such an approach. It reports however on such proposals which exist in the literature.
25777	13	26	25	26	27	This part should be deleted completely because market-based mechanism such as emission trading has several problems. Volatility of emission permit prices affects volatility of product prices as evidenced by fluctuating price developments in the EU-ETS. Therefore, the market-based policy tools of cap-and-trade cannot provide credible incentives for the technological change, as described in (Montgomery, 2005, abstract) and (Baldursson, 2009, page29). In addition, CO2 leakage caused by the implementation of the ETS happened actually through transfer of industry from one country to others. Market mechanisms at least under Kyoto-like international scheme, where the condition of all countries' meaningful participation is not met, do not work well, as shown in (Rosendahl, 2011 abstract), (Aichele, 2012, page336), and (Peters, 2011, page1). These literatures are listed in the No9 line of this table.	Taken into account. Combined with comment #1357 which is a more general comment on our treatment of emissions trading in the chapter.The EU ETS specific comments are more relevant for chapter 14 than 13 and the general assessment of emissions trading more relevant for ch 15
31219	13	26	37			This piece also suggests comprehensive integrated approaches may be problematic. Busby, Joshua. 2010. After Copenhagen: Climate Governance and the Road Ahead. Council on Foreign Relations. Available from < <a href="http://www.cfr.org/publication/22726/after_copenhagen.html">http://www.cfr.org/publication/22726/after_copenhagen.html</a> >.	Rejected. The suggested reference is not a peer-reviewed journal article. The references in the text support the similar view.
21313	13	26	8	26	10	Unless the authors spells out what they mean by precise arrangement, the sentence seems implausible.	Taken into account. The term "precise" changed to "particular". See also response to #1329.
31192	13	26	3	26	10	Copenhagen/Cancun-style pledge and review does not appear to fit within the subsection on "harmonized national policies" -- the emission mitigation targets, goals, policies, and actions take many different forms (economy-wide emission targets, emission intensity reduction goals, reductions from business-as-usual emission levels, and specific energy efficiency and renewable policies) and thus are not harmonized. This paragraph would appear to fit better in the following sub-section on decentralized approaches and coordinated policies	Taken into account. Text revised to emphasize that pledge and review could vary considerably in terms of centralization, depending on the design.
40734	13	26	11			What is the difference between "Harmonized National Policies" and "Decentralized approaches" in this part? This categorization makes no sense seeing big overlap in both concept. For example, carbon tax is a typical decentralized policy as I commented above but this is described as "harmonized" in 13.4.1.2.	Taken into account. The phrase "equivalent national carbon tax" replaced to make clear this envisages carbon taxes that are harmonized internationally.
24110	13	26	3	26	10	The reference source of this statement has not been included. If there is not a clear source, this paragraph may be deleted. The statement per se is questionable: many, including scholars, have questioned that the Copenhagen Accords could be an example of strong multilateralism. These accords, only noted by the COP but no adopted, do not include clear review actions contradicting what it writing.	Rejected. The typology is a set of ideal types, and better understood as a continuum as represented in figure 13.2. Pledge and review is represented there as having a range of possible levels of centralization.
24913	13	26	30	26	33	Australia and the EU have done more than "started to explore linkage". Suggest replacing with: "... in part as ETS have developed and started to form linkages (most notably, the direct two-way link between the EU ETS and Australia)..."	Taken into account. The text has been updated to reflect the evolving situation in the EU-Australian linkage.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
21316	13	27				<p>In the first box in the left column, substitute "character" for "bindingness" to conform to Werksman, 2010, the source stated on page 27.</p> <p>In the fifth box in the middle column, substitute "remains voluntary" for "still does not bind the parties". Saying that it does not bind is confusing since, as a matter of law, being in a legally binding agreement, there is legal intent to be bound, albeit by what is only voluntary.</p> <p>In the sixth box in the middle column, revise the second sentence to read "However such a commitment has no legal consequences for falling short of the baseline." It is confusing to say a no-lose commitment is non-binding; if it is part of a legally binding agreement, there is intent to be bound, albeit only to a scheme without negative consequences.</p>	<p>Taken into account in rewritten section on legal bindingness. Accepted suggestion to use word "character" at top of left column of table. The row in the table on "no-lose" commitments has been deleted.</p>
22350	13	27		27		<p>The source for Table 13.2 needs to be indicated. Furthermore, the methodology for determining what examples to put with respect to the type of commitment needs to be explained. For example, another view with respect to the UNFCCC target for developed countries under Article 4.2(a) and (b) to return their emissions to 1990 levels by the year 2000 is that such a commitment could fall under the "Mandatory provision in a legally binding agreement" commitment type rather than in the "Non-mandatory provision in a legally binding agreement" commitment type. Article 4.2(a) and (b) could also be validly interpreted as SPECIFICALLY COMMITTING (this is the language in the chapeau of Article 4.2) Annex I Parties to undertake national policies and measures reduce their emissions and provide information on these policies and measures with the aim of returning their emissions to 1990 levels by the year 2000. As such, it would then fall under the "mandatory provision in a legally binding agreement" type rather than in the other one. other UNFCCC commitments that would fall under this commitment type would be Articles 4.3 and 4.4 - both of which provisions are worded in mandatory "shall" language. What could conceivably fall under the "non-mandatory provision in a legally binding agreement" type, given the more flexible wording of the treaty text, could be Article 4.5 (which uses "shall take all practicable steps").</p>	<p>Taken into account in rewritten text of Table 13.2, which, among other things, now clarifies the characterization of UNFCCC 4.2(a) and (b) (distinguishing the mandatory provision to adopt policies and measures, from the non-mandatory "aim" to return to 1990 levels). The criteria for these characterizations are discussed in the rewritten text on legal bindingness.</p>
21315	13	27	24	27	24	<p>To conform with the reference, (which should be Werksman, J. (2010). Legal Symmetry and Legal Differentiation under a Future Deal on Climate Change. Climate Policy, Vol. 10(6)), change the word "bindingness" in line 24 to "legal character."</p>	<p>Taken into account in rewritten section on legal bindingness. Retained word "bindingness" because that is the characteristic at issue here. (The citation to Werksman 2010 was already in the chapter.)</p>
25500	13	27	6	27	7	<p>please cite Baxter (1980) and Abbott and Snidal (2000) who argue that international agreements exhibit a wide range of variation based on their legality from legally binding to non-legally binding agreements Abbott, Kenneth W., and Duncan Snidal. 2000. Hard and Soft Law in International Governance. International Organization 54 (3): 421-456. Baxter R.R. 1980. International Law in "Her Infinite Variety". The International and Comparative Law Quarterly 29(4): 549-566.</p>	<p>Taken into account in rewritten section on legal bindingness. Abbott &amp; Snidal was already cited. Baxter citation added.</p>
21314	13	27	8	27	11	<p>To conform with the reference (Werksman, J. (2010) Legal Symmetry and Legal Differentiation under a Future Deal on Climate Change. Climate Policy, Vol. 10(6)), revise the portion of the sentence in lines 8 through 11 to read as follows: "The legal character of an international agreement involves four related dimensions: (1) legal form (e.g., treaty, protocol to a treaty, decision of the UNFCCC Conference of the Parties, political agreement), which reflects whether the instrument is a legally binding agreement; . . ."</p>	<p>Taken into account in rewritten text on legal bindingness, including this sentence.</p>

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
25501	13	27	9	27	15	Please cite Abbott et al. (2000), Raustiala (2005) and Guzman (2005), who also argue that a legally binding agreement is defined along these dimensions. Abbott, Kenneth W., Robert Keohane, Andrew Moravcsik, Anne-Marie Slaughter, and Duncan Snidal. 2000. The Concept of Legalization. <i>International Organization</i> 54 (3): 401-419. Raustiala, Kal. 2005. Form and Substance in International Agreements. <i>The American Journal of International Law</i> 99 (3): 581-614. Guzman, Andrew T. 2005. The Design of International Agreements. <i>The European Journal of International Law</i> 16 (4): 579-612.	Taken into account in rewritten section on legal bindingness. Already cited Abbott & Snidal 2000, and Raustiala 2005. Added citations to Abbott et al. 2000, and Guzman & Meyer 2010.
41706	13	27	1	31	34	This seems a bit of a mixture of topics. At the outset of the section, the authors should help the reader understand why these are all linked and included under one section.	Accepted. Text added to introductory paragraph to explain choice of elements
31193	13	27	6	29	6	The discussion of "legal bindingness" should expand on the comment regarding the potential trade-off between stringency of commitments and legal bindingness. This text appears to be an assessment of the participation dimension. This issue is also important in terms of the compliance dimension. For example, Canada withdrew from the Kyoto Protocol out of its concerns about the potential costs for failing to comply with this legally binding instrument. Given the dynamic nature of the problem -- the climate problem and the negotiations problem -- it may be preferable to have countries stay within an agreement even if they fail to deliver on emission goals in the first period, then to create incentives for them to leave if they fail to deliver (through the legal bindingness of the Kyoto Protocol and the withdrawal provision typical of many international agreements).	Accepted and included in rewritten section on legal bindingness.
34244	13	27	8	27	15	We may add a fifth dimension to legal bindingness immediately after the word 'commitments' in line 15, as follows: Additionally, the extent to which the general adoption of the provision would contribute to realising /impairing legal values or would lead to its collective endorsement.	Reject. The language proposed is not clear and does not provide a clear alternative to the preceding dimensions. See also responses to #1335-1340 which deal with clarifications to this passage.
25499	13	27	6	29	6	This subsection is poorly written and hence confusing. The authors should first clarify the difference between legally binding (treaties and contracts) and non-legally binding (pledges) agreements by discussing this distinction in terms of 'hard law' (legally binding agreements) vs 'soft law' (non-legally binding agreements). They should also discuss why and when states choose to create each type of agreement (this kind of discussion comes later on, page 28: 1-21). Then they should define the dimensions used to define a legally binding agreement as such (page 27:6-15), and then discuss how this binary view has in recent years gradually given way to notions of 'soft' law not only as non-legally binding agreements, but also as legally binding agreements that lack features deemed necessary for an agreement to be 'hard' law, such as precision of obligations or enforcement mechanisms (page 28: 22-25). Finally, Table 13.2 should be constructed in such a way to reflect increase/decrease in legality. For instance mandatory provision in a legally binding agreement is 'softer' than one that contains mandatory provision and enforcement mechanism but a non-mandatory provision in a legally binding agreement is 'harder' than a mandatory provision in a non-legally binding agreement.	Accepted. Subsection on Legal Bindingness rewritten. Table 13.2 revised.
25502	13	28	6			a commitment in legally-binding form has never a symbolic value. According to the Vienna Convention on the Law of Treaties (Art. 2, para. 1(a), 1155 UNTS 331) "international agreement(s) concluded between states in written form and governed by international law, ...binding upon the parties".	Accepted; word "symbolic" deleted, and concept described in other terms.

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41705	13	29	15	29	24	This paragraph compares "dynamic" to "absolute" targets. This does not seem to be the distinction the authors are trying to make. The opposite of absolute targets are relative or intensity targets, because they are relative to another value (e.g. GDP or population). It's true to say that the values in the absolute or intensity targets are dynamic (they change over time), the difference is that in an absolute target, the emissions are dynamic but the base year is not, while in intensity or relative targets, both values are dynamic (e.g. emissions and GDP or population). Dynamic gets to the question of whether the targets are fixed or whether they may change over time (some have proposed dynamic targets for post-2020 in which countries continuously update their target based on new information or new policies adopted). A more explicit discussion of this - and how it might affect abition, reductions, etc. is warranted.	Accepted. Text change to distinguish between absolute/intensity targets, and fixed/dynamic ones.
41707	13	29	17	29	17	This does not have to be relative to - exclusively - economic output, but can also be relative to population growth, BAU, etc.	Accepted - text revised accordingly.
25503	13	29	2	29	3	what is the meaning of binding international legal commitments may lack binding domestic enforcement mechanisms?	Taken into account in rewritten section on legal bindingness. This last paragraph has been deleted and replaced by a new and longer paragraph, now placed above the Table, discussing enforcement (international and domestic), reputation, cooperation, and other costs of noncompliance.
41708	13	29	20	29	22	Intensity caps do not guarantee actual reductions in emissions. Therefore, absolute limits are better if the goal is to ensure emissions reductions. The authors should clarify this point.	Taken into account. See response to #1348 and #1351
41709	13	29	21	29	21	What "parameter values"? This is opaque and should be clarified by the authors.	Accepted. Text revised considerably to make meaning clearer. Mention of "dynamic" targets is deleted, as not discussed further in the text. Additional nuance regarding the debate about intensity targets introduced.
22351	13	29	25	29	25	The reference to "Kyoto Annex I" is incorrect. The correct reference should be "Kyoto Protocol Annex B Parties". Annex I refers to Parties listed in Annex I of the UNFCCC. The Kyoto Protocol has a different Annex.	Accepted - text revised accordingly.
31220	13	29	35			discussion of graduation criteria for commitment could be relevant here	Taken into account. See response to #1348 and #1351

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22352	13	29	38	29	39	The phrase "international negotiations have focused on ways of enabling states to have flexibility in meeting obligations" is inaccurate. The provision of flexibility in meeting obligations, going by the discussions that have taken place in the UNFCCC negotiations, has not been THE focus of the negotiations - whether it was under the negotiations under the Bali Action Plan or the negotiations under the Kyoto Protocol. Rather, the focus has been on: (i) a "process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome" (Bali Action Plan, decision 1/CP.13, at <a href="http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=3">http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=3</a> ); and (ii) considering "further commitments for Parties included in Annex I for the period beyond 2012 in accordance with Article 3, paragraph 9, of the Protocol" (decision 1/CMP.1, at <a href="http://unfccc.int/resource/docs/2005/cmp1/eng/08a01.pdf#page=3">http://unfccc.int/resource/docs/2005/cmp1/eng/08a01.pdf#page=3</a> ). In short, the focus has been on enhancing the implementation of the UNFCCC and on having further Annex I Party mitigation commitments beyond 2012. The issue of having flexibilities in meeting obligations is, therefore, not the focus of international negotiations. Such issue, in fact, is only one of the myriad issues that UNFCCC and Kyoto Protocol Parties have grappled with in terms of its linkages to other negotiating issues. Hence, the importance, role, or visibility of this issue in the context of the UNFCCC negotiations should not be hyped up or blown out of proportion.	Accepted - text revised accordingly.
25504	13	29	44	29	46	please cite Koremenos (2001, 2002), Koremenos et al (2001), Rosendorff and Milner (2001), and von Stein (2008) who also argue and empirically show that flexibility allows states to respond to unanticipated shocks as well as to special domestic circumstances without compromising existing institutional arrangements. Koremenos, Barbara. 2005. Contracting around International Uncertainty. American Political Science Review 99: 549-565. Koremenos, Barbara. 2001. Loosening the Ties That Bind: A Learning Model of Agreement Flexibility. International Organization 55 (2): 289-325. Koremenos, Barbara, Charles Lipson and Duncan Snidal. 2001. The Rational Design of International Institutions. International Organization 55 (4): 761-799. Rosendorff, B. Peter and Helen V. Milner. 2001. The Optimal Design of International Trade Institutions: Uncertainty and Escape. International Organization 55 (4): 829-857.	Reject. Given space constraints adding additional citations on this point is not sufficiently important. The Hafner-Burton article cited supports the relevant point in the text adequately. The Koremenos article is cited in 13.2.

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22353	13	29	47	30	10	The text here provides an uncritical acceptance of the concept of emissions trading. However, both the concept and practice of emissions trading has been critiqued substantively. There should also be text that indicates that there are critiques to emissions trading. Such text could be as follows: "However, it should be noted that both the theory and practice of emissions trading and carbon markets as applied to mitigation have also been viewed critically and with caution both academically and, in the context of the UNFCCC negotiations, politically." For published academic critiques, see, e.g., Larry Lohmann, Carbon Trading, Climate Justice and the Production of Ignorance: Ten examples, Development (2008) 51, pp. 359–365; Michael Hopkin, Emissions trading: The carbon game, Nature 432, 268-270 (18 November 2004); Heather Lovell et al., Carbon Offsetting: Sustaining Consumption?, Environment and Planning A 2009, volume 41, pages 2357-2379, at <a href="http://sciencepolicy.colorado.edu/students/envs_4100/lovell_2009.pdf">http://sciencepolicy.colorado.edu/students/envs_4100/lovell_2009.pdf</a> ; Steffen Bohm and Siddhartha Dabhi (eds), Upsetting the Offset: The Political Economy of Carbon Markets (MayFlyBooks, 2009), at <a href="http://www.libros.metabiblioteca.org/bitstream/001/314/8/978-1-906948-07-8.pdf">http://www.libros.metabiblioteca.org/bitstream/001/314/8/978-1-906948-07-8.pdf</a> . For political critiques in the context of the UNFCCC negotiations, see, e.g. Bolivia, at <a href="http://unfccc.int/files/bodies/awg-lca/application/pdf/20120518_bolivia_nmm_2100.pdf">http://unfccc.int/files/bodies/awg-lca/application/pdf/20120518_bolivia_nmm_2100.pdf</a> and at <a href="http://unfccc.int/resource/docs/2012/awglca15/eng/misc06a02.pdf">http://unfccc.int/resource/docs/2012/awglca15/eng/misc06a02.pdf</a> ; and Philippines on behalf of a group of like-minded developing countries, stating that "Another important lesson to take stock of is the current collapse of the carbon markets. In this light, the effectiveness, viability and environmental integrity of market mechanisms for mitigation need to be reviewed and considered with caution, especially proposals for their expansion", at page 8 of their submission ( <a href="http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_lmdc_workstream_1_2012030313.pdf">http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_lmdc_workstream_1_2012030313.pdf</a> ).	Taken into account. Added additional references and text to 13.4, citing some of these sources. Empirical assessment of emissions trading is in section 13.13.1.2, which also includes a subsection on performance of the CDM.
33855	13	29	22	29	22	Grammar: "Another aspect has being been highlighted [...]"	Accepted - text revised accordingly.
25893	13	30	18	30	24	in addition to eu ets, a lot of cers of cdm have been used in Japanese business and government. Japanese businee purchased cers to achieve their voluntary target. The government purchased for kyoto protocol target. Their activities may be mentioned because of large volume of 250 million tons.	Taken into account. Japan is the 2nd biggest purchaser after the EU - around 12% of CERs. But demand still driven by the EU ETS overall. Text revised with figures for demand included.
24182	13	30	19		20	The driver of CDM is not the EU ETS but the obligation under the KP	Rejected. The text is clear that this refers to demand for credits. The literature and evidence is clear that it was the particular design of the EU ETS - with the Linking Directive - that generate demand for CDM investments. The obligation under the KP could have been met in other ways.
25894	13	30	25	30	29	while it is mentioned "cdm is intended to promote broader sustainable development benefits in developint countries that receive projects", some projects have not contributed to sustaible developmet. See "global warming policy after kyoto, david c victor, 2009"	Taken into account. As the text states, whether or not it does deliver these SD benefits is discussed in 13.13.1.1.

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22354	13	30	30	30	40	There should also be a reference to the outcome of the Doha COP18 decision 1/CP.18 (at <a href="http://unfccc.int/resource/docs/2012/cop18/eng/08a01.pdf#page=3">http://unfccc.int/resource/docs/2012/cop18/eng/08a01.pdf#page=3</a> ) which states, in paragraph 41 thereof, "that Parties, individually or jointly, may develop and implement various approaches, including opportunities for using markets and non-markets, to enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries." This indicates that market-based flexibility mechanisms are the sole means that Parties are looking at or discussing in order to ensure the cost-effectiveness of their mitigation actions. Paragraph 47 of decision 1/CP.18, in fact, "Requests the Subsidiary Body for Scientific and Technological Advice to conduct a work programme to elaborate non-market-based approaches, with a view to recommending a draft decision to the Conference of the Parties for adoption at its nineteenth session," at the same time as Paragraph 50 of decision 1/CP.18 also "Requests the Subsidiary Body for Scientific and Technological Advice to conduct a work programme to elaborate modalities and procedures for the mechanism defined in decision 2/CP.17, paragraph 83, drawing on the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention on this matter, including the relevant workshop reports and technical paper, and experience of existing mechanisms, with a view to recommending a draft decision to the Conference of the Parties for adoption at its nineteenth session."	Accepted. Additional text given. However, the Doha COP did not make any major decisions regarding this question, but rather incremental developments regarding the details.
40735	13	30	31	30	32	Bilateral Offset Crediting mechanism referred in the Line31 is officially described as "Joint Crediting Mechanism / Bilateral Offset Credit Mechanism".	Accepted. Text revised accordingly.
24183	13	30	33		35	It is the BAP not Copenhagen Accord	Reject. This is a direct quote from the text of the Copenhagen Accord.
41710	13	30	36	30	40	More discussion of these is warranted as this is the new "regime" for the time being vs the 3+ paragraphs dedicated to KP	Accepted. See response to #1363 for details.
25091	13	30	41	31	34	Contents of 13.4.2.4 can be shortened as these are discussed in detail in 6.3.6.6 of Chapter 6.	Accepted. Significant overlap between not only ch6 but also ch4 eliminated. Work on 13.13 has also tightened up the way the chapter operationalizes these principles.
21317	13	30	8	30	8	Add a sentence stating that "A diversity of approaches to equity may be found in the Report on the workshop on equitable access to sustainable development, Revised report by the Chair, 15 August 2012, FCCC/AWGLCA/2012/INF.3/Rev.1."	Reject. Not clear why this is the relevant place for this comment, and the proposed citation is not peer-reviewed literature nor an official document that seems relevant.
24111	13	30	30	30	40	The content of this paragraph needs to be updated with the results of the Doha Conference as it has been done in other sections of the chapter	Accepted. See response to #1363 for details.
28045	13	31				One might put some evaluations in a third column, if available.	Reject. 13.13 is where this assessment is carried out. A crossreference to 13.13 is provided.
27311	13	31	2	31	3	In the phrase "(such as equal per capita or equal per GDP emissions)", "social indicators" should be included.	Reject. No comparable material is available on social indicators
41713	13	31	25	31	25	Why per capita? Why not per km <sup>2</sup> like almost every other resource? "Emissions rights" are unlikely to ever be divided evenly per capita within countries, just as wealth, oil, water, etc. are not.	Reject. See response to #1369.



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41711	13	31	3	31	3	Insert "... or equal per GDP OR EQUAL PER KM^2 emissions..." since /km2 is just as valid a metric as others since physical laws of nature require energy input to move goods, people, etc.	Reject. A) the criteria of population density is less widely accepted as a valid basis for calculation than per capita or GDP, and b) the phrase "such as" implies that other criteria could be used.
41714	13	31	30	31	34	It is important to note here that this is truly just an academic debate at the moment because there is no practical experience to date with these kind of approaches.	Reject. The text makes clear the discussion here is theoretical.
41715	13	31	35	31	41	This section leaves out a whole set of proposals that use a more facilitative model based on the Copenhagen/Cancun framework, which should be an example listed under "Decentralized architectures and coordinated national policies." This approach is described in many scholarly articles, including in a 2012 article by Daniel Bodansky at Harvard's Belfer Center, "The Durban Platform Negotiations: Goals and Options" ( <a href="http://belfercenter.ksg.harvard.edu/files/bodansky_durban2_vp.pdf">http://belfercenter.ksg.harvard.edu/files/bodansky_durban2_vp.pdf</a> )	Taken into account. See response to #1329. Proposed article is not peer-reviewed literature and does not add to existing peer-reviewed articles cited (including by the same author).
41716	13	31	42			This table leaves out a whole set of proposals that use a more facilitative model based on the Copenhagen/Cancun framework, which should be an example listed under "Decentralized architectures and coordinated national policies." This approach is described in many scholarly articles, including in a 2012 article by Daniel Bodansky at Harvard's Belfer Center, "The Durban Platform Negotiations: Goals and Options" ( <a href="http://belfercenter.ksg.harvard.edu/files/bodansky_durban2_vp.pdf">http://belfercenter.ksg.harvard.edu/files/bodansky_durban2_vp.pdf</a> ). A reference to chap 4 on equity is warranted somewhere here.	Taken into account - a research gap was added on potential policy architectures that would be hybrids between top down and bottom up. Note that there is early literature
41717	13	31	42			There is no mention of where the KP, Montreal Protocol, Copenhagen Accord, etc. fit into these categorizations. It would be useful to know where these fit.	Reject. The table refers to new proposals not existing approaches.
41712	13	31	9	31	21	This paragraph does not clearly explain what "burden-sharing approaches" look like.	Reject. Burden-sharing is discussed clearly and extensive citations given on line 17.
22412	13	31	42	33		Table 13.3 would be improved by clear application of the assessment criteria from Table 13.1 with a column for each of the criteria; this would give clarity as to the means and balance of assessment across the options as the criteria are currently applied for some and not others.	Reject. 13.13 is where this assessment is carried out. A crossreference to 13.13 is provided.
40736	13	31	42			As stated in the comment for 13.4.1.3, categorization of "Harmonized national policies" and "Decentralized architectures and coordinated national policies" need to be reconsidered. For example carbon taxing harmonization has not been implemented in any region in the world.	taken into account. Text revised in accordance with comment #1324. the table however refers only to proposed approaches: not relevant that harmonized carbon taxes have not been applied.
24914	13	32		32		Description of the 'Globalized emissions permit trading system' option sounds as if the European Commission would perform the central role. Could be reworded for: "The EU ETS serves as a prototype for a global emissions trading system. The design is informed by EU ETS experience, which has a central coordinating institution (the European Commission) mechanisms to expand participation to new Member States, and effective financial flows resulting from trading..."	Accepted. Text revised accordingly.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
24459	13	32	38			A possible review focussed squarely on policy architectures and questions of equity which might be directly useful in this section would be Klinsky and Dowlatabadi Climate Policy Journal 2009 DOI: 10.3763/cpol.2008.0583b	Taken into account. See response to comment #1367. major review of equity principles appears in 4.7.3 and their operationalization in terms of burden/resource sharing in 6.3.6.6. The paper proposed is cited there, so additional references here not necessary. The equity principles are also applied in assessing agreements in section 13.13.
21299	13	33	11	13	12	"e.g. enhancing the albedo of the ground, or painting pavements and roof materials white to reflect solar radiation  Change to "e.g., painting roofs white, genetically engineering plants to make them more reflective, or generating foam in the ocean"	Reject. Text contains sufficient and accurate examples already.
28050	13	33	14	33	31	Please add: scientific evidence of the benefits and the possible disadvantages of CDR and SMR are not sufficiently analyzed yet. Furthermore most of the required techniques aren't available yet.	Taken into account. The text has adequate conditionals - "may" and "might". The need for research is noted. The details of these scientific questions is more relevant for the Working Group I chapters.
28051	13	33	16	33	16	The wording suggests that SRM technologies are already at hand. A more cautious wording would be advisable. Please reformulate, e.g.: "Some SRM options concepts...".	accept. See response to #1390
21300	13	33	17			"e.g. diffusing" Change to "e.g., injecting"	Accept. Adds greater clarity.
28052	13	33	20	33	21	The wording suggests that SRM technologies are already at hand. A more cautious wording would be advisable. Please reformulate, e.g.: "Some SRM options concepts...".	Reject. Appropriate qualification already given in previous paragraph, as amended in response to #1390 and other comments.
41718	13	33	26	33	27	The text between the dashes "indeed, there might be a race to launch a preferred SRM project" might be unnecessarily provocative. Consider deleting.	Accepted; rephrased, and added citation to Millard-Ball 2012.
41719	13	33	26	33	29	Citations are needed with respect to low costs.	Accept. Additional references provided regarding the costs of geoengineering.
28053	13	33	26	33	26	A more cautious and precise wording would be advisable. Please reformulate, e.g.: "Hardly any cooperation might be needed for technical SRM's development and deployment..." .	Reject. Not clear what the extra word adds.
21318	13	33	29	33	31	Unclear. Explain how it is possible to "secure climate benefits for one part of the world, while creating climate damages in other parts (Lin, 2009)."	Reject. Text is sufficiently clear. "or other" added to "climate damages", as not all negative costs on others from SRM need be to do with climate.
41720	13	33	29	33	31	This statement is redundant with earlier text, therefore delete.	Reject. The text is not redundant; the point is not made elsewhere.
28054	13	33	29	33	30	A more cautious and precise wording would be advisable. Please reformulate, e.g.: "...for other actors, for example, if the SRM option ...".	Reject. Unnecessary proposal - the costs potentially imposed on others by SRM projects are the key point for this sentence.
21296	13	33	6	33	7	Add that CDR is discussed in WG I, Chapter 6.	Accept. Both chs 6 and 7 of th WGI report discuss geoengineering.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
28046	13	33	6	33	6	A more cautious wording would be advisable. Please reformulate, e.g.: "could potentially be designed to undertake...".	Taken into account. See response to #1382
28047	13	33	6	33	6	Using the word "Alternatively" is misleading. CDR and SRM might be a "complementary" part for climate policy, but is not meant to be the replacement of emission reduction (as you stated yourself later in the text).	accept. Text revised accordingly.
28048	13	33	8	33	8	The wording suggests that CDR technologies are already at hand. A more cautious wording would be advisable. Please reformulate, e.g.: "CDR represents the concept of using techniques...".	accept. Text revised accordingly.
21297	13	33	9			"SRM projects can be"  Since such techniques do not now exist, it needs to be made clear that we are not advocating them. Change this to "Proposed SRM schemes include"	accept. Text revised accordingly.
21298	13	33	9	13	10	"cloud seeding, cloud whitening, making low clouds more reflective"  These are all the same thing. Change to "cloud brightening"	accept. Text revised accordingly. Ch7 of the WGI report does lump all these together as "cloud brightening".
28049	13	33	9	33	9	The wording suggests that SRM technologies are already at hand. A more cautious wording would be advisable. Please reformulate, e.g.: "SRM projects concepts can be...".	accept. Text revised in response to #1390
41721	13	34	1	34	1	Replace "will" with "might", otherwise the statement is too prescriptive.	Reject. This is not prescriptive about the form of cooperation, merely the fact that the dynamics of CDR/SRM as described will provoke, if developed, pressure for some sort of cooperation.
28055	13	34	1	34	1	A more cautious and precise wording would be advisable. Please reformulate, e.g.: "...will be, for example, to develop institutions...".	Reject. See response to #1402.
31122	13	34	10	34	42	This FAQ is not particularly useful and could be deleted to save space. This text is repetitious.	Reject. The FAQ will appear at the end of the chapter not in the main body of text.
41722	13	34	10	34	42	This FAQ seems out of place here in the text. Consider moving to some place where it most closely reflects the text.	Accept. See response to #1406
41723	13	34	10	34	42	FAQ section between lines: we believe this FAQ is redundant with section 13.4.1. Please consider this and revise as appropriate.	Taken into account. See response to #1406
41724	13	34	10	34	42	Maybe eliminate some of the background theory and stick with the examples? Perhaps keep this section and eliminate the previous section? Concrete examples would help clarify the concepts.	Taken into account. See response to #1406
27312	13	34	14	35	15	The phrase "for example, including only the twenty largest emitters" should be excluded, for it could prejudice specific approaches in detriment to others.	Taken into account. Rephrased to make the number of countries less specific. Additional example also given to lessen focus on this particular approach.
41725	13	34	36	34	42	State where Cancun/Copenhagen fit into the discussion.	Reject. The main body of the text has the additional detail on this.
28056	13	34	5	34	5	A more cautious and precise wording would be advisable. Please reformulate, e.g.: "...to develop institutions, that decide the potential modalities of deployment,...".	Reject. It is the aspects mentioned (negative consequences for other areas or actors) that will provoke pressure for cooperation.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
33856	13	34	7	34	9	"Others ... 2012)." This is an important and widely supported statement. I would suggest to add a short argument as to why (or refer to a place where the argument is given), e.g. "This is needed to prevent the highly persistent greenhouse warming to build up, which would result in rapid warming when RSM is not indefinitely/continuously increased."	Reject. The sentence provides the necessary support to the argument made.
31123	13	34	20	34	22	Suggest adding Clean Energy Ministerial to the list of examples.	Reject. Enough examples already given.
27313	13	35	14	35	15	The expression "MRV mitigation actions" should be replaced by "nationally appropriate mitigation actions".	Rejected - The whole sentence is clearly focused on the fact that the MRV of such actions is what was new in Copenhagen/Cancun. The proposed sentence changes the meaning.
41728	13	35	14	35	14	Should "MRV" be removed from the phrase "MRV mitigation action" or is there a word missing -- like 'of' ?	Accepted - Inserted 'of'
22355	13	35	14	35	19	The numbers of countries submitting mitigation actions under the Cancun Agreements should be verified against <a href="http://unfccc.int/resource/docs/2011/awglca14/eng/inf01.pdf">http://unfccc.int/resource/docs/2011/awglca14/eng/inf01.pdf</a> with respect to developing countries and <a href="http://unfccc.int/resource/docs/2011/sb/eng/inf01r01.pdf">http://unfccc.int/resource/docs/2011/sb/eng/inf01r01.pdf</a> with respect to Annex I Parties.	Accepted - we checked and revised the number of the countries based on the documents as provided by the reviewers.
41729	13	35	16	35	17	Which developing countries have made absolute reduction pledges? They should be called out and commended for doing so.	Accepted - Revised text describes all countries with reduction targets relative to 1990 levels. Figure 13.3 shows the global map of the different categories of reduction proposals or commitments for 2020. This map shows three categories of developing countries, i.e. developing countries with nationally appropriate mitigation actions stating their impact on GHG emissions; developing countries with nationally appropriate mitigation actions, termed as policy-, sectoral-, and project- level actions (GHG outcome not shown); developing countries with no pledges. In the first group of developing countries there are countries with reduction relative to BAU, intensity target (GDP), absolute targets relative to 1990 and goals related to carbon neutrality. Examples of countries are given in the text, but for the countries with absolute targets and carbon neutrality we have given all countries, as this is a limited number.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
22356	13	35	20	35	23	The exact wording of decision 1/CP.17, paragraph 2, should be used here to describe what the delegates are supposed to do - i.e. "to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties", particularly since the political balance contained in this wording was delicately negotiated at Durban. To avoid any impression that a particular policy interpretation of what that balance was is being implied or preferred by the chapter authors, the exact wording of the agreed-text should be used.	Accepted - the revised text includes the precise wording of the decision 1/CP.17. We further specify the paragraphs, which are referred to, i.e. para 2 for the quote, para 4 for the deadlines.
27314	13	35	23			The following sentence should be added to adequately reflect the evolution of the multilateral climate change regime: "In Doha, in 2012, fully ratifiable amendments to the Kyoto Protocol were adopted, formalizing its second commitment period from 2013 to 2020."	Taken into account - This notion incorporated under the heading "Negotiations under the Kyoto Protocol", which deals with the negotiations under the Kyoto Protocol (AWG-KP). The paragraph here is about evolution of regime as part of the discussions on long-term cooperative action (LCA) under the Convention).
41730	13	35	25	35	26	It could be considered to be too close-minded to continually refer to "treaty" negotiations; is there not some other possible outcome that could address the problem sufficiently?	Rejected - This section is precisely on the negotiations within the UNFCCC process which is focused on a treaty. Other parts of the chapter deal with other, non-treaty, forms of international cooperation.
22357	13	35	39	35	39	The like-minded developing countries referred to here recently issued a statement in March 2013 stressing that the group "is a platform for like-minded developing countries to exchange views and coordinate positions on the negotiations under the UNFCCC with the view to strengthening the voice of the developing countries, highlight their common concerns and priorities and contributing to achieving the combined goals of environmental sustainability, social and economic development and equity. They emphasized their strong desire to strengthen the voice and participation of developing countries in UNFCCC as an intrinsic part of the Group of 77 and China in line with the principles and objectives of the Group of 77 and China in the climate negotiations." (See <a href="http://www.twinside.org.sg/title2/climate/info.service/2013/climate130301.htm">http://www.twinside.org.sg/title2/climate/info.service/2013/climate130301.htm</a> ).	Taken into account - and included in the text "to strengthen the voice and participation of developing countries on the negotiations under the UNFCCC"
22358	13	35	40	35	42	The wording of the last sentence -- i.e. "This was countered by the emergence of an Alliance of Independent Latin American and Caribbean states (AILAC) including market-oriented states like Chile, Colombia, Costa Rica, and Peru" -- explicitly suggests that AILAC was created to counter the like-minded developing countries. However, no source is indicated for the assertion that AILAC was established with that objective of countering the like-minded developing countries in mind.	Rejected. See response to #1427. Source found that can sustain this claim, i.e.: Michael Grubb (2013): Doha's dawn?, Climate Policy, 13:3, 281-284
41731	13	35	43	36	23	There's so much focus on Kyoto and very passing mention given to the Cancun/Copenhagen outcomes. The text should be complemented with more discussion of how/where Cancun/Copenhagen fit in.	Accepted - The text on the Cancun Agreements/Copenhagen Accord have been extended in the paragraph ('Evolution of multilateral climate regime since AR4 '), and a map of countries with reduction targets and actions are included.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
31125	13	35	46	36	2	The sentences stating "However, five Annex B Countries - Canada, Japan, ....." followed by "There were differences with regard to transferring surplus Kyoto...." give the reader the impression as if the countries which did not participate in the second commitment period did so because of their differences with regard to transferring surplus Kyoto emissions. This is not factual. While this factor might have played a role for some countries, it either played a small role (perhaps for the Russian Federation, for example) or not at all (for Canada and Japan, for example). We suggest that the sentence "There were differences with regard to ..." should be deleted, or if this factor is considered important, it should be described more fully.	Accepted - The text has been revised, i.e. "In addition, in Doha, rules have been accepted for transferring surplus Kyoto emissions allowances from the first to the second period". The text is now more precise, and does not suggest any linkage between the decions on surpluses and the reasons for each country deciding not to participate in a Kyoto 2nd commitment period.
22359	13	35	46	35	47	The phrase "five Annex B countries - Canada, Japan, New Zealand, Russia, and the United States - decided not to participate" is inaccurate. Of the countries so listed, only Japan, New Zealand, and Russia in fact are still Parties to the Kyoto Protocol. Canada withdrew completely as a Party to the Kyoto Protocol in December 2011, and the United States never was a Party to the Kyoto Protocol. Hence, technically, with respect to both Canada and the United States, they cannot be considered as Annex B Kyoto Protocol Parties. The phrase should hence be reworded as follows: "three Annex B countries - Japan, New Zealand, and Russia - decided not to participate. Canada and the United States are not Parties to the Kyoto Protocol."	Rejected - The sentence does not state that the countries referred to are parties to the Kyoto Protocol. Canada and the United States do still appear as Annex B countries in the text of the Protocol itself, so the statement that they are Annex B countries is accurate. It is also then accurate that they have made clear they will not participate in a second commitment period under the Protocol.
28057	13	35	47	36	1	It reads as if the five AI countries do not participate in CP2 because of the difference about AAU surplus. This sentence is only true for Russia. Please clarify.	Taken into account - See response to #1431
41727	13	35	7	35	7	Include mention of Cancun/Copenhagen.	Taken into account - It is not really clear that Cancun will lead to extensive action. It is too early in this Chapter to assess whether this is the case or not - section 13.13 addresses this.
41726	13	35	9	35	42	This section is all over the place and does not follow the heading. Consider separating into two separate sections with a separation between lines 23 and 24.	Accepted - headings included as suggested. The heading is changed into Evolution of multilateral climate regime since AR4. The two parts proposed are contained within this new heading title - one part is a simple history of the main meetings and their elements (heading: Main meetings and their outcomes), the second is on the evolution of blocs of countries in the negotiations (heading: Evolution of blocs of countries in the negotiations).

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
31124	13	35	6	35	7	Could a source be provided regarding universal membership equating to high degree of legitimacy among parties	Accepted - Reference included, i.e.: Bodansky D. (2011b). Governing Climate Engineering: Scenarios for Analysis. Harvard Project on International Climate Agreements. Available at: <a href="http://belfercenter.ksg.harvard.edu/files/bodansky-dp-47-nov-final.pdf">http://belfercenter.ksg.harvard.edu/files/bodansky-dp-47-nov-final.pdf</a> .
33857	13	35	22	35	23	Not the 'approach' is "applicable to all Parties" but the outcome. See 1/CP.17, paragraph 2/ Change sentence to: "This approach outcome is 'applicable to all Parties'".	Accepted - See response to #1421
24112	13	35	28	35	32	AOSIS is an important part of the G-77 and China. In the way that these lines are written gives the wrong impression that it is an independent organization. This may be rewritten.	Rejected - The word "such" at the beginning of the sentence clearly means that AOSIS states are acknowledge to be also members of the G77 & China. Nevertheless, the comment is incorrect if it is meant to imply that AOSIS as an organization is somehow a subsidiary of the G77: it is indeed an independent organization even if its members are also G77 members.(Its website makes this clear - there is no mention of the G77 in the "about AOSIS" section).
24113	13	35	40	35	42	The word "countered" is not well used here and may upset several countries. If it is taken from a literature source it is necessary to be specified. If not, other verb may be chosen.	Taken into account - text revised
41732	13	36	10	36	23	This section makes no reference to the fact that the AF is funded through CDM levies (this is only mentioned later in the chapter). It is an important detail to indicate that the AF is linked to those mechanisms so that policymakers can assess how this might change in future climate architectures, as well as not make it seem like it's just a voluntary fund.	Accepted - indeed an important dimension of AF. The sentence later in the chapter that described this, was included here.
41733	13	36	24	36	35	What criteria were used for "institutions" in this section? There are many pieces of the current set of UNFCCC institutional arrangements, including the Technology Executive Committee and the Standing Committee on Finance to name two, which are not mentioned.	Accepted - included the TEC and SCF. See further response to #1439
41734	13	36	28	36	28	Funds where? Under the Convention? Elsewhere? Consider including something about the recent focus on private investment (including, inter alia, at Rio+20)	Accepted first part. The funds are located under the convention. On the second part, Rejected - Finance gets substantial treatment elsewhere, both in 13.11 and in chapter 16.
31221	13	36	29			Michaelowa's point that funds have proliferated but rarely been financed does not get adequate attention in this chapter	Taken into account - comment is more appropriate for Section 13.11, where it is addressed.
24184	13	36	31		35	Should add the TEC as well	Accepted - included TEC.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
31222	13	36	42			This piece also suggests different organizations, forums may have different functions. Busby, Joshua. 2010. After Copenhagen: Climate Governance and the Road Ahead. Council on Foreign Relations. Available from < <a href="http://www.cfr.org/publication/22726/after_copenhagen.html">http://www.cfr.org/publication/22726/after_copenhagen.html</a> >.	Rejected - A useful enough report, but there is already a citation for this point, and the reference proposed is to grey-literature, so difficult to add in. The commenter has other articles in the peer-reviewed literature that touch on this question, but none centrally enough to be cited here.
41735	13	36	47	37	7	There is a very different tone in this paragraph from earlier in the chapter where there was a spirit of potential and hope and promise instilled in these non-UNFCCC organizations. Consider revising the text here to retain the tone from earlier in the chapter.	Take into account. This paragraph is specifically on initiatives for financing, whereas the earlier passage referred to is more general on the emergence of a range of international agreements beyond the FCCC.
24114	13	36	29	36	35	This paragraph may be splitted in line 29 when starts the description of the Adaptation Committee. This committee and the Technology Committee and Network are not financial institutions, but coordination ones. This may be specified, but adding that the linkages of these Committees with the UNFCCC finances is under consideration.	Accepted - and paragraph is splitted. The section better describes three specific types of new institution here - regarding finance, regarding adaptation and regarding technology. Each have separate paragraphs in current text. The TEC is also included in technology paragraph.
41736	13	37	14	37	32	The United States has concerns with sections that imply the relevance or applicability of particular international agreements to geo-engineering. Whether a source of international law is relevant to geo-engineering activities will depend on the facts and circumstances, and on the particular geo-engineering activity in question. Furthermore, the applicability of treaties is a legal question, and not one for which citations to secondary-source authors seems particularly appropriate. For these reasons, we have strong concerns with language such as that in the last paragraph of section 13.5.1.2, and would propose that paragraph be redrafted in more general terms as follows:	Taken into account. Text edited down. The secondary sources are relevant in that they provide evidence that these institutional fora have been discussed in relation to possible sites of cooperation around geoengineering. The text is not solely concerned with whether treaties are applicable in the legal sense, but also institutionally whether actors attempt to use those treaties to deal with geoengineering; this is not a legal question.



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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41737	13	37	14	37	32	A number of international agreements may be relevant with regards to the governance of carbon sequestration or geo-engineering options, and some have already taken action in this regard. The governing bodies of the London Convention and Protocol have adopted resolutions (resolutions LC-LP.1 (2008) and LC-LP.2 (2010)) stating that ocean fertilisation other than "legitimate scientific research" should not be permitted, and are continuing to look into issues regarding marine geo-engineering. The 1992 Convention on Biological Diversity (CBD) has adopted several very specific decisions relating to geo-engineering activities (e.g., CBD Decision X/33). Other international agreements may be relevant to geo-engineering activities, [potentially including bilateral, regional, or multilateral agreements.] depending on the circumstances and the particular activity involved.	Taken into account. Text from 13.5.1.2 moved to section 13.4.4 to put all geoengineering-related material in one place. Text also edited although not with the precise terms used. See also response to #1441.
19716	13	37	15	37	19	"enhancement of sinks" should be considered as "climate engineering" (see below: Chapter 13, page 13, lines 15-19)	Rejected, but due to response to #1440-1441 the text of this paragraph is completely changed, it is not needed anymore to address this point
19717	13	37	15	37	19	"... with regards to the governance of marine-based carbon sequestration or geo-engineering options." Marine-based carbon sequestration is a geo-engineering option.	Accepted - but due to response to #1440-1441 the text of this paragraph is completely changed, and it is not needed anymore to address this point
21301	13	37	16			Correct the spelling with no hyphen: "geoengineering"	Accepted and corrected, but note copyediting will be done at the end in a manner consistent with all WGs
22360	13	37	17	37	18	The reference to "Article 4.1.f" of the UNFCCC in relation to solar radiation management is inaccurate. There is nothing in UNFCCC Article 4(1)(f) that refers to solar radiation management. Rather, the text is about Parties being committed to: "Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change." If the chapter authors had intended to refer to the commitment, as expressed in Article 4(1)(f) of the UNFCCC to conduct impact assessments, the sentence in the chapter text should hence be reworded to accurately reflect the text of Article 4(1)(f) rather than to try to artificially link it to solar radiation management.	Accepted - but due to response to #1440-1441 the text of this paragraph is completely changed, and it is not needed anymore to address this point
21302	13	37	22			Correct the spelling with no hyphen: "geoengineering"	Accepted and corrected, but note copyediting will be done at the end in a manner consistent with all WGs
24007	13	37	24			"hostile" actions (discussed in Fleming, 2010).	Noted, but due to response to #1440-1441 the text of this paragraph is completely changed, and it is not needed anymore to address this point

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
21304	13	37	24			<p>though it restricts only “hostile” actions</p> <p>However, there is no accepted method of determining what is hostile. If one country attempts geoengineering to improve their own economic situation (say with respect to agriculture) at the detriment to the situation in another country, the second country may indeed perceive this to be hostile, and therefore this activity would be prohibited. It needs to be explained that ENMOD may be very relevant for geoengineering.</p>	Noted, but due to response to #1440-1441 the text of this paragraph is completely changed, and it is not needed anymore to address this point
41738	13	37	25	37	26	<p>This is a mischaracterization of the CBD decision. Take particular note of the conditionality of the decision and revise the text accordingly: "in the absence of science based, global, transparent and effective control and regulatory mechanisms for geo-engineering, and in accordance with the precautionary approach and Article 14 of the Convention, that no climate-related geo-engineering activities that may affect biodiversity take place, until there is an adequate scientific basis on which to justify such activities and appropriate consideration of the associated risks for the environment and biodiversity and associated social, economic and cultural impacts, with the exception of small scale scientific research studies that would be conducted in a controlled setting in accordance with Article 3 of the Convention, and only if they are justified by the need to gather specific scientific data and are subject to a thorough prior assessment of the potential impacts on the environment;"Explain what the Clean energy Ministerial does (i.e., objectives, members, etc).</p>	Accepted - but due to response to #1440-1441 the text of this paragraph is completely changed, and it is not needed anymore to address this point
21303	13	37	26			Correct the spelling with no hyphen: "geoengineering"	Taken into account - copyediting will be done at the end in a manner consistent with all WGs
35311	13	37	43	37	45	Many international mechanisms mentioned here are actually UN forum, which is not compatible with the title of this section. It is suggested to move the text to relevant sections.	Accepted - the text is moved to Section 13.5.1.2
24115	13	37		39		This subsection, in particular the parts referred to G8, G20 and MEF, has a lot of repetition with subsection 13.13.1.4. It may be considered by the authors of the these sections to merge them or to find other ways to avoid repetition.	Accept - redundancies removed
30261	13	37	33	38	45	International development cooperation has a long history and a lot of experiences and lessons learned. Thus, lessons and experiences at international development cooperation should articulated in this section (and/or other section).	Rejected, for reason of space. While there are indeed such lessons that could be learned there is not space to devote to this in the chapter.
33858	13	37	43	37	45	The section covers Non-UN forums but these lines mention UN agencies nonetheless. Consider redrafting.	Accepted - the text is moved to Section 13.5.1.2
26822	13	37	48	37	49	Please replace the line "By November 2010, IRENA's membership included 148 states plus the 48 European Union (Etcheverry, 2011)" by "By April 2013, IRENA's members and signatories included 159 states plus the European Union (Source: IRENA (2013), www.irena.org/menu/index.aspx?mnu=cat&PriMenuID=46&CatID=67, website, accessed April 22, 2013.)"	Accepted - Text is revised according to the reviewer's suggestion, and the number of countries is updated to 161 based on the last access to the website.
41739	13	38	10	38	13	Mention some of the successes coming out of the MEF; this is a rather pessimistic and negatively-biased assessment of it.	Take into account. The assessment is based on the literature cited there. The Chair's Summary of the meeting (like MEF, 2010) shows that the participants agreed that MEF can facilitate and enrich the discussions under the UNFCCC, which is already described in the text.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41740	13	38	22	38	22	To be clear, the "broad scientific view" with respect to 2C is that it relates to above 1990 levels - not preindustrial levels. This (1990) level was referenced in the Burning Embers figure from WG2 of AR3. It is only political agreements that have claimed this to be against a pre-industrial baseline.	Rejected - It is general formulated, and indeed supported by the scientific view, including IPCC AR4 and IPCC AR5 WG1
31126	13	38	25	38	42	The CCAC has been rapidly expanding and undertaking projects with funding provided by some of the Partners (including \$13 million provided by Canada). To more accurately describe CCAC, we suggest replacing the last sentence on line 40 ("on 24 April ....") by "CCAC has since grown to 60 Partners including 30 countries, and has received funding from a number of countries including Canada, Japan and the United States to implement projects."	Accepted - and the text of CCAC has been updated and extended, following instructions given by this comment
41741	13	38	32	38	34	It's worth stating that there is no similar entity to IEA for LULUCF emissions, which leaves a gaping hole in our ability to constrain LULUCF emissions.	Accepted - revised text and included energy and industry-related emissions.
31127	13	38	35	38	36	The first sentence of the paragraph is unrelated to the rest of the paragraph, which describes CCAC, but appears to be related directly. Suggest either making a separate paragraph on the Cartagena Group, or deleting the first sentence. Please see below suggestion about the rest of the paragraph.	Accepted - Text is restructured and new paragraph is introduced. See also response for #1465
41742	13	38	35	38	36	Explain *what* the Cartagena Group does.	Accepted - see response to #1465
28058	13	38	35	38	36	Please make a separate paragraph for the Cartagena Dialogue and specify. The CD was formed in Cancun and is a group of progressive countries form all negotiation groups that wants to bring forward the UNFCCC negotiations. They meet regularly in between and during sessions.	Accepted - Text is restructured and new paragraph is introduced (see response to #1464) and more information on Cartagena dialogue is included (see response to #1465)
41743	13	38	38	38	42	Update these numbers; CCAC Membership continues to expand (both in terms of Member nations and participating organizations). Additionally, it's worth mentioning some of the special initiatives that CCAC has focused on to date.	Accepted - see response to #1461 and #1468
26635	13	38				Clean Energy Ministerial may be referred to in context of MEF.	Noted. It is already referred to in that context - as an "offshoot" of the MEF"
33859	13	38	35	38	36	The information on the Cartagena Group is very concise...Consider changing the text to: "The Cartagena Dialogue for Progressive Action includes more than 40 industrialized and developing countries, who have been meeting both during and between formal sessions since the Copenhagen COP in 2009. The Dialogue is an informal space, open to countries working towards an ambitious, comprehensive and legally binding regime in the UNFCCC, and who are committed, domestically, to becoming or remaining low carbon. The aim of the Dialogue is to openly discuss positions, to increase understanding and to explore areas where convergence and enhanced joint action could emerge."	Accepted - Suggested text is included. Unfortunately there are only websites, press releases or weblogs, describing the Cartagena Group, so no sources are included here.
33860	13	38	36	38	42	The information on the CCAC could be a bit more specific and updated: "In February 2012, a group of seven partners (Bangladesh, Canada, Ghana, Mexico, Sweden, and the United States, together with the UN Environment Programme) launched a new 'Climate and Clean Air Coalition' as a forum for dialogue among states and non-state actors outside the UNFCCC process to reduce levels of Short Lived Climate Pollutants such as black carbon, methane and HFCs; as from April 2013 membership totalled 30 state- and 29 non-state partners. on 24 April 2012, UNEP announced the addition of six additional partners to this coalition (Columbia, Japan, Nigeria, Norway and the European Commission, along with the World Bank)."	Accepted - Suggested text is included

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41744	13	39	37	39	37	This should say the "Western Climate Initiative." Also, the US Regional Greenhouse Gas Initiative (RGGI) of the northeast and mid-Atlantic states should be mentioned.	Accepted re the first part: the text is revised accordingly. Reject the second part since RGGI is not a transnational agreement; it is discussed in chapter 15 not here (we only mention it in terms of interaction between international and domestic/subnational action).
41745	13	39	40	39	40	It's unclear why the human rights and rights of nature section is here under non-state section. Does it deserve its own section with a different header?	Rejected - We leave the text where it is, but included in Section 15.5.1.2 a reference to Section 13.5.2.2 of human rights.
21319	13	39	41	39	41	Add a reference to Stephen Humphreys (2008), Climate Change and Human Rights: A Rough Guide, Int'l Council on Human Rights Policy.	Rejected - It is a useful reference, but not from peer-reviewed literature. And not clear from the comment what it adds to existing text. There is more recent literature on this that is added: Derek Bell (2013) in WIREs climate change: <a href="http://wires.wiley.com/WileyCDA/WiresArticle/wisId-WCC218.html">http://wires.wiley.com/WileyCDA/WiresArticle/wisId-WCC218.html</a>
41747	13	39	47	40	2	The authors should clarify that these rights do not exist as codified in treaties or agreements, and that their interpretation is varied. Also, HR law is related to the obligations of a state towards its citizens, which is not clearly expressed in this section.	Taken into account - human rights covered by its own subsection
24915	13	39	36	39	39	Accuracy - California's ETS is operational as of 1 January 2013. Internal inconsistency with page 41, lines 26-27 where California's ETS is described as being operational. Suggest rewording "Most notable are the North American sub-federal cap and trade schemes being developed, notably the US State of California's operative emissions trading scheme which forms part of the regional Western Climate Initiative."	Accepted - included "began operating in January 2013". It is now consistent with Section 13.6

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41746	13	39	40	40	21	This section does not accurately state the relationship between human rights and issues related to the environment and its deletion should be strongly considered. As a general matter, human rights belong to individuals, not states or other entities, and attempts to assign "human rights" to other entities besides individuals has the potential to fundamentally weaken human rights. In addition, some of the "rights" referenced here, such as the right to development, are far from agreed or defined, and instead continue to be contentious areas of debate. Lastly, while we understand that persons who migrate or are displaced in circumstances related to climate change often do need help, and that the international community should work together to help address that concern, we would note that use of the term "refugee" in connection with climate change is inappropriate because the Refugee Convention includes a clear definition of "refugee," and in most, if not all cases, a person who migrates or is displaced as a result of climate change would not be covered by that definition. Indeed, the complex issue of cross-border movement as a result of climate change is not yet well-understood. Climate change can certainly contribute to or exacerbate existing problems -- such as poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions -- that threaten stability and lead to population movements. However, the effort to draw clear conclusions regarding the direct and specific links between slow-onset environmental factors, including the potential adverse effects of climate change, and migration is still very much a work in progress. Indeed, most scientists who dedicate their work to this topic caution against exaggerating, particularly for media purposes, the link between migration and climate change. If retained, all of these issues need to be addressed with appropriate citations from the literature in this section.	Taken into account - human rights covered by its own subsection
26265	13	4	24	4	25	13.9.3.1 International agreement on R&D knowledge sharing, coordination, and joint collaboration could be shortened to 9.3.1 knowledge sharing, coordination, and joint collaboration	Accept
41750	13	40	10	40	16	It is not necessarily the case that a human rights approach has implications for climate architecture-- that is a policy call and for policy makers to decide how it might or mightn't. There is no mention of the independent expert on human rights and the environment, John Knox, who will include climate change in his considerations and research.	Taken into account - human rights covered by its own subsection
41751	13	40	14	40	14	If the human rights discussion stays here, this sentence might be the place to start the whole section. Start with the official, non-state arenas under which human rights are being discussed, then talk about the rights ideas.	Taken into account - human rights covered by its own subsection
26001	13	40	17			Please, add comments about Ecuador's new constitution that enshrines the rights of nature.	Rejected - Unnecessary, the text would be further extended.
41753	13	40	18	40	21	In line 18, "Analysis" of what? In line 19, "emphasized the participation of social movements" in doing what?	Accepted - the sentence has revised into "Studies have ..", with the specific studies cited later.
41748	13	40	2	40	9	The term "refugee" is used incorrectly here. If this section is retained, the authors might use "migrants" instead, since the definition of "refugee" (from the 1951 Geneva Convention as noted later in the text) specifically refers to someone fleeing political persecution.	Reject. We use the word climate refugee, as also used in literature
41749	13	40	2	40	9	Furthermore, it is not clear at all from the literature (as noted in chaps 3 and 4) on climate change and migration/displacement, that decisions to move are made based solely on climate impacts in isolation from other factors.	Noted. No specific suggestion made for revision, and the text is consistent with this comment.
31223	13	40	23			again busby 2010 on advantages of disadvantages of different forums could be relevant cite in this paragraph	Rejected - Refers to reference in #1439. That is a non-peer-reviewed report, and plenty of references already provided. See response to #1439.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
24116	13	40		41		This section has repetitions with sections 13.4.1.4 and 13.13.2.1. This may be addressed with the authors of these sections.	Accept - redundancies removed
41752	13	40	22	41	18	Section 13.5.3 - Hasn't this entire section come up before? what is new here? Consider removing redundant/repetitive sections.	Accepted - See response #1484
41754	13	41	20	41	30	Why no mention of RGGI or the in-the-works Chinese provincial trading scheme? Because they are sub-national/do not cross international borders?	Noted - Sub-national trading systems have not been included in this section. They are treated in Chapter 15
40737	13	41	20	41	21	The wording "primary" must be deleted because this is a subjective judgment without references.	Accepted - The word primary has been deleted, and instead substituted by the word 'important'
26688	13	41	31	41	37	Easter European countries have a surplus of Kyoto units and not the units under EU ETS, this should be made clear here	Accepted - text revised
41755	13	41	44	41	47	What are the implications of these conditions? Please expand.	Accepted - text revised
35312	13	41	19			This section does not highlight the linkage between international and regional mechanisms. Instead, it mostly discusses the regional cooperation, which is repetitive in Chapter 14. It is suggested to either delete or rewrite the text.	Taken into account - This section actually focuses on links within rather than links between and so the section has been renamed accordingly. Consistency with chapter 14 has been ensured.
41756	13	42	1	42	4	Why was this done and what are the implications? Please expand.	Rejected - lack of space; see 13.13
41757	13	42	14	42	17	Explain why this happened. What factors caused interest to wane?	Accepted - text revised
41758	13	42	27	42	33	Expand on what the APP actually *did*.	Rejected - for lack of space; see Chapter 14
29241	13	42	7	42	7	It says linking is already agreed with the EU and Australian emissions trading systems. This is not true and formal negotiations are yet to commence. It would be more accurate to read "linking is agreed in principle with the Australian system".	Accepted - text revised, see 1494
24916	13	42	7	42	8	The sentence 'Linking is already agreed with the Australian system.' is vague, suggest replacing with: "The EU and Australia have already agreed to a one-way indirect link to commence on 1 July 2015, transitioning to a two-way direct link by no later than 1 July 2018."	Accepted - text revised
31128	13	42	33	42	33	Suggest adding "under the Clean Energy Ministerial" after "(GSEP)"	Accepted - text revised
41760	13	43	19	43	19	RGGI deserves more discussion here - what % of US emissions are included? What are the successes, challenges, shortcomings, etc.?	Reject. This section is about linkages among ETS. Not about the ETSs per se. That discussion is more appropriate for chapter 15.
41761	13	43	27	43	27	Is this 8% reduction below 1990 levels by 2012? Clarify.	Accepted. KP time frame was clarified.
25778	13	43	35	43	36	This part should be kept in the final version report because "voluntary agreement" is an effective method to improve energy efficiency and reduce GHG emissions, as described in the section 15.5.7.4. There are successful examples of "voluntary target scheme" in the world. Each industry in Japan has voluntary target and the voluntary target scheme has played a big role, as described in (Yamaguchi, 2012, page 35 and 154), (Manuel, 2010, page 6 and 13), and (Yamaguchi, 2010, abstract). In addition, there is also a successful example of "voluntary target scheme" in Netherlands, as shown in (Martijn, 2002, page 162). These literatures are listed in the No 22 line of this table.	Noted. No recommendations for additional text.
41762	13	43	36	43	36	Expand upon this last sentence to the effect of, "... Japan's Industry Voluntary Action Plan which [aims to do what?] by [implementing what actions?]"	Accepted. Text was changed to explain a bit more (no so much more due to space constraint).

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
25779	13	43	37	43	42	The part of "Many industrialized countries" should be revised to "EU countries" because other countries such as Japan do not limit imports of Kyoto credits. Furthermore, artificially keeping carbon price high is contradictory for the original idea of using market mechanism.	Reject. Many industrialized countries include those of the European Union. So, strictly, there are many countries. In addition, other nations (as Australia) have now begun to also limit CER imports. Hence, the text is correct. In addition, changes in permit rules have impacts on permit prices. If that implies emission reductions, it is the correct way to go.
26684	13	43	45	43	47	Which type of CDM credits are banned?	Accepted. Text was rephrased. We have added "The ban includes CERs generated from industrial projects that destroy HFC-23 and nitrous oxide (N2O) from adipic acid production."
22171	13	43	45	43	47	Which type of CDM credits are banned?	Accepted. Same as #26684
24460	13	43	9	43	25	For a recent academic discussion of the WCI see Klinsky 2013 Climate Policy Journal 10.1080/14693062.2012.712457	Reject. This section is about linkages among ETS. Not about the ETSs per se.
24917	13	43	20	43	21	Accuracy- Australia does not have a carbon tax scheme- it has a carbon pricing mechanism that involves an emissions trading scheme with a fixed price period followed by a flexible price period, with the price set by the international market (also see language on page 44, lines 23-24). Suggest replacing 'and folded into Australia's new carbon-tax scheme from July 2012' with "and folded into Australia's new emissions trading scheme in July 2012".	Accepted. Text was revised and made more precise.
41759	13	43	4	43	21	The new Chinese provincial trading scheme deserves discussion - what % of Chinese emissions are included? What have been some of the challenges in setting up the program and how have various levels of government overcome them?	Accepted. Mention to the seven ETS pilot projects in Chinese municipalities was added, together with a reference: Alex Y. Lo. Carbon trading in a socialist market economy: Can China make a difference? Ecological Economics, Volume 87, March 2013, Pages 72-74
24920	13	44		44		Australia's ETS has already commenced. Suggest removing the year.	Reject. The full-two way link is expected by the year 2018. Up to 2015 there will be a one way link ( <a href="http://wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/05/23/000350881_20130523172114/Rendered/PDF/779550WP0Mappi0til050290130morning0.pdf">wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/05/23/000350881_20130523172114/Rendered/PDF/779550WP0Mappi0til050290130morning0.pdf</a> ) . This Figure will be checked at last minute before release of our report.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
25780	13	44				In this figure, Tokyo is described as Sub-National ETS. But this description should be deleted completely because Tokyo CO2 Emission Reduction Program is currently under the special measure for the Great East Japan Earthquake, which allows CO2 emission increase caused by home generation. This means that the program is not implemented under normal condition. Therefore, Tokyo CO2 Emission Reduction Program should not be considered as a good example of carbon markets. In addition, many countries are described as Japanese bilateral mechanism projects in the same figure. But Japanese bilateral mechanism should be deleted completely because the mechanism is different from Cap and Trade schemes. The mechanism is not based on CO2 emissions limitation on Japan.	Reject. It is clear that the Tokyo ETS exists. Japan has signed bilateral document for the Joint Crediting Mechanism with several neighbour countries. That is why this issue appears on the Figure.
26155	13	44	1	47	30	The discussion on the interaction between climate policy/national policy and on the interrelations between climate policy trade focus on the international/multilateral agreement rather than the range of other governance arenas (e.g. how are transnational municipal networks shaped by/shaping trade?). This may be because of a gap in knowledge or because of the way in which the material in the chapter is organised (i.e. they could be dealt with at a latter point), but it would be useful to be explicit about how these sections are dealing with what 'climate policy' constitutes and where their are knowledge gaps. This also occurs at other places throughout the chapter and may be an over-arching issue that the chapter authors need to consider (e.g. also in technology section, capacity building).	Noted. Useful comment on the limits of the text at present. The discussion of linkages is focused primarily on linkages between the FCCC/Kyoto and other levels/forms of cooperation, whereas the general description of cooperation (13.5) shows such cooperation is now much broader than just the FCCC/Kyoto.  The comment is also a reflection of the scholarly literature on the subject. Taken into account in section 13.14 on research gaps
41763	13	44	18			There are several issues that need revision in this figure: (1) The US should be a different color here since it never ratified the protocol and therefore cannot be said to have "pulled out" only of the 2CP; (2) There should be an arrow between California and Brazil; (3) The figure should add relevant sources/citations/links for the reader to find out more about each program	Taken into account: (1) Could in the legend "Pull out of Kyoto 2nd CP" change to "Not participating in 1st and/or 2nd CP". (2) the California, Brazilian state of Arce is still in a too early state to be included in this Figure. (3) relevant references are included in the text.
35313	13	44	19	44	19	Taiwan is part of China, not a sovereign state. It should not be marked as an independent country in the figure. Moreover, there is no description in the relevant paragraph, thus the description of Taiwan in the figure should be deleted.	Taken into account. The figure will use the official IPCC mapping software
29242	13	44	20	44	20	This line suggests there is a formal linkage between the EU ETS and the Australian ETS. There is currently no such formal linkage.	Taken into account. Text was rephrased to state that there are official advanced negotiations, but still no formal end closed result. See comment # 1512 and 1515.
24918	13	44	17	44	18	Table key implies USA and Canada are a "Pull out of Kyoto 2nd CP" when in fact they are not KP parties. Suggest the grey shaded countries should be classified as "non-CP2 Annex 1 countries."	Accepted. Label will be changed to: "Not participating in Kyoto 2nd CP".
24919	13	44	23	44	24	Please replace "Australian Carbon Pricing Scheme" with "Australian Carbon Pricing Mechanism".	Accepted. Text revised accordingly in order to make it more precise.
41764	13	45	16	45	16	What do "indirect linkages" look like? Can the authors list some examples?	Taken into account. Indirect linkages are defined and examples are given on page 44.



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27315	13	45	24	45	30	The paragraph is structured in a partial manner with respect to one view in literature, in detriment to the other. It should be changed to the following: "There are voices which clearly dismiss trade measures (e.g. trade sanctions, trade enticements and trade-relevant domestic product standards; see section 13.8.1 below) as an appropriate tool to pursue climate change policy objectives, pointing to the possibility of "green protectionism" (Khor, 2010a; Johnson and Brewster, 2012). Others conceive them to be used to address free-rider problems of international agreements - specifically participation and/or compliance problems (Victor, 2010), with some (e.g. (Victor, 2011)) suggesting these may be useful measures to achieve an effective climate agreement."	Taken into account - wording changed at two key points in paragraph
41766	13	45	28	45	34	The key UNFCCC provision on trade (Article 3.5 of the Convention) should be referenced more clearly in this paragraph: "The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade." This provision makes clear that the Convention allows unilateral measures, but cautions they should not be used to restrict trade or discriminate unjustifiably.	Accepted - text revised
41767	13	45	42	45	44	Suggest also citing Levi, M, EC Economy, S O'Neil and A Segal (2010), "Globalizing the Energy Revolution", Foreign Affairs, 89(6): 111-123.	Rejected - materials already cited are more relevant to point being made about the literature
41768	13	45	43	45	43	Define what GATT is in this context.	Taken into account - text revised by simple encompassing reference to World Trade Organization without reference to GATT
30179	13	45	22	46	30	This section should also consider the compatibility of emissions trading qua trading with WTO, as some authors have concluded that ETSs can be designed so as to be inherently compatible with the WTO, while other policy measures are more likely to raise friction. See, e.g., A. Petsonk, "The Kyoto Protocol and the WTO: Integrating Greenhouse Gas Emissions Allowance Trading Into the Global Marketplace," 10 Duke Environmental Law and Policy Forum 185 (Winter 1999). <a href="http://www.law.duke.edu/shell/cite.pl?10+Duke+Envtl.+L.+&amp;+Pol'y+F.+185">http://www.law.duke.edu/shell/cite.pl?10+Duke+Envtl.+L.+&amp;+Pol'y+F.+185</a>	Accepted - sentences and references added as second paragraph in 13.8.1
41765	13	45	22	50	19	The chapter evolves to a very relevant theme: interaction between climate change mitigation policy and trade. The section argues that "there are significant differences among researchers and policy makers in their perspectives on economic relations between climate change and trade". However, the chapter fails to explore the differences in governance between international trade agreements and international climate policy regimes. Is there any lessons to be learned. Any potential synergies?	Accepted - sentence and reference added at end of second paragraph.
40738	13	45	22			Also many EPA/FTA should be added because these contain environmental chapters/provisions which cover environmental cooperation, enforcement of national environmental laws, capacity building, dispute settlement mechanisms regarding environmental commitments, etc. (OECD, 2007)	Rejected - space limitations preclude inclusion of this level of detail
41769	13	46	1	46	11	This paragraph does not reflect another economic issue which is the trade off between emissions associated with a product and the responsibility for those emissions which is incorporated (or should be) in the price of the good.	Rejected - the issue is too broad for this paragraph and is addressed elsewhere

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41770	13	46	1	55	1	The document contains extensive discussion of trade, including various assertions about the interaction between trade/IPR and climate policies that may or may not be factually correct. For example, page 47 says that "Government procurement restrictions on imports of climate-friendly goods and services have emerged as an issue under the principle of non-discrimination in the context of national economic stimulus programs." However, "government procurement" refers to government purchasing, not to restrictions on imports, so the statement does not make sense. As another example, the paper asserts on page 47 that WTO subsidy rules may retard the development and diffusion of climate-friendly technologies. A careful review on the part of the writing teams by those deeply immersed in WTO and other trade organizations is critical if this section is to be retained.	Taken into account - the wording of both items noted in the comment has been changed for clarification
41772	13	46	10	46	10	"appears" should be deleted and replaced with "would be"	Taken into account - wording changed
41773	13	46	15	46	18	Citations are needed for this statement	Taken into account - A reference has been added, and the paragraph has been shortened.
21320	13	46	19	46	19	Add a reference in the parentheses to Dani Rodrik (2011), The Globalization Paradox: Democracy and the Future of the Global Economy.	Accepted - Reference added
41774	13	46	24	46	30	This paragraph would be strengthened with additional references and a discussion of the effectiveness of options (e.g., the work of OECD in this domain).	Taken into account - sentence added to emphasize the importance of these institutional design issues, with a reference to the discussion in section 13.3
41771	13	46	4	46	4	This 1.6 Gt CO2 figure is *far* less than the 25% cited n p. 45, line 37-38, since global emissions are ~33 Gt CO2 and ~50 Gt CO2e	Rejected - these are two different pieces of information, the first one being the one-fourth of total global emissions associated with trade and the second being the net emissions transfers from developing to developed countries
25092	13	46	40	46	40	After (TRIPs), add "Agreement on Technical Barriers to Trade".	Accepted - revised accordingly
24185	13	47	24	47	28	delete WTO related discussion doesn't affect the meaning and completeness of this paragraph. Suggest deleting this sentence.	Taken into account - sentence is directly relevant to topic of the paragraph, but two changes in last two sentences of paragraph add clarification.
25781	13	47	29	47	34	This part should explain that, even if they are theoretically effective, questions about the effectiveness of BTA are raised in the real economy, as described in (Carolyn, 2012, page214) and (Wakabayashi, 2007, page36 and 40).  <Reference> [1] Carolyn Fischer and Alan K. Fox (2012). Comparing Policies to Combat Emissions Leakage: Border Carbon Adjustments versus Rebates, Journal of Environmental Economics and Management Volume 64, Issue 2, Pages 199-216. Available at: <a href="http://www.sciencedirect.com/science/article/pii/S0095069612000186">http://www.sciencedirect.com/science/article/pii/S0095069612000186</a> [2] Wakabayashi et al. (2007). A Review on Effectiveness of Emissions Trading Schemes: Empirical Evidences of Their Implementation, No.Y06010	Taken into account - reference added

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
25093	13	47	29	48	25	Discussions on BAMs are in a sense biased in favour of it. Though technical difficulties are mentioned in lines 16-19 in page 48, the text describes "theoretical arguments in favour of BAMs include ---" and don't introduce theoretical arguments against BAMs. Theoretically speaking, we have to compare loss of welfare from decrease of trade due to BAMs and increase of welfare (decrease of externalities) due to BAMs. In addition what may happen in reality is that once developed countries introduce BAMs against, for example, China, China may retaliate by not purchasing products from those countries (ex. not purchase Airbus aircrafts from Europe). Actually this may have happened once EU apply extraterritorial extension of EUETS to the flight from outside EU. In discussing BAMs, these drawbacks should also be described.	Taken into account - the last paragraph of 13.8.1 has been re-written in response to other comments and provides a balanced summary.
25094	13	47	34	47	34	After Tamiotti, 2011), add "This issue draws particular attention as difference between production-based and consumption-based emissions in both developed and developing countries becomes apparent (ref. Figure 1.4 in Chapter 1).	Accepted - sentence and cross reference to chapter 1 added
24186	13	47	38	47	42	although it says "shared view", there is no reference to support such conclusion.	Accepted - sentence deleted
25095	13	47	6	47	11	Local content requirement on renewable generation equipment and trade issue should be added here with the concrete case of WTO dispute settlement panel report dated 19, December 2012. Refer to <a href="http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds412_e.htm">http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds412_e.htm</a> (This issue is under appeal on February 5, 2013)	Taken into account - sentence about local content added at end of following paragraph
24921	13	47	34	47	38	In Australia's case, the provision of free permits to industries with significant exposure to international markets is explicitly made based on scheduled reductions over time. The clear and stated objective of this is to facilitate the adjustment of the firms concerned to a lower carbon-intensity of production over time. If the analysis purports to include all schemes including Australia, then it would be misleading, as this aspect of our free permit policy would not be covered. Suggest specifying which schemes are covered in the references for this analysis (for example the EU scheme).	Taken into account - EU ETS reference made explicit
24117	13	47	38	48	42	These sentences are addressing a very controversial issue. It may be consider what specific authors are behind the statements of these sentences.	Rejected - large number of diverse references are indicated in the previous paragraph
41775	13	48	14	48	15	There is not enough agreement on the correct or true interpretation of the CBDR phrase, and therefore it cannot be said that the principle is violated, since there is not enough agreement on what might constitute such a violation.	Taken into account - sentence has been reworded
41776	13	48	18	48	18	"BMAAs" should be "BAMs"	Accepted - revised as suggested
22361	13	48	21	48	23	The sentences should be reworded, as the current formulation of the two sentences contradicts each other and creates an implied hierarchy of preferences with respect to BAMs. The sentences could be reworded as "BAMs may well clash with WTO/GATT regulations (Condon 2009; Holzer 2010, 2011; Tamiotti 2011; Du 2011), but others suggest that they could also be designed to be compatible with these regulations (Condon 2009; Droege 2011a; b). Politically, however, the use of BAMs for climate change purposes may be controversial (Khor 2010a)."	Taken into account - sentence has been reworded.
26689	13	48	33	48	43	EU ETS for aviation - there have been disagreements by ICAO member states, but no conflicts. These discussion should be amended by saying that aviation was included in the EU ETS due to lack of progress at ICAO (as ICAO was in charge of international aviation emissions (Kyoto Protocol, Article 2.2) and EU is willing to exclude aviation once an international agreement is reached (hence the current proposal to suspend EU ETS for international aviation for a year in order to encourage developments at ICAO).	Taken into account - paragraph has been expanded along the lines indicated

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41777	13	48	35	48	37	The only rationale for opposing the inclusion of aviation in the EU ETS is the assertion that it violates CBDR. This is the least cited and least relevant rationale. There are many others that countries have raised in objection, and these could be reflected here. At a minimum, the CBDR rationale should not be conveyed as the only concern.	Accepted - point has been clarified by additional material
40739	13	48	35	48	35	"there has been conflict" should be replaced to "there have been various views presented".	Taken into account - wording has been changed and paragraph expanded
41778	13	48	36	48	37	There is not agreement on an interpretation of CBDR to be able to say there are "violations" of that concept. The authors should revise the text accordingly.	Accepted - revised wording
41779	13	48	42	48	42	Does this mention of "market-based instruments" relate to the aviation sector? If so, please clarify.	Accepted - reference and associated phrase deleted
24922	13	48	20	48	25	Suggest either 1) make more clear what are each of the 3 major conclusions of the paragraph referred to in line 20; or 2) amend the sentence in line 20 to "Some major conclusions emerge from the discussion of legal issues related to BAMs."	Accepted - sentences have been reworded and points are now itemized in the paragraph.
24923	13	48	21	48	22	Use of the term "regulations" should be replaced by "obligations" in reference to WTO.	Accepted - text revised
24924	13	48	22	48	23	Recommend deleting the sentence in the conclusion on BAMs beginning "However..."	Taken into account - sentence has been reworded.
24925	13	48	36	48	36	It is the inclusion of international aviation in the EU ETS that is subject to concerns - therefore add "international" before "aviation".	Accepted - clarification has been added
40740	13	48	36	48	37	"(See (Scott and Rajamani, 2012; Ireland, 2012), who point to concerns about the violation of principle of common but differentiated responsibility of the UNFCC.)" The sentence including the description on "the common but differentiated responsibilities" does not cover all aspects of the conflict. [?]In this regard, the reference should not be essential.	Accepted - wording has been changed and paragraph expanded
40741	13	48	38	48	43	"Though studies indicate that the economic impacts are small relative to other airline expenses and ticket prices and that much of the cost can be passed on to consumers (Scheelhaase and Grimme, 2007; Anger and Koehler, 2010), economic, political and legal issues have nevertheless made international cooperation difficult." The meaning/intention of the sentence is unclear, because not only economic but also political and legal issues are listed in the latter part of it nevertheless it cites papers which only insist that economic impacts are small in the former part. In this regard, the sentence should be deleted.	Accepted - word deleted
40742	13	48	47	48	49	The sentences "Climate change issues in maritime transport have been on the WTO agenda through the Negotiating Group on Maritime Transport Services. The effect of a carbon levy combined with a rebate for developing countries is discussed in." should be deleted since climate change issues in maritime transport have never been discussed at the Negotiating Group of Maritime Transport Service of WTO.	Taken into account - the two relevant sentences have been deleted.
41781	13	49	26	49	26	Explain what GATT Article XX refers to/describes.	Accepted - clarifying clause added

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35314	13	49	46	49	48	The paragraph from line 46-48 does not correctly reflect the views on UNFCCC-based options. It is suggested to include the following language to replace the original paragraph: UNFCCC-based options. Climate related trade issue is firstly a climate change issue rather than a trade issue. Thus, international governance on it should follow the principles of UNFCCC, especially the principle of CBDR. UNFCCC should play as the leading platform to handle this issue, as well as to generate principles and guidelines for other relevant international organizations. As WTO Director-General Pascal Lamy has said( <a href="http://www.wto.org/english/news_e/sppl_e/sppl83_e.htm">http://www.wto.org/english/news_e/sppl_e/sppl83_e.htm</a> ):"There is no doubt that trade regulations are not, and cannot be, a substitute for environmental regulations. Trade, and the WTO toolbox of trade rules more specifically, can — at best - offer no more than part of the answer to climate change. It is not in the WTO that a deal on climate change can be struck, but rather in an environmental forum, such as the United Nations Framework Convention on Climate Change. Such an agreement must then send the WTO an appropriate signal on how its rules may best be put to the service of sustainable development; in other words, a signal on how this particular toolbox of rules should be employed in the fight against climate change".	Rejected - comment does not cite peer-reviewed literature to support the view expressed in the comment, though it does note a view expressed by the WTO Director General
41780	13	49	46	49	48	This seems to state that these specific options have been raised and debated in the UNFCCC, when they have not. Much of what is listed here goes significantly beyond UNFCCC authority in this area, but certainly goes beyond what has been proposed or considered to date.	Taken into account - clarifying wording added to sentence
26690	13	49	5	49	6	This sentence o Inclusion of shipping to the EU ETS in 2013 is not true and should be removed	Taken into account - two sentences deleted
28059	13	49	5	49	7	EU does not envisage to include shipping into EU-ETS. Instead the EU-Commission has announced an EU-wide Monitoring system for GHG emissions from shipping to be issued in 2013.	Taken into account - two sentences deleted
29243	13	49	5	49	7	'This is in line with the plans of the EU to include not only emissions from aviation but also shipping into the EU-ETS from 2013 onwards.'-Please remove. Shipping is not being included in EU-ETS in 2013. The Commission is hesitant at this point to adopt any substantive regional measures to address shipping emissions and is taking a more collaborative approach on a global level in the IMO.	Taken into account - two sentences deleted
25096	13	49	5	49	8	1) Delete the sentence "This is --- onward". Reason: This may be EU's plan but neither global nor IMO's plan. Also, in view of the current situation, it is absolutely unlikely to include emissions from ocean transport from 2013. 2) Delete the sentence "Direct regulation --- Keenet al. 2012)". This literature should have been written before IMO's decision to introduce direct regulation. The fact is that, IMO has already agreed to introduce direct regulation for energy efficiency improvement for newly buit vessels (Ref. Chapter 8, p.68).	Taken into account - two sentences deleted
26685	13	49	7	49	8	IMO has agreed on energy efficiency design index (EEDI) for new ships in 2011. Please amend here.	Accepted - sentence and reference added
22172	13	49	7	49	8	IMO has agreed on energy efficiency index for new ships in 2011.	Accepted - sentence and reference added
27316	13	49	7			The phrase "Direct regulation under ICAO and IMO have been discussed but not yet agreed" should be replaced by "Direct regulation under ICAO and IMO have been discussed but not agreed". The term "yet" should be removed, in order to avoid prejudging the outcome of political discussions.	Taken into account - two sentences deleted
40743	13	49	2	49	3	", although both financial and nonfinancial barriers may discourage their implementation" should be deleted since "...cost-effective" is clearly the main message of this reference and this part is out of context of the whole sentence .	Taken into account - clause deleted.

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33861	13	49	5	49	7	Delete this sentence. The EU has currently no concrete plans to include shipping emissions in the EU ETS. The European Union is actively engaged in pursuing international agreement on global measures to reduce greenhouse gas emissions from international maritime transport. Although considerable efforts are being made, primarily in the International Maritime Organization (IMO) and the United Nations Framework Convention on Climate Change (UNFCCC), progress towards the introduction of global market-based measures to reduce greenhouse gas emissions from ships effectively at minimum cost has so far been limited. In line with the commitments of the 2009 Climate and Energy Package, the EU is taking action to include these emissions into the existing EU reduction commitment. The European Commission is currently considering possible European action in 2013 to introduce monitoring, reporting and verification of greenhouse gas emissions from maritime transport as a first step towards measures to reduce these emissions	Taken into account - two sentences deleted
24926	13	49	5	49	8	There are a number of errors in these lines. Add "international" to the reference to aviation (please note the EU Parliament will consider in April 2013 legislative changes to temporarily suspend EU ETS international aviation requirements until 1 January 2014, with regard to foreign airlines). Recommend checking with the European Commission the reference to plan to include international maritime emissions in the EU ETS. Australia's understanding is it is only one of a number of options under consideration.	Taken into account - two sentences deleted
40744	13	49	5	49	8	"This is in line with the plans of the EU to include not only emissions from aviation but also shipping into the EU-ETS from 2013 onwards. Direct regulation under ICAO and IMO have been discussed but not yet agreed (Keen et al., 2012)." should be deleted because: 1) the EU does not plan to eventually include shipping into the EU-ETS. 2) it is not clear that the connection between the inclusion of aviation and shipping in the EU-ETS and "direct regulation under ICAO and IMO".	Taken into account - two sentences deleted
26512	13	49	9	49	11	There are other international institutional contexts within which climate change-trade interaction issues have been addressed, namely, the World Bank, G-8, G-20, International Energy Agency, Major 10 Economies Forum, and Organisation for Economic Cooperation and Development (section 13.5). TO INCLUDE: "Similarly, there have been efforts to engage organisations of employers and trade unions along with governments, Ministries of Labor and Social Affairs in tripartite dialogues on the potential implications of climate change for the world of work and responses that may be warranted (ILO 2012, 2013)". ILO (2013 forthcoming), Sustainable development, decent work and green jobs, Report V. International Labour Conference, 102nd Session, 2013	Rejected - not relevant to specifics of trade issues being discussed here
33192	13	5	1	7	38	Executive summary: the insights from sections 13.3.3 and 13.3.4 in the chapter are key and would deserve more attention in the Executive Summary, highlighting inter alia the role of different coalitions, transfers, trade sanctions, co-benefits, MRV or policy linkage in fostering participation and compliance.	Accepted, the ES has been rewritten
41633	13	5	15	5	17	The authors should consider changing "firm or individual" to "entity" as the former seems too limiting, whereas the latter could include countries.	Accepted, the ES has been rewritten
41634	13	5	18	5	18	The authors need to clarify and add references supporting any statement about high agreement, evidence, and confidence. What part of paragraph is high agreement, evidence, and confidence?	Reject: The ES does not need references
41635	13	5	20	5	20	At the end of this sentence, the authors should consider adding "... while also achieving a level of ambition sufficient to address the problem."	Accepted, the ES has been rewritten
31115	13	5	29	5	30	Please verify consistency of this assessment of uncertainty with the guidance note on uncertainty. Should only the confidence assessment be given or does this require an uncertainty assessment at all (e.g., is it simply facts)?	Accepted, the ES has been rewritten

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34767	13	5	36	5	36	Delete the sentence: "The Kyoto Protocol is an example of such an approach." The other two potential approaches to international cooperation offered in this paragraph (i.e. less centralized approach and decentralized architectures) do not offer specific examples in the Executive Summary section. Given that this is the Executive Summary, the statement should remain at a 'principles' level only - specific examples of each of the potential approaches are given later on in the chapter and do not need to be repeated here (especially if only an example of one of the three potential approaches is set out).	Rejected -- the specific example adds clarity
31116	13	5	36	6	2	Suggest that this statement be worded in a more fact oriented way; "appears" sounds very vague.	Accepted, the ES has been rewritten
41636	13	5	43	6	24	On p. 5, line 42, but throughout the chapter - there is an overwhelming focus on Kyoto to the exclusion of the Copenhagen Accord / Cancun commitments. While Kyoto is, indeed, a complex instrument worthy of detailed discussion, scant attention is given to a far simpler "instrument" that covers a much larger % of global emissions. Here, and elsewhere, more notice should be given to Cancun/Copenhagen.	Taken into account - The ES should reflect the chapter better in this regard. Chapter-wide, the imbalance toward discussion of Kyoto is the product of greater academic literature on the aspects and implementation of the protocol. More recent agreements have necessarily received less academic attention to date, but we will continue to add peer-reviewed literature up until the cutoff date. Even in the SOD, there is more on Copenhagen/Cancun in 13.13 than the ES reflects
22164	13	5	46	6	2	A good point highlighting that mitigation efforts are not in line with the 2degC target.	Noted
28021	13	5	46	6	2	Important, please add this sentence to the SMP.	Noted
41637	13	5	47	5	47	The 2C target is not cited against any base year/time period. According to political decisions within the UNFCCC, this is pre-industrial, however, "scientific consensus" from AR3 (Burning Embers figure) states that it is relative to 1990 levels. Worth clarifying here and wherever else 2C appears.	Accepted -- "pre-industrial" baseline is used in conjunction with most references to 2°C
28020	13	5	7	5	19	This paragraph presents common knowledge (or is this a key assessment result of the AR5?) and should be deleted or at least significantly shortened.	Accepted, the ES has been rewritten
19187	13	5	8	5	9	So CO2 mixes does it? But you are afraid to find out because it is untrue	Reject
30257	13	5	8	8	42	The global commons construction of international climate change politics used to initially frame the chapter and comprising one of the key conclusions of the chapter (in the executive summary and the SPM) is presented as if uncontentious/common sense, when from the outset it has been subject to contestation (Agarwal and Narain 1991). Thus, whilst the atmosphere may be shared by all – not all have an equal share of this resource, either in terms of historical responsibility for carbon emissions and the developmental benefits it brought or present day emissions. As one of the earliest defining features of the international political response to climate change, the developed/developing country divide needs to be brought to the fore and stressed alongside other 'logical conclusions' of the global commons construct. As currently framed, the chapter seems only representative of developed country scholarly concerns/literatures in its assessment of framing concepts and principles.	Accept, text revised to include both global commons and unequal impacts
22163	13	5	8	5	19	A good point on the importance of international cooperation and co-benefits.	Noted
27306	13	5	8	5	9	The "global commons problem" does not reflect as a "free rider" aspects of mitigation, but also in historical responsibility. The following text should be added: As such, emmissions from a selected group of developed countries affect the whole atmosphere.	Accepted, the ES has been rewritten

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28022	13	5		7		ES of other chapters don't have sub-headings in their ES. You might want to skip these for the sake of consistency in style. It would add to the comprehensibility of the ES if the key results/messages were presented in bold in the first sentence of each paragraph. Some paragraphs are very generic and read more like a text book explanation (very descriptive) than a result. The text could be shortened to be more concise. It seems that uncertainty language has not been used according to the agreed rules; isn't it either a indication of agreement and evidence or an indication of confidence (in the case were the other two are at the same level)?	Accepted, the ES has been rewritten
41632	13	5	1	7	38	Be more concise and clear. Wordiness obscures the message points.	Noted
26701	13	5	8	5	9	There is need for balance in this first sentence and follow with a sentenceOn the adverse impacts of climate change not being uniform but disproportionately impacting the poor and vulnerable countries that have not contributed to global warming .	Accepted, the ES has been rewritten
24187	13	50	20		44	Should add technology transfer provision in the Convention	Accept - sentence has been added. Combined with comment 22362
26711	13	50	20	51	36	There is no traatment/reference to adaptation technologies. This needs to be addressed.	Reject - there is no literature cited and the length constraint prohibits adding this topic to the scope of the section
22362	13	50	21	50	23	An additional sentence should be added to this paragraph to state: "The important role of technology cooperation, including the provision of access to, facilitation of, and transfer of technology, is explicitly recognized in Article 4(1)(c) and (h), 4(5), 4(7), 4(8), and 4(9) of the UNFCCC."	Accept - sentence has been added
41782	13	50	23	50	24	There is a seeming contradiction in the word choice used in these two lines: "is likely to play" vs "may play a significant role". Please align the language to be consistent.	Reject - the subjects are different in two sentences. In the former, the subject is "technological change", while in the latter the subject is "technology-related policy".
35315	13	50	20			This section was meant to elaborate on the issue of technology transfer in a comprehensive manner. However, it only presented information on the general technology cooperation. Regarding technology transfer, focused discussions should be on the gap of capability and development stages of technology development between developing and developed countries, the fact that inadequate technology transfer from developed countries to developing countries; the consensus that it is developed countries' obligation to promote, facilitate and finance technology transfer to developing countries. Only two paragraphs are on technology transfer, which is disproportional and unbalanced . It is strongly recommended to revise the section accordingly.	Taken into account - several sentences with references added to section 13.9 and with cross references to other sections in chapter 13 and to chapters 3 and 4



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22363	13	51	26	51	30	<p>The text here provides an uncritical acceptance of the concept of emissions trading. However, both the concept and practice of emissions trading has been critiqued substantively. There should also be text that indicates that there are critiques to emissions trading. Such text could be as follows: "However, it should be noted that both the theory and practice of emissions trading and carbon markets as applied to mitigation have also been viewed critically and with caution both academically and, in the context of the UNFCCC negotiations, politically." For published academic critiques, see, e.g., Larry Lohmann, Carbon Trading, Climate Justice and the Production of Ignorance: Ten examples, <i>Development</i> (2008) 51, pp. 359–365; Michael Hopkin, Emissions trading: The carbon game, <i>Nature</i> 432, 268-270 (18 November 2004); Heather Lovell et al., Carbon Offsetting: Sustaining Consumption?, <i>Environment and Planning A</i> 2009, volume 41, pages 2357-2379, at <a href="http://sciencepolicy.colorado.edu/students/envs_4100/lovell_2009.pdf">http://sciencepolicy.colorado.edu/students/envs_4100/lovell_2009.pdf</a>; Steffen Bohm and Siddhartha Dabhi (eds), <i>Upsetting the Offset: The Political Economy of Carbon Markets</i> (MayFlyBooks, 2009), at <a href="http://www.libros.metabiblioteca.org/bitstream/001/314/8/978-1-906948-07-8.pdf">http://www.libros.metabiblioteca.org/bitstream/001/314/8/978-1-906948-07-8.pdf</a>. For political critiques in the context of the UNFCCC negotiations, see, e.g. Bolivia, at <a href="http://unfccc.int/files/bodies/awg-lca/application/pdf/20120518_bolivia_nmm_2100.pdf">http://unfccc.int/files/bodies/awg-lca/application/pdf/20120518_bolivia_nmm_2100.pdf</a> and at <a href="http://unfccc.int/resource/docs/2012/awglca15/eng/misc06a02.pdf">http://unfccc.int/resource/docs/2012/awglca15/eng/misc06a02.pdf</a>; and Philippines on behalf of a group of like-minded developing countries, stating that "Another important lesson to take stock of is the current collapse of the carbon markets. In this light, the effectiveness, viability and environmental integrity of market mechanisms for mitigation need to be reviewed and considered with caution, especially proposals for their expansion", at page 8 of their submission (<a href="http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_lmdc_workstream_1_20130313.pdf">http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_lmdc_workstream_1_20130313.pdf</a>).</p>	Accepted - new text has been added and peer-reviewed references have been reviewed and included
22173	13	51	37	53	7	<p>This section shows that IP protections fosters FDI and R&amp;D but there is little evidence related to climate change technologies.</p>	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.

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22364	13	51	38	52	47	<p>The effects of IP as an obstacle for the transfer of technology, incidentally mentioned in Chapter 3 should be further elaborated on here. Since patents and other IP rights confer exclusive rights, right-holders can decide whether to grant or not a license and determine the price and other conditions (often including restrictive practices such as grant-back provisions, tying clauses and export restrictions). Hence, the existence of IP, by its very nature, creates an obstacle to transfer of technology, particularly when the right-owner opts to supply a foreign market through exports. Compulsory licenses may be used in such situations, and competition laws applied in cases of abuses of such rights. Hence, the paragraphs in this Section 13.9.2, in stressing that stronger IP protection could foster technology transfer, ignore other studies that have highlighted the barriers that IPRs may pose to effective technology transfer in the climate change area. Examples of such studies are Martin Khor, Climate Change, Technology and Intellectual Property Rights: Context and Recent Negotiations (South Centre Research Paper 45, June 2012, at <a href="http://www.southcentre.org/index.php?option=com_content&amp;view=article&amp;id=1734%3Aclimate-change-technology-and-intellectual-property-rights-context-and-recent-negotiations&amp;lang=en">http://www.southcentre.org/index.php?option=com_content&amp;view=article&amp;id=1734%3Aclimate-change-technology-and-intellectual-property-rights-context-and-recent-negotiations&amp;lang=en</a>), and Carlos Correa, Mechanisms in International Cooperation in Research and Development: Lessons for the Context of Climate Change (South Centre Research Paper 43, March 2012, at <a href="http://www.southcentre.org/index.php?option=com_content&amp;view=article&amp;id=1675%3Amechanisms-for-international-cooperation-in-research-and-development-lessons-for-the-context-of-climate-change&amp;lang=en">http://www.southcentre.org/index.php?option=com_content&amp;view=article&amp;id=1675%3Amechanisms-for-international-cooperation-in-research-and-development-lessons-for-the-context-of-climate-change&amp;lang=en</a>)</p>	<p>Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.</p>
20186	13	51	48	52	2	<p>The literature surveyed in Chapter 15 does not lead to the conclusion indicated here, but to a very limited impact of patents on innovation, except in chemicals and pharmaceuticals (but circumscribed in this latter case to protection in developed countries). In fact, economic literature is overwhelmingly skeptical about the impact of patents on innovation: '...nations with patent systems were not more innovative than nations without patents systems. Similarly, nations with longer patent terms were no more innovative than nations with shorter patent terms' (James Bessen and Michael Meurer (2008), Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk, Princeton University Press, Princeton and Oxford., p. 80); a survey of 92 countries 1978-2002 showed that "National patent protection alone does not stimulate domestic innovation... However, domestic innovation accelerates in countries with higher levels of economic development, educational attainment, and economic freedom' (Qian, Y. (2007) "Do Additional National Patent Laws Stimulate Domestic Innovation in a Global Patenting Environment: A Cross-Country Analysis of Pharmaceutical Patent Protection, 1978–2002", Review of Economics and Statistics August 2007); a survey of seventy two countries showed that 'to date, there is no robust empirical evidence that stronger patent rights indeed stimulate growth' (Hu AGZ &amp; Png IPL 'Patent Rights and Economic Growth: Evidence from Cross-Country Panels of Manufacturing Industries', 2010, available at WIPO website A Hu, I Png - 2009 - wipo.int) ; '...as economic studies have shown repeatedly, patents do not play a particularly important role in most fields of industrial innovation' (Scherer, F.M. (2009), The Political Economy of Patent Policy Reform in the United States Journal on Telecomm. &amp; High Tech. L. Vol. 7).</p>	<p>Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.</p>

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
22365	13	51	48	52	2	Chapter 15 does not support the assertion that is being made in this sentence. Rather, the literature surveyed in Chapter 15 suggests that patents have only a a very limited impact on innovation, except in chemicals and pharmaceuticals. Furthermore, such an assertion ignores current economic literature that is highly skeptical about the impact of patents on innovation. For example: '...nations with patent systems were not more innovative than nations without patents systems. Similarly, nations with longer patent terms were no more innovative than nations with shorter patent terms' (James Bessen and Michael Meurer (2008), Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk, Princeton University Press, Princeton and Oxford., p. 80); a survey of 92 countries 1978-2002 showed that "National patent protection alone does not stimulate domestic innovation... However, domestic innovation accelerates in countries with higher levels of economic development, educational attainment, and economic freedom' (Qian, Y. (2007) "Do Additional National Patent Laws Stimulate Domestic Innovation in a Global Patenting Environment: A Cross-Country Analysis of Pharmaceutical Patent Protection, 1978–2002", Review of Economics and Statistics August 2007); a survey of seventy two countries showed that 'to date, there is no robust empirical evidence that stronger patent rights indeed stimulate growth' (Hu AGZ & Png IPL 'Patent Rights and Economic Growth: Evidence from Cross-Country Panels of Manufacturing Industries', 2010, available at WIPO website A Hu, I Png - 2009 - wipo.int) ; '...as economic studies have shown repeatedly, patents do not play a particularly important role in most fields of industrial innovation' (Scherer, F.M. (2009), The Political Economy of Patent Policy Reform in the United States Journal on Telecomm. & High Tech. L. Vol. 7).	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.
41783	13	51	1	51	36	Are the Annex 1 parties whose progress is assessed here only the A1 Kyoto Parties or ALL Annex 1? The authors should clarify this point.	Reject - this comment is not relevant to this subsection.
24118	13	51			53	1) This section should be more balanced. The role of IPR in the transfer of climate has been very controversial among developing and developed countries in multiple international fora, and, in particular, in the UNFCCC. One stream of thinking is that a strong IPR regime will be positive for climate friendly technologies transfer. Other considers this as an barrier, asking for considering compulsory licencing for these technologies as this has ben done for some drugs. Others recognize that IPR are potentially both, an incentive and an obstacle to the transfer of climate friendly technology and that the exact role of IPR in the transfer of climate-related technologies remains unclear, giving the current uncertainties. The section reflects only the views from literature and scholars that advocate for strong IPR regime. In order to be balanced it should consider and cite sources with other points of view. Relevant articles of the ICSTD can be used to identify these sources, such as "Climate Change, Technology Transfer and Intellectual Property Rights". K. Ravi Srinivas. The Journal Ethics and International Affairs. Carnegie Council. August 12, 2009. 2) Most of the used literature sources are from before 2007. It may be convenient to consider other more updated sources that better reflect the current discussions and thinking on this controversial matter.	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.
30498	13	51	37	53	7	It is a good discussion on the relationship between IPR and technology transfer.	Noted - this comment does not make a specific suggestion.
26002	13	51	37			the section does not address the role of IP in the emerging developing countries, which will likely play a larger role in emissions reduction. The section has no analyses of non-IP regimes, such as the "quasi-property". This instrument is often used by multinational corporations to speedily transfer technologies among their subsidiaries abroad. Please see the case of high-performance fuels for cars, soft drinks, tungsten lamps, energy drinks, LED lamps, fuel ethanol, and many other energy products. The quasi-property motto seems to be "Do not submit for a patent but, rather, keep your invention a leap ahead of the competition."	Reject - no literature provided to substantiate these claims.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
31129	13	51	44	51	47	In the sentence "Apart from the intellectual property regime remedying the problem of public goods...", the link between IPR and "the problem of public goods" is not made clearly. The problem referred to here should be explained in a bit more detail, as should the linkages with IPR.	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.
20189	13	52	1	52	34	The concept of 'stronger' IP protection used here and in some of the quoted literature is unclear. Stronger than what? The concept seems to unjustifiably encourage IP protections higher than that required by the international agreements, notably the TRIPS Agreement.	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.
22367	13	52	1	52	34	The concept of 'stronger' IP protection used here and in some of the quoted literature is unclear. Stronger than what? The concept seems to unjustifiably encourage IP protections higher than that required by the international agreements, notably the TRIPS Agreement.	Taken into account. This section has been rewritten.
21321	13	52	10	52	10	Add a sentence saying "Concern by developing countries that intellectual property protection for low carbon technology will make climate action excessively costly has been a contentious issue in the climate negotiations." See India (2013). Submission to the UNFCCC on the Work of the Ad-Hoc Working Group on the Durban Platform for Enhanced Action Workstream 1. <a href="http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_india_workstream_2_20130309.pdf">http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_india_workstream_2_20130309.pdf</a>	Accepted. Suggested sentence has been added.
20190	13	52	11	52	34	Evidence on the impact of IP is inconclusive at least. There are no comprehensive studies to show a general positive relationship. For instance, is there any evidence that IP has promoted technology transfer to African or Latin American countries which are TRIPS compliant or even to those that provide TRIPS-plus protection? It has been shown that 'South Africa has attracted far less FDI than other countries whose IPR system appears to offer potential foreign investors weaker protection' (Kaplan D 'Intellectual Property Rights and Innovation in South Africa: A Framework' in The Economics of Intellectual Property in South Africa WIPO, 2009, p. 4). The study by Mansfield quoted to substantiate the argument of a positive effect of IP on FDI is methodologically weak (based on interviews), outdated (it was conducted almost 20 years ago before TRIPS entered into force); it provides an insufficient basis for the conclusion reached in this section regarding FDI. It is also incorrect to generalize the limited findings of the bibliography quoted in the text.	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
22368	13	52	11	52	34	Evidence on the impact of IP on promoting technology transfer is inconclusive to say the least. There are no comprehensive studies to show a general positive relationship. For instance, is there any evidence that IP has promoted technology transfer to African or Latin American countries which are TRIPS compliant or even to those that provide TRIPS-plus protection? It has been shown that 'South Africa has attracted far less FDI than other countries whose IPR system appears to offer potential foreign investors weaker protection' (Kaplan D 'Intellectual Property Rights and Innovation in South Africa: A Framework' in The Economics of Intellectual Property in South Africa WIPO, 2009, p. 4). The study by Mansfield quoted to substantiate the argument of a positive effect of IP on FDI is methodologically weak (based on interviews), outdated (it was conducted almost 20 years ago before TRIPS entered into force); it provides an insufficient basis for the conclusion reached in this section regarding FDI. It is also incorrect to generalize the limited findings of the bibliography quoted in the text.	Taken into account. This section has been rewritten.
20191	13	52	24	52	28	The positive impact of IP on exports, as found by Smith (1999) should not be mixed up with potential effects on technology transfer and FDI. That impact precisely shows that IP owners often opt for the exploitation of foreign markets through sales rather than FDI or technology transfer.	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.
22369	13	52	24	52	28	The positive impact of IP on exports, as found by Smith (1999) should not be mixed up with potential effects on technology transfer and FDI. That impact precisely shows that IP owners often opt for the exploitation of foreign markets through sales rather than FDI or technology transfer.	Rejected. Exports are a form of technology transfer.
20188	13	52	3	52	4	The paper by Grosman and Lai provides an insufficient basis for the statement about the positive impact of IP protection in developing countries with regard to R&D in developed countries. Their findings cannot be generalized. Scherer, for instance, found that the extension of pharmaceutical patents to developing countries required under TRIPS would have an insignificant impact on R&D in that field, despite the fact that patents are deemed to be key for innovator companies (F. M. Scherer, 'A Note on Global Welfare in Pharmaceutical Patenting' The World Economy, Volume 27, Issue 7, pages 1127–1142, July 2004).	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.
22366	13	52	3	52	4	The paper by Grosman and Lai provides an insufficient basis for the statement about the positive impact of IP protection in developing countries with regard to R&D in developed countries. Their findings cannot be generalized. Scherer, for instance, found that the extension of pharmaceutical patents to developing countries required under TRIPS would have an insignificant impact on R&D in that field, despite the fact that patents are deemed to be key for innovator companies (F. M. Scherer, 'A Note on Global Welfare in Pharmaceutical Patenting' The World Economy, Volume 27, Issue 7, pages 1127–1142, July 2004).	Taken into account. This section has been rewritten.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
35316	13	52	44	52	47	<p>This section only partially reflects views on the role of IPR in technology transfer. This chapter should focus on how IPR policies can better facilitate the transfer of climate friendly technologies to developing countries, instead of merely emphasizing the importance of enhancing IPR protection. It is suggested to include the following diverse views from various studies:</p> <p>1. The abuse of IPR could lead to insufficient competition or monopoly, which is also a risk for the climate technology. ( McDonough, J. (2006). The myth of the patent troll: an alternative view of the function of patent dealers in an idea economy. Emory Law Journal, 56, 189; Ng ESK (2009). Patent trolling: innovation at risk. European Intellectual Property Review, 31, 12:593–608.)</p> <p>2. Enhancing IPR protection does not necessarily facilitate innovation. On the contrary, it may result in bottlenecks for technology development, which attributes IPR holder a monopoly power in the sector that will jeopardize market competition. (David, P. A. (2000). Understanding digital technology's evolution and the path of measured productivity growth: Present and future in the mirror of the past. Understanding the digital economy: Data, tools, and research, 49-95.Katz, M. L. (2002). Intellectual Property Rights and Antitrust Policy: Four Principles for a Complex World. J. on Telecomm. &amp; High Tech. L., 1, 325.)</p> <p>3. It is also controversial whether enhancing IPR protection can facilitate technology transfer. The fact that IPR holders have exclusive rights may result in monopoly, which can increase the cost of introducing technologies and impede timely transfer of climate friendly technologies to developing countries. (Dechezleprêtre, A., Glachant, M., Haščič, I., Johnstone, N., &amp; Ménière, Y. (2011). Invention and transfer of climate change–mitigation technologies: A global analysis. Review of Environmental Economics and Policy, 5(1), 109-130 Fair R. Does Climate Change Justify Compulsory Licensing of Green Technology [J]. Int'l L. &amp; Mgmt. Rev., 2009, 6: 21)</p>	Taken into account. The text has been adjusted to reflect the tradeoff between the theoretical incentive effects of IP protection and its role in limiting possible diffusion of mitigating technologies, as well as the conflicting evidence in different published literature regarding the impacts of IP.
31131	13	52	45	52	47	<p>"(Lewis, 2007, 2011; Pueyo et al., 2011) found that IP protection has elicited innovation without significantly impeding technology transfer, although problems could arise if new, very broad patents were granted that impede the development of future, more efficient technologies (though even then, IPR may provide some flexibility)" - the second part of this sentence seems speculative. Are new, very broad patents common in the context of climate-friendly technologies? If not, the language "although problems could arise..." may not be useful. If yes, additional language explaining what kind of problems could arise and how IPR may still provide flexibility would strengthen the paragraph.</p>	Accepted. Text reflects this point.
31130	13	52	8	52	10	<p>Compulsory licensing is a flexibility permitted by the TRIPS agreement, with a number of conditions usually necessary for issuing such licenses (such as unsuccessful efforts to negotiate a voluntary licence with the patent holder). As such, to say "Further, compulsory licensing has been proposed as a mechanism to encourage transfer with compensation to the patent holder while overcoming market power innovations on voluntary licensing" seems incomplete - do the authors suggest that compulsory licensing be used to encourage transfer in certain instances? If so, are there drawbacks or other considerations?</p>	Accept - additional text and references added
41787	13	53	33	53	36	<p>It's worth citing the U.S.-China Clean Energy Research Center (<a href="http://www.us-china-cerc.org">http://www.us-china-cerc.org</a>), IPEEC (<a href="http://www.ipeec.org/">www.ipeec.org/</a>), etc.</p>	Taken into account - included one additional example
41788	13	53	39	53	40	<p>It's worth stating some successful examples, some of the obstacles/barriers they faced and how respective governments were able to overcome them, etc.</p>	Reject - this is too fine a level of detail
34242	13	53	1	53	2	<p>rephrase the text as follows: and the WTO, an organization adopted and established by the final Uruguay Round of Multilateral Trade Negotiations of the GATT that discussed aspects of intellectual property rights related to international trade and as a result of the negotiations, the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) was concluded. The TRIPS Agreement binds all members of the WTO, and it is considered to be part and parcel of the latter.</p>	Reject - this level of detail is not necessary

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34243	13	53	3	53	7	add the following text at the beginning of line 3 and before the phrase "It may also be noted that ...": In economic terms, the basic model for an optimal or efficient price of private goods in a competitive supply is where price equals marginal cost.	Reject - this is covered by Chapter 3
31132	13	53	4	53	7	The paragraph suggests that the use of prizes is an alternative to IP protection as a way to encourage the spread of new technologies. Additional explanation of "prizes" would be useful here (what are they and how are they used?). Further, various benefits of IP protection are discussed in earlier paragraphs of the section (for instance, capturing value lost, fostering investment in R&D, limiting risk of imitation and profit erosion) - would these benefits still occur with the use of prizes instead of granting patent protection? May be useful to address this when discussing prizes as an alternative, to present a complete picture.	Noted - discussion of prizes has been removed as it is too fine a level of detail for the chapter
41784	13	53	8	54	41	The link between FDI and technology transfer is not very clear here. IP means foreign investment, but is FDI the best way to get new technology implemented? Especially in the context of international groups advocating significant public and multilateral funding of scientific research, it is not clear to me that we can credibly say that strong protections for corporate profits are the best way to spread the results of emerging science.	Taken into account - additional detail added in 13.9.2
41785	13	53	8	54	41	A citation is warranted and/or a more convincing discussion of the 'prize' approach and associated successes and failures to date.	Noted - discussion of prizes has been removed as it is too fine a level of detail for the chapter
41786	13	53	8	54	41	How successful was the Montreal model that the GEF is following? Is it, in the mind of the authors, a sound model? On International collaboration to encourage knowledge development, the chapter mentions the International Agreements (IAs), but fails to emphasize the role of technology and energy supply in the context of potential linkages between international climate policy and science, technology and innovation cooperation. Since the last assessment report, renewable energy and energy efficiency technologies have made great strides in cost competitiveness, and in many cases have been able to compete with fossil fuels technologies (see "Meeting Global Challenges through Better Governance: International Cooperation in Science, Technology and Innovation" (OECD 2012). International collaboration in research on mitigation may facilitate dialogue and motivate parties towards understanding the urgency of the climate problem. The chapter touches upon the theme without going much into the specifics. How can the linkages between STI and climate policies be beneficial to international agreements? Can we borrow from the governance structure of international agreements? Are there any synergies? Do all of these initiatives/programs still exist? It's worth describing a little about what they have accomplished.	Taken into account - additional detail and references on the Multilateral Fund included.
41789	13	54	12	54	8	More discussion is warranted on bridging the innovation "valley of death" (demonstration to deployment) on an international stage.	Taken into account - an example included
28060	13	54	20	54	29	Existing instruments should also be mentioned, in particular: OECD regulation on Export Credits - with specific conditions to foster export / technology transfer in the area of renewable energy or climate change: see OECD (2013): ARRANGEMENT ON OFFICIALLY SUPPORTED EXPORT CREDITS", see in particular: "ANNEX IV - SECTOR UNDERSTANDING ON EXPORT CREDITS FOR RENEWABLE ENERGIES, CLIMATE CHANGE MITIGATION AND WATER PROJECTS" - See: <a href="http://search.oecd.org/officialdocuments/displaydocumentpdf/?doclanguage=en&amp;cote=tad/pg(2013)1">http://search.oecd.org/officialdocuments/displaydocumentpdf/?doclanguage=en&amp;cote=tad/pg(2013)1</a>	Accept - additional text and reference included
31224	13	54	24			The point that most tech transfer is by the private sector could be made more strongly in this section and how diffusion of technology actually happens, though the special case for state intervention in more centrally planned economies might be relevant (i.e. subsidies in renewable sector, nuclear development) though the potential challenges that come with that (indebtedness, safety issues).	Noted - this is already clear in the text

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28061	13	54	35	54	37	Presentation of pledging at the Hokkaido Summit 2008 has to be checked against real statement on "Environment and Climate Change", para 32, see: <a href="http://www.g8.utoronto.ca/summit/2008hokkaido/2008-climate.html">http://www.g8.utoronto.ca/summit/2008hokkaido/2008-climate.html</a>	Reject. \$6 billion is the correct figure
24120	13	54	19	54	41	The relevant results of Cancun, Durban and Doha UNFCCC conferences may be briefly referred here due to their importance for international policies to facilitate technology transfer.	Rejected - this is too fine a level of detail given the space constraint on this section
24119	13	54	26	54	31	Taking into account that the referred financial pledges were done in 2008, it may be pertinent to include literature sources that assess the implementation of these pledges.	Noted - this sentence has been deleted to save space
26823	13	55	37	55	39	Please replace the line "Capacity building for Nationally Appropriate Mitigation Actions (NAMAs) and REDD-plus are expected (Bosetti and Rose, 38 2011)." by "Efforts aimed at capacity building for Nationally Appropriate Mitigation Actions (NAMAs) and REDD-plus are expected (Bosetti and Rose, 2011). In the particular context of capacity building for renewable energy based NAMAs, some preliminary guidelines for policy makers for developing a NAMA have been presented in (Source: IRENA (2012), IRENA Handbook on Renewable Energy Nationally Appropriate Mitigation Actions (NAMAs) for Policy Makers and Project Developers, <a href="http://www.irena.org/DocumentDownloads/Publications/Handbook_RE_NAMAs.pdf">http://www.irena.org/DocumentDownloads/Publications/Handbook_RE_NAMAs.pdf</a> )."	Accepted - first sentence of text revised as provided.
40745	13	55	19			Other climate policies such as Joint Crediting Mechanism / Bilateral Offset Credit Mechanism also facilitate diffusion of low carbon technologies in developing countries along with MRVs, institution buildings, and other capacity buildings etc.(Ministry of Environment Japan, Ministry of Economy, Trade and Industry Japan.A) Taking up only one regional policy in IPCC report can lead to biased conclusion in future policy decision in the world.	Noted - added clarification that CDM is an example
40746	13	55	20	55	21	it is very weird that Carbon market is head of the list of policies to facilitate technology transfer because in carbon market systems other than CDM such as EU-ETS, credits are not gained primarily by projects which facilitate technology transfer.. At least, it should be written as "CDM" .	Reject - statement is sufficiently nuanced
41791	13	56	14	60	16	Sec 13.11 and 13.12 seem as though they would be covered sufficiently in Chapter 16 (Finance). In the interest of paring down some of the text in this chapter, could not some (or all) of these sections be eliminated or transferred to Chapter 16?	Taken into account - redundancies between Ch. 13 and 16 reduced
28063	13	56	20	56	22	Please provide a reference to chapter 16.1 where (yet another) a definition for climate finance is given.	Accepted - text revised
41792	13	56	25	56	25	The \$100bn mobilization was a commitment contained in the Accord, not a goal of the Accord itself. The text should be revised to reflect this fact more accurately.	Accepted - text revised
28064	13	56	27	56	29	The description of the AGF is confusing. Based on the cited AGF-Report 2010, you should use the four identified categories (see AGF, 2010, p.14, para 51). Please replace the sentence by: "[...] the (AGF, 2010) identified four categories of potential sources of finance: public sources, development bank instruments, carbon market finance and private capital."	Accepted - text revised
29244	13	56	28	56	28	UNFCCC is not a source of funding, and public money committed under UNFCCC does not capture all public funding which countries provide for climate action. Suggest this should be "domestic" or "national" public sources.	Accepted - text revised
28065	13	56	29	56	29	Estimates on financial needs are presented in 16.2.2 (not 16.2.1).	Accepted - text revised
28066	13	56	30	56	30	16.2.3 presents only possible "public" funding sources. Please add "public".	Accepted - text revised
28068	13	56	33	56	45	Presentation of UNFCCC financial architecture is not totally consistent with presentation in ch. 4, starting on p. 33, line 36.	Accepted - text revised
41793	13	56	36	56	39	It's worth explaining to the reader why there are so many different Adaptation funds. What are the different objectives/governing principles of each, etc.	Accepted - text revised
28069	13	56	39	56	39	Is it correct, that GEF administers all funds other than the GCF?	Rejected - the original text is correct.
28070	13	56	39	56	39	Please add that the CGF is not up and running yet.	Accepted - text revised



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29245	13	56	39	56	39	World Bank administers the adaptation fund so incorrect to say that the GEF administers all other funds than the GCF.	Accepted - text revised
28071	13	56	41	56	43	Please delete "have pledged and" in the sentence "The Adaptation Fund is financed through a 2% in-kind levy on emissions credits generated by CDM projects, though parties to the Kyoto Protocol have pledged and contributed additional funding (Horstmann, 2011; Ratajczak-Juszko, 2012). "	Accepted - text revised
41794	13	56	44	56	44	Is there any discussion / development with respect to including private/not-for-profit funding through any of these 4 vehicles	Rejected - the original text is correct.
41790	13	56	9	56	13	The first meeting of the Durban Forum for in-depth discussion of Capacity Building took place in Bonn, Germany in May, 2012	Accepted - text revised.
28062	13	56	16	56	18	The introduction needs to outline the key issues; going into results such as the largest share of finance goes to mitigation is distracting and should rather be discussed in the specific sub-sections (or left out).	Rejected - this section provides an introduction as well as specifies which issues are covered in the section.
31133	13	56	17	56	18	The lack of information on current and future climate impacts make it difficult to determine the costs and benefits to investing in adaptation measures	Accepted - text revised
28067	13	56	32	57	26	This section needs to be streamlined and re-written, using the language commonly used to describe public funds, and focusing on the key issues. If concepts such as 'direct access' (not common knowledge) are used, then they need to be explained, otherwise it is confusing.	Accepted - text revised
31134	13	56	39	56	40	Suggest noting that while established in 2010, the Green Climate Fund is still under development.	Accepted - text revised
29246	13	57	1	57	4	This sentence is incorrect. COP does not determine voting rules. For example the GCF Board will decide on voting rules if decision cannot be reached by consensus up with voting rules. Nor does the COP have authority to choose the trustee. The Board selects and appoints the trustee.	Rejected - the statement is about the GEF not the GCF
41795	13	57	11	57	12	Are these 10M and 2M figures *per year*? Per project? Please clarify.	Rejected - the sentence specified that it is per country
41796	13	57	11	57	17	Do we have any sense of how the 10M limit is constraining the effectiveness of the Adaptation Fund? Is it too small to attract real interest? Are these projects planning efforts, as one would expect given the one-shot nature of the grant, and if yes are the plans being usefully carried out? What does it buy? Is it believed that raising the cap would make a big difference?	Accepted - text revised with latest literature

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23613	13	57	18	57	26	<p>The paragraph starting with “A step change...” can be improved by adding a little more details about the nature of FSF. The following sentences are suggested to be inserted with a number of references:</p> <p>“Although not all donor country governments disclose detailed information about the content of their FSF contributions, a number of studies indicate that FSF includes a variety of financial instruments and activities, ranging from small-scale grants to large-scale loans for infrastructure development through various finance institutions (Fransen et al., 2012; Kuramochi et al., 2012; Nakhooda et al., 2012).”</p> <p>References: Fransen, Taryn, Smita Nakhooda, and Kirsten Stasio. 2012. “The U.S. Fast-Start Finance Contribution.” Working Paper. World Resources Institute, Washington DC, and Overseas Development Institute, London. Available online at <a href="http://www.wri.org/publication/ocn-us-fast-start-finance">http://www.wri.org/publication/ocn-us-fast-start-finance</a>.</p> <p>Nakhooda, Smita and Taryn Fransen with Allister Wenzel, Alice Caravani, and Kirsten Stasio. 2012. “The UK Fast-Start Finance Contribution.” Working Paper. World Resources Institute, Washington DC, and Overseas Development Institute, London. Available online at <a href="http://www.wri.org/publication/ocn-uk-fast-start-finance">http://www.wri.org/publication/ocn-uk-fast-start-finance</a></p> <p>Takeshi Kuramochi, Noriko Shimizu, Smita Nakhooda and Taryn Fransen. 2012. “The Japanese Fast-Start Finance Contribution.” Working Paper. World Resources Institute, Washington DC, and Overseas Development Institute, London. Available online at <a href="http://www.wri.org/publication/ocn-jp-fast-start-finance">http://www.wri.org/publication/ocn-jp-fast-start-finance</a>.</p>	Accepted - text revised
41797	13	57	18	57	26	It should be noted here that the FastStart Finance commitment was met and exceeded in 2012.	Accepted - text revised
41798	13	57	18	57	26	Citing the Fast Start Finance report is warranted as it illustrates that the pledge was met - and even exceeded	Accepted - text revised
28072	13	57	19	57	19	The term "pledge" should be replaced by "commitment"; the latter corresponds to wording in relevant UNFCCC decisions.	Accepted - text revised
29247	13	57	19	57	19	This sentence should read "provide approaching \$30bn"	Accepted - text revised
41799	13	57	27	57	32	This text is extraneous / out of place and should be deleted.	Accepted - text deleted
41800	13	57	39	57	40	Are these CIFs distinct from the 4 Funds mentioned on p. 56, lines 36-39? Are they financed in a way similar to the 4 UNFCCC funds? Please clarify.	Accepted - text revised
41801	13	57	45	57	45	Why is this viewed as being fragile? Please clarify.	Accepted - text revised
41802	13	57	46	57	46	What does "concessional financing" mean? Please define/clarify.	Accepted - text revised
28073	13	57	27	57	32	Suggest to delete. Doesn't add to the discussion, is rather confusing.	Accepted - text deleted
41803	13	58	1	58	7	Which model is proving more effective, economically, socially, and environmentally? Is there any evidence?	Accepted - text revised that shows there is no comparative peer reviewed literature.
28077	13	58	15	58	16	It is not only MDBs that leverage private investments, but also bilateral finance institutions. Please add this second group or use a more general term that embraces all "international finance institutions" or "development finance institutions".	Accepted - text revised
41805	13	58	20	58	25	Is there a target ratio? What do successful leveraging organizations have as a ratio?	Rejected - there is no target ratio.
28078	13	58	24	58	25	"i.e. not contributing to mitigation at all" should be deleted: Even if a project may be classified as "not additional", the statement, that it does "NOT contribute to mitigation AT ALL" may not be justified.	Accepted - text revised ("at all" deleted)
28079	13	58	31	58	33	This concept is not clear. What does "social cost of carbon" mean? Is this just an idea or an method used in practice? Please provide empirical evidence for your assessment.	Noted - the literature quoted is a theoretical, peer reviewed literature. Nowhere the text says that there is empirical evidence.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41804	13	58	4	58	6	What has been the implications of this trend? Is one more effective / efficient than the other?	Taken into account – this comment repeats comment with internal ID # 1665, and is addressed in the row for that comment
21322	13	58	43	58	43	Insert the word “some” after “However, strategies of” See Monica Contestabile, “Corporate political action,” Nature, Published online 26 Feb. 2013; Francesca Grifo et al. 2012, “A Climate of Corporate Control, How Corporations Have Influenced the U.S. Dialogue on Climate Science and Policy,” Union of Concerned Scientists	Accepted - insert "some" and add 1st citation. (Second citation is not published literature.)
28082	13	58	43	58	46	This sentence might want to refer to examples of proactive business engagement such as WWF Climate Savers, The Climate Group, CERES, The Prince of Wales's UK Corporate Leaders Group on Climate Change, etc.	Rejected - including some examples will require listing all, and space does not allow.
41806	13	58	45	58	46	Mention of Rio+20 outcome(s) in this realm (i.e., private sector action) is warranted.	Noted - there are many Rio+20 outcomes might relate to private sector actions, but space does not allow.
28075	13	58	5			Public finance has dedicated a sub-para to multilaterals. However, national and bilateral public finance institutions have provided substantial financing. E.g. China Development Bank, BNDES Brazil, KfW. A report induced by the IDFC (International Development Finance Club) has produced a number of US\$89bn in 2011. (Ch 16 cites: Höhne N., S. Khosla, H. Fekete, and A. Gilbert (2012). Mapping of Green Finance Delivered by IDFC Members in 2011. IDFC. - Although this is not peer reviewed, the simple fact of the non-multilaterals spending a lot might be relevant.)	Accepted - text revised
26003	13	58	7			The BRICS countries are creating a multilateral fund for development including for supporting climate change actions. Please see the minutes of the South Africa meeting in early 2013.	Accepted - text revised
31135	13	58	1	58	2	While accountability and results are important to governments when funding recipients, there is also increasingly an emphasis on supporting country-led efforts to meet mitigation and adaptation goals.	Accepted - text revised
28074	13	58	3	58	7	Direct access modalities exist, like the Adaptation Fund or the GEF, but it needs to be assessed how effective those are. Unless empirical evidence for your finding is added I suggest to delete the entire paragraph.	Taken into account – this comment repeats comment with internal ID # 1664, and is addressed in the row for that comment
31136	13	58	15	58	16	This phrasing suggests that it may not be true that multilateral banks leverage private financing, whereas it is a fact that in many cases, they do leverage private financing. For instance, Canada's funding to the Inter-American Development Bank has leveraged private financing.	Accepted - text revised
28080	13	58	33	58	35	Need to add a reference that confirms the finding.	Accepted - text revised
28076	13	58	8	58	35	References are missing: Brown et al (2011), Leveraging Climate Finance: a Survey of Methodologies; Climate Finance Effectiveness Background Paper; Buchner, Falconer, Hervé-Mignucci and Brinkman (2011), The Landscape of Climate Finance, A CPI Report - Box VI. I also suggest to end the paragraph with the overall finding made in Box VI of Buchner et al (2011).	Accepted - text revised but taking the latest Buchner, B., A. Falconer, M. Hervé-Mignucci, C. Trabacchi. 2012. "The Landscape of Climate Finance." A CPI Report, Climate Policy Initiative. <a href="http://climatepolicyinitiative.org/publication/the-landscape-of-climate-finance">http://climatepolicyinitiative.org/publication/the-landscape-of-climate-finance</a>
28081	13	58	37	58	42	The private sector is critical, but the public sector is essential in unlocking private capital - this needs to be added to this paragraph, otherwise it is giving the wrong overall impression.	Accepted - a sentence on public sections' role for private sectors has been added at the end of the paragraph.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
20206	13	59	24	59	25	Please delete "Moreover, high leverage factors may mean that the underlying project is not additional, i.e. not contributing to mitigation at all." this a miss-leading assumption as opposed to based on any scientifically rigorous research.	Misplaced comment - it actually refers to p.58 (not 59) in section 13.11. This comment repeats comment with internal ID # 1672.
28084	13	59	24			One might consider mentioning an innovative PPP. [E.g. PPP developed and introduced by the Environmental ministry, KfW and a commercial bank (Deutsche Bank) in Germany: The Global Climate Partnership Fund (GCPF). This is a structured investment vehicle, where the first-loss shares (equity) are held by the government (generated from emission permit auctioning revenues). The first-loss shares are providing a risk-buffer such that private investors are willing to accept market-rates of return when investing in senior shares of the fund. The commercial bank is the fund manager of this vehicle (set up in Luxembourg).]	Noted - the example mentioned in this comment is relevant but this comment does not offer citation.
28085	13	59	24	59	36	The paragraph seems to encourage clichés about public-private partnerships and should be seen critically.	Noted – this comment does not make a specific suggestion
20207	13	59	25	59	27	Please re-write to "Finally, the World Bank engagement in the Kyoto mechanisms has heavily leveraged private sector financing through their methodology and capacity development and only to a lesser degree crowded out private sector activities, as shown empirically by (Michaelowa and Michaelowa, 2011)."	Reject - this comments changes the finding of the source
41807	13	59	31	59	33	As supply chains become increasingly affected by extreme events and as (re)insurance companies build these risks into their premiums, more private sector action is likely. It might be worth expanding upon this point.	Rejected - space limitations preclude inclusion of this level of detail
20208	13	59	43	60	4	These achievements are small and should be put in comparison with the big elephant in the room: the fossil-fuel lobby that has gained so much more power since AR4 and which make that still the negative environmental externalities are not included in the pricing and thus only energy-efficiency measures have a large-scale impact today.	Noted - this comment is actually about pp.58-59 (not 59-60). There are many examples, big or small.
41808	13	59	44	59	44	What is meant by "accounting carbon" in this context?	Accepted - changed by "carbon accounting"
28083	13	59	1	59	4	Need to add that this however is more fragile during the last years due to financial crisis.	Reject – this comment is incorrect, because, while the nature of business opportunities has changed, there is no evidence that there are fewer opportunities coming from the climate regime due to the financial crisis.
21394	13	59	10	59	14	Keep this sentences since APP and GSEP shall be mentioned as public-private partnerships. Especially, (Fujiwara, 2012) (Okazaki et al., 2012) (Okazaki and Yamaguchi, 2011) offer good explanation for APP and GSEP.	Noted – this comment does not make a specific suggestion
41638	13	6	1	6	10	Would seem apt to mention Copenhagen and Cancun here.	Accepted, the ES has been rewritten
24174	13	6	10			suggest deleting "new"	Accepted, the ES has been rewritten
27308	13	6	11	6	12	In the sentence "As noted, climate change is also addressed in other plurilateral and multilateral fora, such as the Montreal Protocol, the Major Economies Forum on Energy and Climate, and the G20" it is not appropriate to selectively choose fora other than the UNFCCC in which climate change is also considered. The sentence should be replaced by: "As noted, other plurilateral and multilateral fora also address climate change under their respective mandates, while taking into account UNFCCC's principles, rules and provisions". See comment on chapter one, page 12]	Accepted, the ES has been rewritten
28023	13	6	11	6	12	The Montreal Protocol is an international treaty, while MEF and G20 are fora for international cooperation. Please specify.	Accepted, the ES has been rewritten

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41639	13	6	2	6	7	It would be worth citing what % of global emissions were captured under both KP1 and KP2 for context.	Taken into account - these figures would be useful for context, but not in the Executive Summary; they should be included in the Section being described, 13.5.1.1. and/or in 13.13
31212	13	6	21			The conclusions about flexible and efficient negotiations may be unduly pessimistic, though an accurate depiction of the literature. As these comments and those about the Kyoto Protocol come at the front, there could be some inertial bias to the status quo	Noted - does not make a specific suggestion, but be sure these conclusions accurately draw from the chapter
24905	13	6	32	6	33	Statement that demand has generated 1.5 billion credits is not nuanced enough - low prices indicate that there is not enough demand. Suggest rewording: "Nearly 1.5 billion offset credits - each equivalent to 1 tonne of avoided CO2 - had been issued by the end of 2012."	Accepted, the ES has been rewritten and no longer refers to this figure
24906	13	6	32	6	33	1.5 billion figure is inaccurate- suggest amend. Please also specify whether the numbers stated refer to just CERs or both CERs and ERUs. Suggested citation for 1.2 CER figure: <a href="http://cdm.unfccc.int/Statistics/Public/CDMinsights/index.html">http://cdm.unfccc.int/Statistics/Public/CDMinsights/index.html</a> See 0.7 billion ERU figure: <a href="http://ji.unfccc.int/statistics/2012/ERU_Issuance.pdf">http://ji.unfccc.int/statistics/2012/ERU_Issuance.pdf</a>	Accepted, the ES has been rewritten and no longer refers to this figure
41641	13	6	33	6	33	The authors should clarify whether this is CO2 or CO2eq.	Accepted, the ES has been rewritten and no longer refers to this figure
35304	13	6	39	6	40	The linkages between ETS and emission trading programs in Canada and Australia are still in their initial stage. Therefore, it is premature to draw the conclusion that these regional linkages can result in reducing mitigation cost. It is suggested to delete the sentence.	Accepted, the ES has been rewritten
24907	13	6	39	6	42	The sentence is valuable - suggest it is important to keep if the chapter is shortened	Noted
22165	13	6	39	6	46	A good point on the disadvantages of linking regional/national mitigation policies.	Noted
41642	13	6	41	6	41	This says linking national policies with "international policies" but the discussion appears to be about linking national programs to each other. Perhaps the sentence would more appropriately read "linking national policies may also provide ..."	Accepted, the ES has been rewritten
24904	13	6	5	6	7	The second commitment period does not cover "a considerably smaller set of countries". Suggest it would be more accurate to say that: "the composition of Parties in the second commitment period is different from the first, and the proportion of global emissions covered in the second commitment period is smaller than in the first." In the first commitment period there were 37 countries with binding targets and around the same number of countries are expected to take part in the second commitment period. Non-participation of the significant countries of Japan, Russia and the withdrawal of Canada from the Protocol in particular means global emissions covered in the second commitment period will be smaller. Suggested citation: <a href="http://unfccc.int/resource/docs/2012/cmp8/eng/13a01.pdf">http://unfccc.int/resource/docs/2012/cmp8/eng/13a01.pdf</a> , page 7 and 8 - Parties with a commitment in Column 2 are CP1 parties, those with a commitment in column 3 are CP2 parties.	Noted - 2nd commitment period no longer in ES
27307	13	6	5	6	7	The sentence "A second Kyoto commitment period was established in late 2012, for the period 2013-2020, albeit covering a considerably smaller set of countries" should be replaced by "A second Kyoto commitment period was established in late 2012, for the period 2013-2020, albeit covering a smaller set of Annex B countries".	Noted - 2nd commitment period no longer in ES
41640	13	6	7	6	7	This leaves out a very important product of international cooperation and negotiations under the UNFCCC - the Copenhagen and Cancun agreements and mitigation pledges. A sentence should be inserted that describes the Copenhagen and Cancun outcomes and number of mitigation pledges that have been associated with them to date (several more were made in Doha).	Accepted, the ES has been rewritten

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
35303	13	6	8	6	10	"[new]" shall be deleted; "new mode of cooperation" shall be replaced with ", which".	Accepted, the ES has been rewritten
24173	13	6	8			suggest deleting "[new]" of the sentence.	Accepted, the ES has been rewritten
31189	13	6	1	6	1	The claim that "the level of mitigation produced to date by such cooperation appears inadequate for this purpose, which is a reference to the 2 degrees C goal, presumes a specific trajectory of emissions and the foregoing of any geoengineering efforts to mitigate temperature increases. The emissions trajectory in the 20 years since the Rio Earth Summit certainly rules out some trajectories to 2 C, but not all. Moreover, it would be worthwhile to evaluate various climate change goals through a broader lens than the narrow approach of mitigation. Clearly there is an evolution in the international climate negotiations dynamics that has opened itself up to assessing the role of adaptation. It is likely to continue to evolve in the context of geoengineering (and has in non-UNFCCC forums such as the Convention on Biological Diversity).	Taken into account - With regard to the "inadequate" statement, the ES text should be very careful to accurately represent the chapter and the literature. This importantly implies that careful consideration of the calibrated uncertainty language is needed (combine this part with internal ID #1050) The ES reflects the chapter's discussion of adaptation and geoengineering
40724	13	6	25	6	46	Linkages between Climate Policies are also achieved through the bilateral and regional environmental cooperation initiatives such as knowledge platforms (ex. OECD's Green Growth Knowledge Platform, East Asia Knowledge Platform, UNEP's Adaptation Knowledge Platform.) Also Japan has started Joint Crediting Mechanism / Bilateral Offset Credit Mechanism which facilitate diffusion of low carbon technologies in developing countries along with MRVs, institution buildings, and other capacity buildings etc. Taking up only one regional policy in IPCC report can lead to biased conclusion in future policy decision.	Taken into account - these other linkages should be included in section 13.7, but those included are appropriate to leave in ES.
27317	13	60	32	60	33	The phrase "The United Nations Framework Convention on Climate Change is a statement of aspirations, principles, and goals; the Kyoto Protocol was its first elaboration including binding mitigation commitments" is a subjective statement. It should be replaced by the following language drawn from the UNFCCC website ( <a href="http://www.unfccc.int">www.unfccc.int</a> ): "The United Nations Framework Convention on Climate Change established the framework for the international response to climate change, by setting its guiding principles, ultimate objective and general obligations regarding mitigation, adaptation and means of implementation. The Kyoto Protocol operationalizes the Convention, by committing industrialized countries to stabilize greenhouse gas emissions based on the principles of the Convention."	Accept. Text revised accordingly.
21323	13	60	37	60	43	The discussion presents an unbalanced view; it should include accomplishments under the Kyoto Protocol, such as the creation of emission trading schemes, Clean Development Mechanism, institutions in developing countries, and relevance to European emission reductions. The following text includes some suggested additions: The Kyoto Protocol created flexible market-based mechanisms to aid in reducing GHG emissions. UNFCCC. (1998). Kyoto Protocol to the United Nations Framework Convention on Climate Change, <a href="http://unfccc.int/resource/docs/convkp/kpeng.pdf">http://unfccc.int/resource/docs/convkp/kpeng.pdf</a> . First, the CDM allows for certified emission reductions (CERs) achieved in developing countries to be counted toward emission reduction commitments of developed countries. Second, Joint Implementation (JI) is a mechanism for creating and transferring of emission reduction units from projects in Annex I Parties. JI requires that emissions reductions be additional and that acquiring of units be supplemental to domestic action. Finally, the COP was given the power to define rules related to the "verification, reporting and accountability for emissions trading." The Marrakesh Accords provide for a set of rules on the verification, reporting, accounting, compliance and eligibility criteria for emissions trading. UNFCCC (2001). The Marrakesh Accords. FCCC/CP/2001/13/Add.1. Decision 2/CP.7. <a href="http://unfccc.int/resource/docs/cop7/13a01.pdf">http://unfccc.int/resource/docs/cop7/13a01.pdf</a> . Parties with commitments, including many European countries, can sell their extra emissions units to countries with emission levels that are over their targets as long as trading is supplemental to domestic action.	Accept. Text revised accordingly.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41811	13	60	39	60	39	At the end of this sentence, include, "...listed in Annex I of the UNFCCC THAT ACCOUNTED FOR X% OF GLOBAL GHG EMISSIONS WHEN KP WAS AGREED TO AND Y% OF GLOBAL GHG EMISSIONS TODAY."	Accept - emissions shares added
27318	13	60	40	60	41	The UNFCCC is also a legally-binding international agreement, although it does not set quantified mitigation targets. The phrase "The Protocol has been the only legally-binding international agreement intended to reduce greenhouse-gas emissions" should be replaced by "The Protocol has been the only legally-binding international agreement to set binding emission reduction targets".	Take into account. The sentence has been deleted as not necessary for the paragraph. The Montreal Protocol also has legally binding reductions of GHGs.
27319	13	60	42	60	43	The phrase "Although emissions have decreased among Annex I countries, the Protocol's environmental effectiveness within this set of countries has been less than it could have been, for several reasons" implies a subjective assessment of the Kyoto Protocol. It should be rephrased to: "Although emissions have decreased among Annex I countries, the Protocol's environmental effectiveness within this set of countries could have been greater than it has been, for several reasons."	Reject. Not a substantive difference between the two options. And the link to the following paragraphs would be different with the proposed text.
21324	13	60	44	61	4	The text should separate out the first commitment period and the second commitment period of the Kyoto Protocol in a manner similar to the following suggested text. The first commitment period included Australia, Canada, the European Union, Japan, New Zealand and Russia, but lacked sufficient ambition to keep warming to 2 degrees Celsius. UNFCCC. (1998). Kyoto Protocol to the United Nations Framework Convention on Climate Change, <a href="http://unfccc.int/resource/docs/convkp/kpeng.pdf">http://unfccc.int/resource/docs/convkp/kpeng.pdf</a> ; UNEP, The Emissions Gap Report: Are the Copenhagen Accord Pledges Sufficient to Limit Global Warming to 2° C or 1.5° C? UNEP: Nairobi, Kenya. <a href="http://www.unep.org/publications/ebooks/emissionsgapreport/pdfs/GAP_REPORT_SUNDAY_SINGLES_LOWRES.pdf">http://www.unep.org/publications/ebooks/emissionsgapreport/pdfs/GAP_REPORT_SUNDAY_SINGLES_LOWRES.pdf</a> . The United States never ratified the Kyoto Protocol, and Canada withdrew from it in December 2011. Australia, Belarus, Croatia, the European Union, Iceland, Kazakhstan, Norway, Switzerland and Ukraine joined the second commitment period, which features an ambition trigger that requests these Parties revisit and increase their commitments by 2014. UNFCCC. (2012) Amendment to the Kyoto Protocol pursuant to its Article 3, paragraph 9 (the Doha Amendment), FCCC/KP/CMP/2012/13/Add.1. Decision 1/CMP.8. <a href="http://unfccc.int/resource/docs/2012/cmp8/eng/13a01.pdf">http://unfccc.int/resource/docs/2012/cmp8/eng/13a01.pdf</a> . At the same time, the second commitment period has resulted in even lower overall coverage than the first commitment period, including only 15 percent of global emissions.	<p>first commitment period. Assessment of the second commitment period is rather different given it has not yet finished. This has been made clear in the text.</p>
31137	13	60	4	60	12	Another important motivation for public-private sector collaboration that could be noted here is risk sharing - private sector generally assuming risks related to technology, construction, and investment etc. and public sector generally managing risks related to political, regulatory and environmental processes etc.	Accepted - "risk sharing" has been added in the sentence.
41809	13	60	4	60	16	This section (13.12.3) is extraneous to the rest of Chapter 13 and can be deleted.	Noted - section 13.12.3 is maintained because motivations for PPP should be important if contributions of market need to be enhanced in the future international climate regime. Thus, this is relevant to climate governance.
41810	13	60	31	62	23	Much of 13.13.1.1 is redundant with other sections where KP is discussed in detail, such as in 13.4.2.3, 13.5.1.1, 13.7.2	taken into account. See response to #1691.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
21391	13	60	44	61	4	Decrease of the coverage of Kyoto Protocol in the second commitment period due to the nonparticipation of Russia, Japan and New Zealand should be also added to support the message that Kyoto Protocol will no longer work effectively as expected.	Reject - this is mentioned on p61, l 1-4
25932	13	61	21	61	25	This chapter is meant to analyze the UNFCCC Kyoto Protocol and its flexible mechanisms. Therefore when assessing the aggregate emission reductions by Annex 1 countries, it is more appropriate to address the aggregate emissions of Annex 1 Parties which have legally binding targets under the Kyoto Protocol, which means to exclude the US. In this paragraph, the aggregate GHG emissions is calculated for the whole Annex 1 countries including the US, 14% in 2010 compared to 1990 with lulucf, and 10% with lulucf. When aggregate emissions is assessed by only Kyoto Parties Annex 1 countries, it means 20% lower with lulucf, and 16% lower without lulucf. This changes the whole impression of the effect of the Kyoto Protocol. Therefore either using the Annex 1 Kyoto Parties (with legally binding targets) data for analysing, or explicitly mention that these numbers (14 and 10%) include the US emission, which was not Kyoto Parties. Also, when assessing EIT's emissions, if Russia is included, the aggregate emissions' difference between 1990 and 2010 turns negative, instead of positive(4.9% and 4.1%). So, in order to avoid misunderstanding, it may be better to explicitly refer EIT as "EIT excluding Russia", as this also gives significantly different impression on the effect of the Kyoto Protocol.	Accepted for the most part. Estimates given for all Annex I countries, and for just Annex I parties (excluding the US), for KP fthrough 2011 and for FCCC through 2000, using new 2013 UN data. NOTE: THESE FIGURES MIGHT STILL CHANGE if the TSU reports newer data. (Rejected the suggestion to separate out Russia from the other EITs - too much detail already with all Annex I, Annex I minus US, Annex I minus EITs, with and without land use & forestry, etc.)
41814	13	61	24	61	25	What is the relative role of CDM/offsets in these numbers? How much was domestic reductions vs otherwise?	Accepted. However, figure given in the assessment of the CDM (13.13.1.2) rather than in the section proposed by the comment.
21325	13	61	25	61	26	A citation is needed for the claim that emission reductions were mostly due to the scaling-back of GHG-intensive industries in EITs. If no source can be provided, the text should be deleted.	Taken into account. Mention of the "GHG intensive industries" deleted as this is more specific than necessary, but the point that EIT reductions post-1990 were dramatic and account for most of the aggregate Annex B reductions is not controversial.
21326	13	61	26	61	30	Section 15.5.1.2 (as referenced in the text) does not discuss leakage, so this reference should be corrected. The claims regarding the detrimental impacts of leakage need to be supported with citations that explain the magnitude of any leakage or embeddedness problems.	Accepted. Cross-reference corrected. Cross-reference to chapter 5, box 5.1, added, which gives definitions of leakage
31138	13	61	31	61	35	The qualifier statement on line 32 ("...given reduced participation...") gives the reader the wrong impression as if this is a major factor why reductions that could be achieved will not be sufficient to achieve environmental performance consistent with the goal of limiting global average temperature increases to 2 degree Celsius. The fact is that given the shrinking share of Annex I countries' GHG emissions, reductions by Annex I countries will never be sufficient to limiting global average temperature increases to 2 degree C. We recommend the deletion of "given reduced participation". Alternatively, the impact of reduced participation as an additional factor should be explained separately.	Agreed. Text revised accordingly.



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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
21327	13	61	31	61	35	The text should compare the sufficiency of emission reductions to achieving the goal articulated in Art 2, not 2 degrees Celsius. Art 2 of the Convention states its objective is the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." UN. (1992) United Nations Framework Convention of Climate Change. <a href="http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf">http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf</a>	Reject. 2C has become an accepted measure of environmental effectiveness. The relationship between the UNFCCC objective and 2C is established in section 13.2.2.1.
25782	13	61	31	61	35	This part should explain unlimited evaluation results because it is prejudicial and misleading to put an emphasis on limited scenarios of 2°C. IPCC should be policy-neutral and should have responsibility to indicate unlimited evaluation results, as described in Table 6.1. The 2C target is extremely difficult to attain, as described in (Höhne, 2011, conclusion) and (Rogelj, 2011, abstract). These literatures are listed in the No4 line of this table.	Accepted - text added.
24435	13	61	31	61	64	It seems to me that this paragraph is not appropriate because emission reductions by Annex I countries during the first Kyoto commitment period did not intend to achieve environmental performance consistent with the goal of limiting global average-temperature increases to 2°C above pre-industrial levels.	Taken into account in revised text.
40747	13	61	32	61	33	"2 goal" is not "agreed" by COP members. It was only "recognized" in Cancun COP16 and Durban COP 17 decision( FCCC/CP/2010/7/Add.1, FCCC/CP/2011/9/Add.1 5) The COP 17 decision states as below. "Recognizing that deep cuts in global greenhouse gas emissions are required according to science, as documented in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, with a view to reducing global greenhouse gas emissions so as to hold the increase in global average temperature below 2C above pre-industrial levels, and that Parties should take urgent action to meet this long-term goal, consistent with science and on the basis of equity;"	Accepted; text revised to delete the word "goal" and add sentence saying the 2°C figure was "noted" at COPs 15 and 16.
41815	13	61	34	61	34	The 2C "above pre-industrial levels" is not based on scientific consensus, but rather has been declared in political agreements. Rather, IPCC WG2 AR3 (Burning Embers figure and elsewhere) stated that the 2C was relative to a 1990 baseline, not pre-industrial.	Taken into account with deletion of "goal" and addition of sentence saying "noted." (The text does not say "based on scientific consensus.") COP 15 (Copenhagen Accord) did not say what the 2°C was above; COP 16 (Cancun agreement on LCA) referred to 2°C above the pre-industrial level.
21328	13	61	36	61	47	The text evaluating the cost-effectiveness of the Kyoto Protocol is not very meaningful because it is abstract and, therefore, incomplete. The text should take into account the practical accomplishments of the Kyoto Protocol. Suggested text: "The Kyoto Protocol has implemented strong MRV measures in developed countries and has generated substantial capacity in developing countries as a result of the CDM which would never have occurred. Hare, W. et al. (2010) The Architecture of the Global Climate Regime: A Top-Down Perspective. Climate Policy 10, pp. 600-14; CDM Policy Dialogue. (2012) Climate Change, Carbon Markets and the CDM: A Call to Action. <a href="http://www.cdmpolicydialogue.org/report/rpt110912.pdf">http://www.cdmpolicydialogue.org/report/rpt110912.pdf</a> ."	Accepted - sentence added regarding monitoring, capacity-building, and facilitating future cost-effectiveness, citing Hare et al. 2010..
41812	13	61	4	61	4	Add a sentence at the end of this paragraph to read, "As a result, KP2 now covers only x% of global GHG emissions."	Accept - emissions shares added

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
28086	13	61	5	61	6	This claim is doubtful. The fact that Canada withdrew from the Kyoto protocol is not necessarily an indicator that the compliance system of Kyoto is too weak. It can be argued that the Canadian decision is mainly based on the very special fact that the most relevant competitor - the US - didn't join the Kyoto Protocol. The fact that 26 states are in compliance with their emission commitments can be seen as a strength of the compliance system. Suggestion: "Second, the Kyoto Protocol's compliance system (Oberthür and Ott, 1999; Hare et al., 2010; 5 Brunnée et al., 2012) has shown to have difficulties to enforce the Kyoto Protocol's target - at least in a situation where one of the most important emitter and key economic competitor is not part of the system."	Reject, because participation (e.g. US non-participation and Canada withdrawing) should be distinguished from compliance assurance/enforcement of commitments made by those parties who do agree to participate.
41813	13	61	6	61	6	Please explain why "it is difficult in practice to enforce" - briefly, if at all possible.	Accept. Text revised accordingly.
31197	13	61		62		An evaluation of the economics of the Kyoto Protocol should also note that it is effectively silent on adaptation (I believe the term is mentioned twice in the entire protocol). An economically efficient international climate agreement would pursue all low-cost measures to mitigate climate change risk, along emission mitigation and adaptation (and for that matter along geoengineering) dimensions. The exclusive focus on mitigation in the KP cannot be efficient unless there are no low-cost ways to promote adaptation and geoengineering, which does not appear to be the case given the literature.	Taken into account. Adaptation is not made the focus of the assessment, in part because the agreements discussed have not focused on this until very recently. This is made clear as a limitation of the assessment.
31195	13	61	21	61	35	The discussion of environmental effectiveness of the Kyoto Protocol should explicitly note the increase in global greenhouse gas emissions since the 1997 Kyoto Conference. For an international agreement with near-universal participation (the UNFCCC and the KP), this is the metric that matters, and it is the metric that can inform reforms of international climate policy design.	Accept. Text revised accordingly.
28087	13	61	24	61	26	This is a possible but not a necessary implication. The figures of European Environment Agency (European Union's total greenhouse emissions down 2.5 % in 2011, 13.9.2012, <a href="http://www.eea.europa.eu/highlights/european-union2019s-total-greenhouse-emissions">http://www.eea.europa.eu/highlights/european-union2019s-total-greenhouse-emissions</a> ) show that the EU 27 has overachieved their target. This is also the case for the EU-15. "In 2010, the latest year for which comprehensive data are available, EU-15 emissions stood 11% below their level in Member States' chosen base years (1990 in most cases)" (ibid.). This means that the EU countries have met their target in average without buying AAUs. At least for the EU -15 - 15 of 37 Kyoto member states with reduction obligations - the claim is not true "that most of these emission reductions were due to the scaling-back of GHG-intensive industries in the EITs." But also for the rest of EU countries this is only part of the truth. The example of the EU shows the potential of the Kyoto Protocol. It is also quite obvious that EU countries made in the context of the EU ETS intensive use of the international emission trading (IET) provision. <p style="text-align: center;">The corresponding part in the SPM (page 23, line 6-7) should be changed: Suggestions: "With the exception of the EU-states, most of these cuts may have been due to the scaling-back of GHG-intensive industries in the transition economies." and SPM (page 23, line 8-9) "The first, international emissions trading (IET) has - again with the exception of the EU - not improved cost-effectiveness because trading has been very limited under this provision."</p>	WAIT TO SEE REVISED FIGURES BEFORE DECIDING
31196	13	61	36	62	38	The chapter should explicitly note that the cost-effectiveness of an international climate change agreement depends on the cost-effectiveness of domestic emission mitigation policies. The entire mix of EU mitigation policies, for example, would not be considered cost-effective. The renewables policies reduce emissions at a much higher cost per ton of CO2 abated than abatement driven EUA prices.	Taken into account. Sentence added to recognise the interdependence of national and international levels in pursuing policy responses that meet the evaluation criteria outlined. Reference to chapter 15 also made.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
21329	13	62	32	62	38	The paragraph should mention that countries have taken a range of different actions. The EU ETS is one of a variety of measures that mitigate climate change.	Taken into account in revised sentence.
41816	13	62	39	62	44	The second sentence is not true. Kyoto emissions targets do not apply to the wealthiest and most responsible for the current stock of global emissions. Whether considering the 1st or more limited 2nd commitment period, those countries subject to targets are not necessarily the wealthiest (note that 5 of the top 10 GDP/capita countries are non-Annex I, which is not just a new development: in 1990 4 non-Annex I countries were in the top 10). It is also not true that they represent the greatest contribution to emissions (which a MATCH analysis has shown to be distributed evenly between developed and developing countries). For this reason, it is not correct/accurate to say that this is fully consistent with the principle of CBDR, which is much broader than these specific criteria.	Accepted; text revised.
41817	13	62	39	62	49	There is not sufficient agreement on the correct or true interpretation of CBDR to indicate whether something is in accordance with that phrase.	Accepted; text revised.
41818	13	62	40	62	42	MATCH data ( <a href="http://www.match-info.net">www.match-info.net</a> ) shows that cumulative emissions from 1750 - 2010 is 56% A1, 44% NA1 - so the "responsibility" isn't as squarely on "wealthiest countries" as this text suggests. Also, to term them "wealthiest" is misleading as many of the wealthiest nations are not typically thought of in this group of major industrialized nations (e.g., Singapore, Qatar, etc.)	Accepted; text revised.
27320	13	62	45			In order to ensure a balanced and impartial statement, the sentence "Income patterns and trends—as well as distribution of GHG emissions—have changed significantly since the UNFCCC divided countries into two categories in 1992 (U.S. Department of Energy, 2012; WRI, 2012; Aldy and Stavins, 2012), though income inequality—and variations in related capacity and per-capita responsibility for current emissions—remains substantial both within and between countries (IMF; U.S. CIA; World 49 Bank; Padilla and Serrano, 2006; Chakravarty et al., 2009; Milanovic, 2012)" must be replaced by "Income inequality—and variations in related capacity and per-capita responsibility for current emissions—remains substantial both within and between countries (IMF; U.S. CIA; World 49 Bank; Padilla and Serrano, 2006; Chakravarty et al., 2009; Milanovic, 2012), although income patterns and trends—as well as distribution of GHG emissions—have undergone changes since the UNFCCC divided countries into two categories in 1992 (U.S. Department of Energy, 2012; WRI, 2012; Aldy and Stavins, 2012)".	Taken into account in revised text.
24927	13	62	12	62	17	While national governments carry out trading for the Kyoto IET, it can be used to shadow and underpin regional emissions trading between firms. Suggest inserting on line 17: "However, the IET can also be used by national governments to guarantee the environmental integrity of abatement exported from a domestic ETS into a linked system, facilitating cost-effective emissions reductions and trade" or similar.	Accepted; text revised.
24928	13	62	21	62	23	Accuracy - suggest using a primary source rather than Point Carbon (secondary source). JISC has recently started publishing figures on ERUs issued on its website, which is updated regularly. Suggested citation: <a href="http://ji.unfccc.int/statistics/2012/ERU_Issuance.pdf">http://ji.unfccc.int/statistics/2012/ERU_Issuance.pdf</a>	Accepted; updated data (though July 2013) now cited from the UN JI website.
22923	13	63	11		17	The last sentence of the paragraph needs some clarification. If the authors want to say that the lower rate of participation among Annex I countries in emissions reduction is because non-Annex I countries do not participate in the commitment, the word high (line 16) should be changed to this low or lower. But, if the authors refer to the higher emissions reduction of Annex I countries, the expression the high rate of participation (line 16) should be changed for example, to this higher emissions reduction.	Taken into account in revised text.
21330	13	63	11	63	12	In mentioning feasibility, the text should emphasize the strength of the Kyoto Protocol's current institutions. Suggested text: "The benefits of the Kyoto Protocol include its creation of strong MRV and accounting rules and flexibility mechanisms. Hare, W. et al. (2010) The Architecture of the Global Climate Regime: A Top-Down Perspective. Climate Policy 10, pp. 600-14."	Taken into account in text added in response to similar comment ID # 1717.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41819	13	63	11	63	12	It seems odd to say that because Kyoto was ratified by so many parties that it demonstrates institutional feasibility. The fact that Kyoto only applied to a limited number of countries (in terms of mitigation commitments) and that many countries have since declined to make commitments in a second commitment period seem to indicate just the opposite. Also, all of the countries that made commitments for a 2nd commitment period also pledged those same targets under the Copenhagen/Cancun structure, so it is difficult to say that in the absence of Kyoto, those commitments would not exist.	Taken into account in revised text.
21331	13	63	16	63	17	The text understates the value of having non-Annex I countries in the agreement. The author should add a sentence: "However, these commitments reflected what was politically feasible at the time of the Kyoto Protocol was adopted, facilitating participation of non-Annex I countries in the agreement. Lutter, R. Developing Countries' Greenhouse Emissions: Uncertainty and Implications for Participation in the Kyoto Protocol. The Energy Journal 21(4), pp. 93-120. Moreover, the participation, even pursuant to voluntary commitments, had value in creating momentum."	Accepted.
24461	13	63	30	63	47	I find it odd that some CDM issues - "additionality", "leakage" are highlighted as central issues while development one of the core pillars/rationales of CDM is discussed on pg 64 but as an add-on to "cost-effectiveness", not as a core pillar on its own.	Taken into account in expanded paragraph on sustainable development.
41820	13	63	31	63	33	Wara highlights that not only were these kind of projects largely ignored, but it is not clear that the gases in question would have been produced (and available for abatement) in the absence of the incentive to get cheap carbon credits. These projects were a huge share of total claimed abatement in the early stages. As written, it sounds like new and exciting low hanging fruit was discovered, which seems to be an unfair summary.	Accepted in revised expanded text on additionality.
25897	13	63	38	64	8	additionality is controversial issue. "failed mechanism ,barbara haya, 2007" may be referred to.	Taken into account in expanded paragraph on additionality. References not included as they are not peer-reviewed sources.
28089	13	63	42	63	47	There exists a larger body of studies on additionality. Using only one country example with one particular industry (Lewis, 2010) to prove that CDM is additional is rather weak. More references are needed.	Accepted in expanded paragraph on additionality.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
21392	13	63	24	65	29	<p>As a reference for CDM, the following study is highly recommended. Reference: David Merlin-Jones (2012). CO2.1 Beyond the EU's Emissions Trading System. 17-27</p> <p>Add following 7 problems of CDM. CDM has both good and bad points.</p> <ol style="list-style-type: none"> <li>1.The Clean Develop Mechanism's (CDM) credits, CERs, are worth the same as EU ETS credits and can be submitted by ETS installations instead of EUAs. CERs are generated by extra-EU emission reducing projects to be sold on, to incentivise green investment, especially in developing nations. The EU is effectively offloading its ETS obligations in a 'do as I say, not as I do' move.</li> <li>2.The CDM is a 'zero sum' mechanism. For example, a CDM project reducing emissions by 1,000 tCO<sub>2</sub>e will generate 1,000 CERs, which can be bought by ETS installations to allow the emission of 1,000 tCO<sub>2</sub>.</li> <li>3.The CDM is vulnerable to corruption. A study of the top five UN-accredited CDM validating bodies found that on a scale from 'A' (very good) to 'F' (very poor), none scored higher than 'D'.</li> <li>4.A 4,000MW coal plant in Gujarat, India, has received CERs because it is marginally less polluting than other coal stations. This is despite the fact it emits 26 million tonnes of CO<sub>2</sub> per annum, will do so for at least 25 years, is India's third largest source of emissions and is the 16th largest worldwide.</li> <li>5.Industrial gas credits reap huge profits. HFC-23 generates 11,700 credits per tonne destroyed at approximately €12, but costs only €0.17/tCO<sub>2</sub>e to destroy: a 7,000 per cent markup. As a result, some companies are creating HFC-23 just to destroy it in order to generate credits. If the scheme did not exist, these emissions would never have been produced.</li> <li>6.This is especially rife in China where, because it is so lucrative, the government taxes CDM revenues at 65 per cent, expecting to generate £1.7 billion by 2013.</li> <li>7.While gas credits have been banned from May 2013, lobbying led to a delay in the ban and 412 million credits are still waiting to be issued through the scheme.</li> </ol> <p>For citation: David Merlin-Jones (2012). CO2.1 Beyond the EU's Emissions Trading System. 17-27</p>	Accepted in part, in revised text noting the problem of similar prices for CERs and AAUs.
28088	13	63	24	65	29	<p>The report does not mention important developments of CDM, e.g.: The CDM has basically just broke down for new projects. Prices of CERs are on record lows. The increase of transaction costs due to more strict requirements makes projects unfeasible. The development component of CDM is basically not there with most projects being large scale and industry sized.</p>	Taken into account in text already discussing monitoring, additionality, and transaction costs. (The comment offers no references to cite.)
29633	13	63	24	65	29	<p>Confer this study on CDM performance and improvements if a two-track reform is established: Torvanger, Shrivastava, Pandey, Tørnblad, 2013, A two-track CDM: improved incentives for sustainable development and offset production, Forthcoming, Climate Policy, 13(6), 1-19, DOI10.1080/14693062.2013.781446</p>	Accepted, and Torvanger et al 2013 cited.
25896	13	63	24			<p>cdm may have some disadvantage to developed countries. For example, developed countries may not make their efforts to reduce GHG because low abatement cost projects are available through cdm.</p>	Already discussed in the text on additionality.
20209	13	64	38	64	41	<p>see comment above on SPM page 24, line 13 to 18.</p>	Reject - cannot understand comment

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
20210	13	64	42	64	47	The Schneider study has been shown time and again to not being scientifically rigorous as it has assessed projects that were published for validation, which does not mean anything. The additionality of registered projects has been assessed time and again by the EB and its expert panels and last by the high level policy panel and no evidence of non-additionality has been found. These are suspicions and assumptions and different additionality interpretations but no rigorous evidence. Also, studies from before 2011 are outdated, the CDM has been changing so fast that most of the problems have been resolved already or are being resolved right now, for example regarding high transaction costs and long lead-times.	Reject. The comment is incorrect. The comment is also not supported by peer-reviewed literature.
32320	13	64	9	64	13	Explain why CDM reduce carbon leakage. Without CDM, the projects should not have happen (as defined). The operation in industrial countries can move to developing countries with CDM projects as there are no requirements that reduced productions/activities in the developing countries, whether they are technology donors or other parties, must be offset.	Accepted. Reason for the reduction in leakage explained.
20211	13	65	11	65	13	Schneider has been counter-proved, so has Wara. There is no evidence of carbon leakage. On the contrary: the biggest HFC 22 plant is in Venezuela, where there is no single CDM project!	Taken into account in revised paragraph on additionality. But this comment offers no reference to cite for its claims that Wara and Schneider have been disproved or that there is no leakage.
24145	13	65	15	65	29	Delete a political proposal of "creation of a central bank for carbon markets to bolster credit prices" since the IPCC report can only describe the fact that CER price is currently very low and something about scientific remarks.	Reject - it's fine for the IPCC to report on proposals that have been discussed in the literature. Moreover, the paragraph already says that this proposal is subject to dispute.
21393	13	65	15	65	29	(Okazaki and Yamaguchi, 2011) emphasize that CDM would not encourage transfer and diffusion of energy saving technologies and this message should be also noted here.  Reference: Okazaki T., and M. Yamaguchi (2011). Accelerating the transfer and diffusion of energy saving technologies steel sector experience—Lessons learned. Energy Policy 39, 1296–1304. (DOI: 10.1016/j.enpol.2010.12.001). Available at: 3 <a href="http://www.sciencedirect.com/science/article/pii/S0301421510008827">http://www.sciencedirect.com/science/article/pii/S0301421510008827</a> .	Accepted and citation added.
41821	13	65	18	65	20	What are some key reforms stemming from this report? And are they being implemented?	Taken into account - the paragraph does mention the CDM Policy Dialogue's recommendation for a central bank; text added.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
20212	13	65	29	65	31	The studies on technology transfer are non-scientifically rigorous and should thus not be cited as there has never been an agreed format of reporting and verification of technology transfer claims. Thus, it could well be much more than what was cited. Also, keep in mind that technology transfer changes over time. For example for wind and hydro projects, the earlier CDM projects clearly had Western turbine producers, whereas the later ones have local producers. That time perspective has to be taken into account.	Taken into account in sentence on technology transfer, which already questions the basis for claims in studies. Added a mention of innovation within developing countries, and a sentence on transaction costs impeding technology transfer. Further methodological discussion inappropriate due to space considerations and lack of peer-reviewed sources provided in comment.
41822	13	65	38	65	39	The GCF is just one channel for the \$100 billion dollars to be mobilized. This sentence implies that the \$100bn will be channeled through the GCF, which is not the case.	Accepted and revised.
25783	13	65	41	65	44	This part should be revised to "these agreements together formalized to recognize a goal of limiting global average temperature increases to 2°C and recognize the need to a 2013-2015 review with a view to possibly strengthening this to 1.5°C", describing the Cancun agreement correctly. These targets are not agreed but only politically mentioned. In addition, the 1.5°C target is not realistic and even 2C target is extremely difficult to attain, as described in (Höhne, 2011, conclusion) and (Rogelj, 2011, abstract). These literatures are listed in the No4 line of this table.	Accepted and revised to track the language in the Copenhagen, Cancun and Durban texts.
20213	13	65	42	65	48	It is not based on scientific evidence to say there is limited SD benefit if most of the industrial gas projects are taxed at least 60% which goes directly to the Chinese Climate Change fund and there provides a lot of support for whatever the country considers important and if every CER from Indian renewable energy covers more than one year of electricity for an Indian household of four. Further, the methodologies are so conservative that there is already a lot of un-accounted mitigation benefit i.e. much more than the 2 billion CERs/ERUs have actually been mitigated.	Taken into account in revisions to the paragraph on CDM and sustainable development.
25099	13	65	42			The word 'formalized' is difficult to understand for non-native readers. Does this mean 'agreed'? Then this is not the case. More correctly, Decision at Durban states, "Decides that Parties will urgently work towards the deep reduction in global greenhouse gas emissions required to hold the increase in global average temperature below 2°C above pre-industrial levels".	Accepted and revised to track the language in the Copenhagen, Cancun and Durban texts.
41823	13	65	43	65	43	The authors should clarify against what base year/time period the 2C is compared. "Above pre-industrial levels" is not based on scientific consensus, but rather has been declared in political agreements. Rather, IPCC AR3 (Burning Embers figure and elsewhere) stated that the 2C was relative to a 1990 baseline, not pre-industrial.	Taken into account in revised text to track the language in the Copenhagen, Cancun and Durban texts. The Cancun text (on LCA, para. 4) says "above pre-industrial levels."
24929	13	65	1	65	9	Suggest this paragraph has marginal relevance and could be deleted if the chapter length is being shortened	Reject - the paragraph is useful to explain the benefits of CDM sales and also the concern about incentive problems.
24930	13	65	19	65	29	Suggest this level of detail is not required. The CDM Modalities and Procedures review is now the premier mechanism for reforming the CDM. The most relevant proposals from the CDM policy dialogue will be picked up in that discussion.	Taken into account in paragraph discussing CDM governance reform options.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
28090	13	65	41	65	41	Please use the wording of UNFCCC-decision texts and correct in particular wordings in italic in your statement "In terms of environmental performance, these agreements together formalized (for the first time within the UNFCCC) a goal of limiting global average temperature increases to 2°C and agreed to a 2013-2015 review with a view to possibly strengthening this to 1.5 °C (UNFCCC, 2010).".	Accepted and revised to track the language in the Copenhagen, Cancun and Durban texts.
40748	13	65	42	65	45	This is not true that COP members agreed to "2C target" and "possible 2013-2015 review with a view to possibly strengthening this to 1.5C" . The COP 16 decision(FCCC/CP/2010/7/Add.1) states as below. "Further[??]recognizes[?] that deep cuts in global greenhouse gas emissions are required according to science, and as documented in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, [?]with a view to[?] reducing global greenhouse gas emissions so as to hold the increase in global average temperature below 2C above preindustrial levels, and that Parties should take urgent action to meet this long-term goal, consistent with science and on the basis of equity; also [?]recognizes[?] the need to consider, in the context of the first review, as referred to in paragraph 138 below, strengthening the long-term global goal on the basis of the best available scientific knowledge, [?]including in relation to[?] a global average temperature rise of 1.5C;"	Accepted and revised to track the language in the Copenhagen, Cancun and Durban texts.
31198	13	65	45	66	20	The text claims, rather definitively that the 2020 emission goals/targets/policies under Copenhagen/Cancun "will not be sufficient to keep emissions below that path that would be necessary to stay within the 2-degree target." Yet, the analysis undertaken and presented in the figure, does not support this. (Assuming I understand the figure, which, to be frank, needs a better/more extensive discussion in the text.) Given uncertainties about future emission trajectories and climate sensitivity (as well as ignoring the potential role for geoengineering as a way to mitigate warming), this chapter should make nothing more than a probabilistic assessment of attaining the 2-degree C goal. Even this may be too strong of a statement, since the models may not fully capture the uncertainty in climate sensitivity or the whole scope of potential future emission trajectories. The chapter should be much more transparent about what is assumed about climate sensitivity and post-2020 emission trajectories/emission mitigation burden among nations. Moreover, it should include a shading that presents the probability of keeping global temperature below 2C that encompasses the estimated global emissions under the four scenarios presented in the figure.	Statement about sufficiency of current pledges to achieve the 2 degree target are now made in explicit reference to the cited literature.
28091	13	66				Location of red and green boxes is not completely clear. Relation with x-axis values (if there is one) should be made more concrete.	Figure to be revised incorporating this comment concerning the clarity of the two boxes.
21332	13	66	1	66	4	The text should include the fact that these differences are also due to a lack of common methodologies.	Accepted and added.
20214	13	66	10	66	14	Again, the research from 2010 is outdated: today the CDM accreditation requirements are amongst the strongest ones in the world both in terms of training requirements and conflict of interest and other integrity-increasing criteria. As an example, a normal lawyer is allowed to take a cut from the gain from his mandant, whereas the DOE is not allowed to charge fees depending on the positive outcome of registration.	Taken into account in discussion of reforms to CDM governance.
21333	13	66	11	66	15	The text needs to emphasize the link between mitigation ambition and support, including finance, technology and capacity building. In order to help developing countries undertake and implement mitigation activities, financing needs to be scaled up, as demonstrated by the figure from UNEP. Sources of finance to date have been the fast start finance and discussion of pathways to mobilizing resources for the Green Climate Fund, including pathways to getting to the Copenhagen target of \$100 bn.	Taken into account in several discussions of financing for developing countries, in this section and in other sections.



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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
24462	13	66	15	66	29	This might be nicely bundled with the discussion a page or so earlier on the cost-effectiveness of CDM which is the only place the general development portion of it is discussed. If these two paragraphs were spliced together you could get a nice, succinct two paragraph discussion which squarely placed development as a core part of CDM which, legally, it is.	Taken into account in revised discussion of CDM and sustainable development.
21334	13	66	21	66	23	The text needs to include a reference to the chapter on costs of impacts, i.e., the cost of inaction.	Accepted and text added to link this section to the impacts of climate change (AR5, WG II report).
31139	13	66	7	66	7	Suggest rewording of "lenient", regarding the use of credits from forests. The report cited (Grassi et al., 2012) refers to the possible scenario in which "LULUCF accounting rules and the use of surplus emission units result in a net increase in emissions." Suggest re-wording to: "...through implementation of more stringent pledges, and ensuring accounting rules for forests do not result in a net increase in emissions."	Accepted and revised.
21336	13	67	11	67	16	The text should include a discussion of fast start finance pledges. See Polycarp, C. et al. (2012) Summary of Developed Country "Fast-Start" Climate Finance Pledges. <a href="http://www.wri.org/publication/summary-of-developed-country-fast-start-climate-finance-pledges">http://www.wri.org/publication/summary-of-developed-country-fast-start-climate-finance-pledges</a> . The text should also cite to the new OECD data that show that expenditures on mitigation activities and the total commitment for climate finance in 2011 decreased. OECD. Creditor Reporting System. <a href="http://stats.oecd.org/index.aspx?DataSetCode=CRS1">http://stats.oecd.org/index.aspx?DataSetCode=CRS1</a>	Accepted - added sentence on "fast start finance," and reference to private and public flows. But the paragraph covers a broad survey of financing efforts; there is not space to detail each financing venture here, and these initial financing efforts and 2011 data will be outdated by the time the AR5 is published.
41824	13	67	11	67	26	It's worth mentioning the LEDS (Low Emissions Development Scenario) Global Partnership in this context.	Accepted and added.
41825	13	67	19	67	21	Since \$30B has already been given, has that resulted in 60% of 2.1-3.3 Gt reductions? If not, why not?	Taken into account in adding sentence on the \$30 B in "fast start" finance. But we do not yet have estimates of its effect on emissions. Some of it is for adaptation.
41826	13	67	31	67	31	~50+ leaders is hardly a "small group of world leaders"	Accepted and revised.
41827	13	67	33	67	35	This also ignores the potentially huge, but largely unquantified impact of everything else in Fig. 13.1	Reject. This is true but there is no literature quantifying this so we cannot include it here. The text elsewhere does make it clear that this may be important.
22174	13	67	37	67	40	Inaccurate statement about the number of countries with mitigation commitments in UNFCCC: more than 90 countries have put forward pledges and the Africa group has submitted a regional pledge - see UNEP Bridging the Gap report 2012, and UNFCCC.	Accepted.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41828	13	67	37	67	39	Approx 80 member countries account for x% of global GHG vs y% GHG under KP1 and z% of global GHG under KP2. Is there an ex post analysis of Kyoto that indicates it is working?	Taken into account by earlier discussion of KP emissions reductions by Annex I and their (un)likelihood to meet 2 degrees, and added sentences on Durban Platform calling for new treaty starting in 2020. (Adding data on the Cancun pledges seems to be overtaken by events since Durban.)
41830	13	67	46	67	47	This statement is incorrect. There have been multiple analyses on international cooperation. G20 had subsidy reform effort report. IEA, WRI and many others have written on this.	Accepted by deleting the sentence on "no ex post analyses" and adding sentence on multiple scales of activity by multiple actors with cross-ref to Figure 13.1.
21335	13	67	7	67	7	Various forest countries oppose market mechanisms. Brazil has support the use of fund-based mechanisms (e.g. Amazon Fund), rather than the use of market mechanisms to promote forest conservation. Butler, R. (2009) Brazil's Plan to Save the Amazon Rainforest. <a href="http://news.mongabay.com/2009/0602-brazil.html">http://news.mongabay.com/2009/0602-brazil.html</a> In addition, Bolivia has expressed the view that carbon markets are the wrong way forward because they do not promote sustainable development or effective reduction of greenhouse gases. Plurinational State of Bolivia (2012). Submission to the UNFCCC on Views on the New Market-Based Mechanism. <a href="http://unfccc.int/resource/docs/2012/awglca15/eng/misc06a02.pdf">http://unfccc.int/resource/docs/2012/awglca15/eng/misc06a02.pdf</a>	Rejected - there is not space to detail the views or negotiating positions of each country. The sentence reports on the Cancun Agreements overall. And it only says "possibly" using market mechanisms in the forest sector.
24121	13	67	39	67	40	It is not clear to what institutional feasibility is referred. The UNFCCC process has continued advancing with the current institutional format.	Accepted - sentence on institutional feasibility deleted, and replaced by noting the further negotiating progress at Durban in 2011 which had been missing from this paragraph.
24122	13	67		70		This section has repetitions with sections 13.5.1-3. This may be addressed with the authors of that section.	taken into account. See response to #1691.
41829	13	67	41	67	47	The authors need to include reference to C-40, industry collaboration (AISI, Aluminium Inst), LEED, IGLEI, etc.	Accepted by adding a sentence and cross-referencing Figure 13.1 regarding multiple scales of activity.
41835	13	68	14	68	15	This sentence notes that "The Montreal Protocol is one agreement outside of the UNFCCC that has achieved both comprehensive participation.. The Montreal Protocol has universal participation, and is the first UN treaty to achieve that distinction; it's worth highlighting this explicitly.	Accepted.
21338	13	68	15	68	25	It might be useful to include a sentence about the relationship between the MEF and the UNFCCC in order to clarify the institutional role of the MEF. The sentence could be: "These concerns could be addressed by clarifying that the MEF outcomes will be recommendations to the UNFCCC." Even though this point is made on p. 38, it is worth reiterating it here. In addition, the sentence on finding that costs of achieving the MEF goal exceed 1.5% of GDP is unconnected to the sentences that precede it. The author needs to explain or state whether there is some dissatisfaction with Massetti's results.	Accepted and revised.
41836	13	68	16	68	16	The text here states that the Montreal Protocol initially "banned" CFCs. A more accurate phrasing would be to use the term "controlled" rather than "banned" as the Montreal Protocol initially started with a freeze and then the Protocol was changed so that it became a phase-out.	Accepted and revised.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41833	13	68	21	68	46	The MEF and G20 are so similar in Membership and yet so different in how they are viewed in terms of institutional feasibility (see line 21 vs. line 46). This deserves an explanation.	Taken into account in revised text in MEF.
22924	13	68	27		28	Since in Pittsburgh G20 Leaders agreed to rationalize and phase out over the medium term "inefficient" fossil fuel subsidies that encourage wasteful consumption, I suggest incorporating the word "inefficient" before fossil fuels when referring to this agreement.	Accepted.
41831	13	68	3	68	3	50% reduction by 2050 - below what base year??	Accepted - added "below 1990 levels".
41834	13	68	32	68	32	How many nations have FF consumption subsidies? And how many of them implemented reforms? How did they do it / what barriers did they face and how were they overcome - any lessons that can be transferred?	Rejected - too much detail to fit into the limited space. The cited references give more detail on individual countries' fossil fuel subsidies.
22925	13	68	36		42	It is clear that removing fossil fuels subsidies could have positive social impacts since they tend to benefit the rich more than the poor. However, without other policies that protect the most vulnerable people from the adverse effects of this removal these positive impacts could be even disappear. Moreover, in Pittsburgh G20 agreement Leaders also recognize the importance of providing those in need with essential energy services, including through the use of targeted cash transfers and other appropriate mechanisms. In this sense, I suggest including this issue when analyzing the distributional impacts of reducing fossil fuels.	Accepted - added quote that emphasizes "support for the poorest."
21337	13	68	5	68	7	It seems inadequate to provide only one source on the economic impacts of achieving a 50% GHG reduction on the United States.	Accepted and revised paragraph to explain the Edenhofer and Paltsev studies, add another Paltsev (2009), put G8 policies in global context, and state the need for updated studies.
41832	13	68	5	68	5	If this global emissions reduction is possible, what is the cost? (in terms of global/G8 GDP)?	Accepted and revised to show the cost estimates from Edenhofer et al. 2010. That study was of global emissions reductions, not G8 only.
31140	13	68	15	68	25	The section on the MEF could also reference the Clean Energy Ministerial or suggest adding a section dedicated to the Clean Energy Ministerial.	Accepted and added.
31141	13	68	27	68	28	In the sentence "At their 2009 Pittsburgh meeting, G20 members came to a political agreement to phase out fossil fuel subsidies...", for accuracy, suggest using language from G20 declaration, which was to "phase out and rationalize over the medium term inefficient fossil fuel subsidies while providing targeted support for the poorest".	Accepted.
26712	13	69	14	69	16	Insert as the next sentence. " This can be attributed to the fact that alternatives were available including the financial resources for countries and firms to implement the required changes.'	Rejected given space constraints. Not a central point to bring out.
24463	13	69	15			small but important typo. "Form" should read "Forum"	Accepted.
41837	13	69	18	69	19	The text here states that the HCFC phase-out was accelerated "by 10 years." Suggest deleting "10 years". The HCFC phase-out was accelerated in 2007 and this provided substantial climate benefits. However, the acceleration may not have been the same for all Parties.	Accepted. Text deleted.
41838	13	69	20	69	21	The text here states: "The Kyoto Protocol precludes itself from regulating ozone depleting substances, due to the having already been covered by the Montreal Protocol." Please delete this sentence. The Kyoto Protocol basket of gases includes nitrous oxide (N2O), an ozone-depleting substance.	Taken into account. See response to #1793

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
40749	13	69	20	69	33	<p>Line 20 "The Kyoto Protocol precludes itself from regulating ozone depleting substances, due to their having already been covered the gases controlled by the Montreal Protocol." should be replaced to "The Kyoto Protocol precludes itself from regulating the gases controlled by the Montreal Protocol." and Line 33 "However, as of early 2013, parties to the Montreal Protocol had not agreed to an HFC phase-out." should be deleted.</p> <p>There are ozone depleting gases other than gases controlled by the Montreal Protocol, and HFC is not a ozone depleting substance at all. Considering these points, drift of the sentences below is inconsistent.                      "The Kyoto Protocol precludes itself from regulating ozone depleting substances, due to their having already been covered by the Montreal Protocol."                      "Hydrofluorocarbons (HFCs), which lack ozone-harming chlorine and which are being widely adopted as a longer-term substitute for CFCs, have extremely high GWP, and their use will partially negate climate gains otherwise achieved by the Montreal Protocol", and                      "However, as of early 2013, parties to the Montreal Protocol had not agreed to an HFC phase-out."</p>	Text revised to be more precise - KP changed to FCCC (which decides the basic coverage of gases, not the KP), and the FCCC covers GHGs not controlled by the Montreal Protocol - which does not include N2O even though the latter is involved in ozone depletion. However, HFC point is not taken as the MP is in fact discussing an HFC phase-out even though it is not an ozone depleting substance.
41839	13	69	24	69	27	The text here discusses the Montreal Protocol's climate achievements, noting: "However, this comparison may be unfair because while not always smooth, the more rapid progress in reducing ozone depleting gases relative to greenhouse gases may be due to the fact that the major ozone depleting gases are less central to economic activities than the major greenhouse gases." A better way to say this might be to note that a comparison of the climate benefits of the Montreal Protocol and Kyoto Protocol is difficult since the Montreal Protocol targets intentionally produced industrial gases while the Kyoto Protocol addresses gases from a broader set of economic activities.	Reject. The original text states the point more clearly.
41840	13	69	29	69	29	The text here says that HFCs "have extremely high GWP". The high GWP of many HFCs, combined with the rapid growth in their use, are a substantial threat to the climate system. However, while many HFCs have high GPW, not necessarily all of them do. The text should be amended to reflect this fact.	Accepted. Text revised accordingly.
27321	13	69	33	69	34	The sentence "However, as of early 2013, parties to the Montreal Protocol had not agreed to an HFC phase out" should be replaced by "However, HFCs are not substances that deplete the ozone layer".	Taken into account - HFCs' lack of ozone-depleting effect is already mentioned in the first line of this paragraph. Text at end of paragraph revised to note US-China announcement in June 2013 to seek HFC phase-down. Nevertheless, despite the fact made by the commenter, the MP has discussed proposals to phase out HFCs under its auspices.
41842	13	69	33	69	33	Explain why the HFC phase-out is harder than the CFC or HCFC phase-outs? (Alternatives existed?)	Taken into account - not enough space to go into detail on relative difficulty, but text revised to note US-China announcement in June 2013 to seek HFC phase-down.
41841	13	69	33	69	34	The text here uses the term "phase-out". Please change that to "phase-down." Parties to the Montreal Protocol have been considering amendments to phase-down HFCs.	Accept. Text revised accordingly.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41843	13	69	34	69	34	It's worth adding to the end of the sentence, "... HFC phase-out THOUGH MANY NATIONS ARE PUSHING HARD FOR AN AMENDMENT TO DO JUST THAT."	Taken into account - text revised to note US-China announcement in June 2013 to seek HFC phase-down.
41844	13	69	37	69	40	What about NA1 - are they part of ICAO and IMO?	Reject. These countries are members of ICAO/IMO but the agreement in article 2.2. of the KP is specific to Annex I (of the FCCC) parties.
21339	13	69	45	69	48	It is unclear why applying the regulation uniformly will result in more equitable impacts. There is no information or citations to support this idea and no explanation to what it is being compared. Explain.	Accepted. Text revised accordingly. See also response to #1808
25097	13	69	45	69	45	After Bodansky 2011c, add Yamaguchi 2012. For reference, Yamaguchi M. (2012). Policy and Measures. In: Climate Change Mitigation, A Balanced Approach to Climate Change. M. Yamaguchi, (ed.), Springer Publishing Company, London, UK pp.129–159 .	Rejected. Reference checked, not clear it adds anything significant to the point regarding IMO.
31142	13	69	47	69	48	The technical assistance referred to here is available to all Member States, not just developing countries. This could be clarified.	Taken into account. The regulation checked but also the Bodansky source used. Suggests that technical assistance is available to all, but designed to deal with the question of differentiation of obligations by focusing on developing countries. See also response to #1807.
27322	13	69	48			The following sentence should be added to adequately reflect the evolution of negotiations under IMO: "further actions under IMO for the promotion of technical cooperation and the transfer of technologies to developing countries are being considered."	Reject. This comment is speculative regarding new agreements under IMO.
25098	13	69	48	69	48	After Bodansky 2011c, add Yamaguchi 2012. For reference, "Yamaguchi M. (2012). Policy and Measures. In: Climate Change Mitigation, A Balanced Approach to Climate Change. M. Yamaguchi, (ed.), Springer Publishing Company, London, UK pp.129–159 .	Rejected. Reference checked, not clear it adds anything significant to the point regarding IMO.
28092	13	69	6	69	7	Delete ", despite being a forum of finance ministers" in the sentence "For example, despite being a forum of finance ministers, the G20 has to date not mobilised any climate finance (see chapter 16)". The mandate of G20 finance ministers was/is not to mobilize climate finance, but to cope with the underlying - primarily technical - questions. In February 2013, G20 finance ministers decided to "continue working towards a better understanding among G20 members of the underlying issues in the area of climate finance through voluntary knowledge and experience sharing..." (from para 26 in communiqué, see also objective of G20 Study Group, mentioned in progress report, November 2012). See also ch. 13, p. 34, lines 18-20.	Taken into account. Sentence deleted given space constraints.
30181	13	69	35	70	6	See A. Tsai, A. Petsonk, "Tracking the Skies: An Airline-Based System for Limiting Greenhouse Gas Emissions from International Civil Aviation," 6 The Environmental Lawyer 763 (June 2000). <a href="http://www.edf.org/documents/704_TrackingTheSkies.pdf">http://www.edf.org/documents/704_TrackingTheSkies.pdf</a>	Reject. Reference is much older than those cited, and a normative argument for an agreement about aviation rather than a description of the way ICAO has dealt with climate change.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
40750	13	69	43	69	43	"a performance-based energy-efficiency regulation" should be replaced with "a goal-based energy efficiency regulation" taking into account of the concept of the regulation.	Reject. As opposed to technology standards, for example, "performance-based regulation" requires desired results without specific direction regarding how those results are to be obtained. It is standard language in environmental regulation.
40751	13	69	45	69	45	"built after January 1, 2013" is not correct and should be replaced with "for which the building contract is placed on or after January 1, 2013" in accordance with of the description in the relevant MARPOL Convention.	Accepted. Text revised accordingly.
40752	13	69	47	69	48	Technical cooperation in the maritime sector is not "one way" measure from developed countries to developing countries, but it is recognized that the direction of cooperation would be both ways in accordance with the motivation and intension of donor countries and recipient countries. With this understanding, Regulation 23.1 of MARPOL ANNEX VI stipulates as follows: Administrations shall, in co-operation with the Organization and other international bodies, promote and provide, as appropriate, support directly or through the Organization to States, "especially developing States", that request technical assistance. (Source: IMO MEPC 62/24/Add.1 Annex 19, page 13, Regulation 23. Here, "" is added by commenter.) Therefore, "assistance for developing countries" should be replaced with "especially for especially developing countries".	See response to #1808
24123	13	69	25	69	27	Other reason to consider this comparison unfair is the different time scale of the implementation of the Montreal Protocol in comparison with the 5 years of the first commitment period of the Kyoto Protocol. This may be noted.	Accepted. Text introduced to reflect this point.
24931	13	69	36	69	40	The first sentence is incorrect and should be removed. Suggest replacing with "Measures to reduce greenhouse gas emissions from international aviation and shipping have been discussed under the ICAO and IMO respectively. In addition, [U]nder...". The Kyoto Protocol (KP) cannot "delegat[ed] portions of the climate mitigation problem to other existing institutions that were perceived to have appropriate jurisdiction and expertise". Provisions of the KP are only binding on countries Party to that Protocol. They are not binding on international organisations, such as ICAO and IMO. As such the KP cannot "delegate responsibility" to ICAO and IMO. Instead, as stated its Article 2.2, the Kyoto Protocol directs "Parties to the Kyoto Protocol included in Annex I to the UN Framework Convention on Climate Change" to pursue international aviation and maritime GHG emission limitation/reduction working through ICAO and IMO. ICAO is a UN specialized agency created in 1944 to, among other things, sets standards and regulations necessary for aviation environmental protection. The IMO is the UN specialized agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships. Before the KP was adopted, the International Conference of Parties to the MARPOL Convention adopted resolution 8 on CO2 emissions from ships, inviting the Marine Environment Protection Committee to consider what CO2 reduction strategies might be feasible in light of the relationship between CO2 and other atmospheric and marine pollutants.	Accepted. The FCCC/KP has no power to delegate to other independent organisations. Text revised accordingly.
41643	13	7	15	7	15	"Enabling environments" are largely a political matter and depend on internal factors to minimize corruption, etc. Stating this factor explicitly would be useful.	Noted, but revised ES does not refer to this
41644	13	7	18	7	21	The authors should mention institutions for technology and adaptatio, as well.	Accepted, the ES has been rewritten

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41645	13	7	22	7	38	This paragraph - and the executive summary, more broadly - is very general and lacks a substantive discussion of the issues and conclusions. A policymaker who does not have time to read the entire chapter will not learn anything from the Executive Summary as it is currently written, except for some broad generalities. It should give the reader sufficient detail to cause him/her to want to delve deeper, i.e., by stating what the conclusions are. The detail can be left to the main part of the chapter but a policymaker looks for strong conclusions here and then decides if he/she wishes to look deeper.	Accepted, the ES has been rewritten
31213	13	7	27			The depiction of the Kyoto Protocol is unduly positive in this paragraph, both given the scale of emissions reductions that would be needed to stave off a 2 degrees C increase in global temperatures and the inability to get buy-in for major emitters like the United States and the lack of commitments for fast growing economies like China and India. This paragraph does not seem value neutral in terms of the depiction of the Kyoto Protocol. "Significant emissions reductions have taken place in Annex 1 countries" should be put in greater context. "institutional feasibility of carbon markets" in reference to CDM might need to acknowledge problems in the CDM as well. If this was meant to be merely descriptive with the analytical judgment for later in the chapter, then some more value-neutral depiction might be needed	Taken into account - the ES has been rewritten
24175	13	7	27			"significant" is not accurate for the real situation, suggest deleting it.	Taken into account - the ES has been rewritten
41646	13	7	27	7	29	Limiting the discussion to Kyoto without mention of Copenhagen/Cancun does a dis-service to the reader. Consider adding something on this other type of mitigation policy/institution.	Accepted, the ES has been rewritten
28024	13	7	27	7	29	It should not be suppressed that A1 countries other than economies in transition, have also reduced emissions. Especially if you compare these reductions to the trends in developing countries that are not part of KP or that have left the KP.	Taken into account - the ES has been rewritten
35305	13	7	30	7	32	The evaluation on CDM shall be conducted from the perspective of how it helps developed countries comply with their Kyoto Protocol obligation and how it helps developing countries achieve sustainable development, rather than from the perspective of carbon market development. It is suggested to delete related sentences.	Taken into account - the ES has been rewritten
24908	13	7	31	7	32	It may not be accurate to say that the Kyoto Mechanisms have "started to set a global price signal" given the extreme volatility of the market over its lifetime and the relative size and liquidity of trades in the CDM market compared to the EU ETS. This point is also internally inconsistent with statements made about low CDM trading volumes (Chapter 13, page 30, and lines 15-17). Suggest rewording to "Overall, the Kyoto mechanisms, particularly the CDM, have demonstrated the institutional feasibility of carbon markets on a large scale and have contributed to reducing aggregate mitigation costs."	Taken into account - the ES has been rewritten
27309	13	7	4			The expression "international security" should be removed, as it refers specifically to addressing climate change under the Security Council, which is questioned by a large number of countries.	Accepted, the ES has been rewritten
41649	13	7	41	7	43	On I 41 "cooperation" isn't what's needed. Everyone can cooperate but if ambition isn't sufficient, the problem won't be solved. Consider revising to "sufficient international ambition". On I 43, consider inserting, "... for international cooperation AND MAXIMIZING AMBITION have been and..."	Taken into account - use of "ambition" increased
31190	13	7	27	7	28	"Significant emission reductions have taken place in Annex I countries"? Is this the right metric for an international climate agreement? Even if some countries have lower emissions today than they did in 1992 or 1997, many for reasons unrelated to emission mitigation activities, it is important to stress how global greenhouse gas emissions have grown substantially since the 1997 Kyoto Conference.	Taken into account - the ES has been rewritten
24105	13	7	31	7	33	The sentence is confused. In the way that is written it gives the impression that also agreements inside of the UNFCCC have suffered of "lack of concrete action". This is not the case. This lack of action should be explicitly referred to the mentioned agreements outside the UNFCCC.	Taken into account - the ES has been rewritten
26702	13	7	40	7	41	Same as the above comment	Noted

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41845	13	70	31	70	37	Is there any sense of whether voluntary efforts are crowding out or additional to the CDM? They may not perform better - are they noticeably worse? The authors might want to note that the paper cited arguing that these are PR exercises relies on data from before the big ramp up of 3rd party verification mentioned earlier in the paragraph.	Taken into account. Point about competition between CDM and VCM made, drawing on Benessaiah (2012). On the final point, the big expansion of certification was in 2007, and most of the relevant certification systems are analysed in Bumpus & Liverman 2008.
26686	13	70	5	70	6	This decision is yet to be taken. This is only a proposal by the European Commission.	reject. The comment may have been correct when written but the proposal has now been approved by the Council and Parliament. Text revised to be more precise however.
22175	13	70	5	70	6	This decision has yet to be taken. This is only a proposal.	See response to #1813
24124	13	70		74		1)This section has a lot of repetitions with section 13.4. 2)The whole section needs to be revised to specify in a more clear way to the reader what approaches and schemes have been applied in practice and what only have been theoretically elaborated or suggested by scholars. This recommendation is also relevant to table 13.4.	taken into account. See response to #1691.
40753	13	70	44			Not only climate specific cooperation but also climate related cooperation which contribute to GHG emission reduction must be covered in this section such as energy -efficiency/energy-conservation cooperation.	Reject. The chapter is already too long and too much of reorganization is already needed.
40754	13	70	44			Harmonized National Policies and "Decentralized approaches" categorization should be reconsidered as I commented above.	Reject. See response to #1324.
41846	13	71	10	71	17	This paragraph is pretty unclear. There's a sentence in the middle that seems to read "Proposals realise levels" stripped of adjectives. It's not clear what the key point is; please clarify accordingly.	Accepted. Text revised accordingly.
41847	13	71	15	71	17	This statement is not accurate as LDCs, AOSIS, etc. theoretically do *not* need to take action to stabilize emissions since their emissions are so relatively low. It relay is the MEF/G20 and a few others, no? It's worth clarifying this in the text.	Accept. Text revised to soften the impact. Cross reference to ch6 introduced. Ch6 discusses this question by region however rather than by country
21340	13	71	16	71	17	"Almost all countries" taking immediate action will not necessarily be sufficient to limit increase of temperatures to 2 degrees Celsius. Therefore, the text should state: "The largest emitters who produce 85% of the world's emission must be among those countries that take immediate action. <a href="http://www.unep.org/climatechange/mitigation/Introduction/tabid/29397/Default.aspx">http://www.unep.org/climatechange/mitigation/Introduction/tabid/29397/Default.aspx</a> "	Reject. This is too clear a policy recommendation for the chapter to make.
25898	13	71	23	72	36	bilateral agreement between the developing country and developed country may be mentioned as one of approaches.	reject. Too much detail for this section, and impossible to do the performance assessment that is the focus here. But also, such bilateral agreements would not fall under the heading of "strong multilateralism".
41848	13	71	35	71	38	This is a policy call: there is not sufficient agreement on the interpretation of CBDR for an assessment to be made about whether one approach "maintains CBDR"	Taken into account. Text revised in line with comment.



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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
31225	13	71	37	71	43	The discussion of potential emissions commitment for countries as their income increases should be discussed throughout Chapter 13 more thoroughly. For example, in the earlier discussion of the Kyoto Protocol, there is no mention of the lock-in effects as a result of the absence of graduation criteria for Annex B countries to join the list of Annex 1 countries. This is a notable difference from the Montreal Protocol where such graduation criteria were included as part of the agreement.	Reject for this section. Some additional material on graduation of emissions obligations included in section 13.4
41849	13	71	47	71	47	It's a subjective assertion to state that "greater responsibility and capability [lie with] wealthier countries". Major emerging economies are having near equal responsibility as demonstrated by the fact (cited in Ch 1) that every 12 years, cumulative emissions are equal to those from 1750. With respect to capability, it's often times more cost-effective to "start" with low-carbon development as opposed to turning over existing capital stock.	Taken into account. Text amended. However the main point made by the commenter is not accepted.
32321	13	72	15	72	36	It is misleading to start by judging that sectoral approach "second best" only comparing with economy-wide approaches which have various variations and their feasibilities, environmental effectiveness, transaction or administrative costs and others are not compared. Sectoral approach has merit to foster cooperation among major emitting industries, they can cover very wide GHG emissions in the world. There is no reason to conclude sector approach second best. As written in the second paragraph, feasibility and practical global coverage must not be underestimated with metaphysics.	Reject. See response to #1827.
41850	13	72	15	72	15	It is inappropriate to rank systems without clear criteria for this ranking. Please provide the criteria for ranking.	Reject. Criteria are provided (environmental effectiveness and economic performance, as defined earlier in the chapter and in chs 2-4 of the report).
24436	13	72	15	72	23	Leading sentence of this paragraph is misleading. Starting from the following sentence would be better; "Sectoral approaches have both merits and demerits. In terms of both environmental effectiveness and economic performance..." This is because economy-wide approaches have also limited impacts from the environmental effectiveness and economic performance standpoint. Consider Kyoto first commitment period. It is an economy-wide approach, but its coverage for mitigation efforts is essentially Annex I countries only.	Reject. The references provided support the claim that the sectoral approaches are weaker. No references provided to support the opposing view; the proposed text would mean the point is not supported by the appropriate evidence.
31226	13	72	30			In the discussion of more variegated climate governance throughout the chapter and sectoral emissions, you may consider Busby, Joshua. 2010. After Copenhagen: Climate Governance and the Road Ahead. Council on Foreign Relations. Available from < <a href="http://www.cfr.org/publication/22726/after_copenhagen.html">http://www.cfr.org/publication/22726/after_copenhagen.html</a> >.	Reject. Suggested reference is not peer-reviewed, and several peer-reviewed sources are already cited.
21341	13	72	30	72	36	The author should spell out what the enforcement possibilities are. Without this addition the sentence is too cryptic.	barrett ch to check - perhaps if JW has? Text certainly needs rephrasing.
40755	13	72	18	72	18	"Sectors that are homogenous and already globally integrated, such as aviation, may lend themselves better to international cooperation than those that are heterogeneous." In association with the previous comment, it is not clear that the connection between the inclusion of aviation in the EU-ETS and "direct regulation under ICAO". In this regard, the sentence should be deleted.	Reject. Comment not clear. The passage on the EU ETS and ICAO previously does not pass judgment on whether EU-level or ICAO regulation of aviation is "better".
31227	13	73		75		Some of the most important discussion takes place on pages 71-73. Having those judgments backloaded might mean readers never get there. Can some of those conclusions be brought forward?	Taken into account. These conclusions will become central to the Executive Summary and Table 13.4 has been brought to the front of the section

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41851	13	73	32	73	34	Other policy linkages are possible too -- doesn't need to be emissions trading. In general, the chapter tends to privilege emissions trading as a way of connecting policies.	Take into account. General opening sentence to say that while various sorts of linkage are possible, the literature has focused on linked carbon markets, hence we do to.
21342	13	73	42	74	46	This section too heavily relies on sources from a single author. It would, therefore, benefit from more varied sources, including Flachslund, C. et al. (2009) "To Link or not to Link: Advantages and Disadvantages of Linking Cap-and-Trade Systems. <a href="http://www.mcc-berlin.net/fileadmin/data/pdf/Publikationen/Flachslund_Marschinski_Edenhofer_2009_To_link_or_not_to_link.pdf">http://www.mcc-berlin.net/fileadmin/data/pdf/Publikationen/Flachslund_Marschinski_Edenhofer_2009_To_link_or_not_to_link.pdf</a> and Zetterberg, L. (2012) Linking the Emissions Trading Systems in EU and California. Fores: Stockholm, Sweden. <a href="http://fores.se/assets/780/FORES-California_ETS-web.pdf">http://fores.se/assets/780/FORES-California_ETS-web.pdf</a> . In addition, add text on the positive aspects of linking (as discussed in Flachslund et al (2009)) and on the linking of the EU and Australia systems (as discussed in Zetterberg (2012)).	Noted - Flachslund et al is cited earlier in the chapter. Zetterberg is not peer-reviewed literature. References provided here are adequate to support the point.
30180	13	73	31	75	1	<p>This section could benefit from consideration of proposals for "middle ground" between top-down and bottom-up architectures. It could also benefit from consideration of how to allow bottom-up national approaches to "dock in" to more formalized international arrangements. See, e.g., Shepherd, Walton C.; Analysis of Non-party Trading Provisions in Multilateral Environmental Agreements: A Possible Model for an International Climate Agreement (2013), unpublished manuscript, accepted for publication in <i>Env't L. Rep.</i>, (forthcoming Nov. 2013) (copy emailed), and see</p> <p>EDF UNFCCC Submissions</p> <p>The UNFCCC has published four of EDF's submissions addressing the possible structure of a multilateral climate agreement. The submissions are listed below:</p> <p>Submission of Environmental Defense Fund (<a href="http://www.edf.org">www.edf.org</a>) on paras. 44-47 of the Doha Decision 1/CP.18, on various approaches, including opportunities for using markets, available at <a href="http://unfccc.int/resource/docs/2013/smsn/ngo/326.pdf">http://unfccc.int/resource/docs/2013/smsn/ngo/326.pdf</a> (Mar.2013)</p> <p>Submission to the Ad Hoc Working Group on the Durban Platform for Enhanced Action, regarding Views on Options and Ways for Further Increasing the Level of Ambition, available at <a href="http://unfccc.int/resource/docs/2012/smsn/ngo/133.pdf">http://unfccc.int/resource/docs/2012/smsn/ngo/133.pdf</a> (Feb. 2012)</p> <p>Submission of The Environmental Defense Fund (<a href="http://www.edf.org">www.edf.org</a>) on paras. 79-86 of the Durban Decision on various approaches, including opportunities to use markets, available at <a href="http://unfccc.int/resource/docs/2012/smsn/ngo/231.pdf">http://unfccc.int/resource/docs/2012/smsn/ngo/231.pdf</a></p> <p>Rooms with a View: Legal Architecture of a Future Framework for Global Climate Action, Submission of Environmental Defense Fund (<a href="http://www.edf.org">www.edf.org</a>) on para. 13 (a) – (d) of the Doha ADP Conclusions, available at <a href="http://unfccc.int/resource/docs/2013/smsn/ngo/302.pdf">http://unfccc.int/resource/docs/2013/smsn/ngo/302.pdf</a> (Feb. 2013)</p>	<p>Combined with #41716</p> <p>In 13.14 a research gap added on potential policy architectures that would be hybrids between top down and bottom up. Note that there is early literature</p>
24932	13	73	33	73	34	Please clarify: "reduce compliance costs" could refer to administrative costs to firms, or to the cost paid per tonne of emissions. If the former, please add "for firms with liabilities in more than one jurisdiction". If the latter, please replace with "which would reduce the average cost of abatement and improve market liquidity"	Taken into account. While compliance here reasonably clear, "abatement costs" is clearer still, and the overall objective of ET systems.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
24126	13	74		75		The statement "Removing fuel subsidies would be progressive but have negative effects on oil-exporting countries" is not exact in its entirety. For example, oil exporting countries have advocated to eliminate subsidies on coal production. See row on G8, G20, MEF and column on distributional impacts.	Reject. Comment not clear. The impact of fuel subsidy removal on oil exporters is a different question to what they have themselves advocated.
24125	13	74		75		First cell of the table. It is important to include the word "mainly" after word "occurred" and before word "in". No only reductions occurred in countries in transition. For example, U.K.	Accepted. Text revised accordingly.
21344	13	74				The table should be edited in three places: 1) The section on environmental effectiveness of the Kyoto Protocol is unbalanced. The text should indicate that only having Annex I make commitments was all that was politically feasible at the time the Kyoto Protocol was adopted. Lutter, R. Developing Countries' Greenhouse Emissions: Uncertainty and Implications for Participation in the Kyoto Protocol. The Energy Journal 21(4), pp. 93-120. 2) Under the institutional feasibility of the Kyoto Protocol, the text should include the Kyoto Protocol's current institutions, such as its accounting procedures and Adaptation Fund. Hare, W. (2010) The Architecture of the Global Climate Regime: A Top-Down Perspective. Climate Policy 10, pp. 600-14. 3) The Cancun pledges "will not be sufficient" to reach 2 degrees Celsius, rather than "unlikely." United Nations Environment Programme (UNEP) (2012). The Emissions Gap Report: A UNEP Synthesis Report. UNEP: Nairobi, Kenya. <a href="http://www.unep.org/pdf/2012gapreport.pdf">http://www.unep.org/pdf/2012gapreport.pdf</a>	Reject. Already clear. Suggested citations are already in the text.
34763	13	74				I disagree with the claim that the commitments under Kyoto Protocol would be progressive. What is the criteria used to define them progressive?	Taken into account. Term progressive reworded for clarity - refers to the developed/developing distinction.
34764	13	74				is there evidence supporting the claim that removing fuel subsidies would have negative effects on oil-exporting countries? It is not clear where in the underlying chapter there would be evidence for this claim. According to the IEA estimates, six of the world's ten largest energy subsidizers in 2010 were found in the Arab world, namely Saudi Arabia, Egypt, UAE, Iraq, Algeria and Kuwait. In many cases, the share of government expenditure on fuel subsidies exceeds social spending on pro-poor sectors such as health and education. Surely removing fossil fuel subsidies could come with benefits also for oil exporting countries.	reject. Main body of text provides citation to support this claim. (13.13.1.4)
22926	13	74	18			Taking into account my previous comment, in the distributional impacts column in the G20 line I suggest including the adverse effects that removing fossil fuels could have on the poorest when this measure is not accompanied by any mechanism that assures them the provision of essential energy services.	Accepted. Text revised accordingly.
26004	13	74	18			This outstanding table deserves to be shown in a graphic form. It may show interactions, fluxes, values, and time	Reject. Too difficult to imagine how to visualise this table as a graphic. Data is too qualitative in character perhaps.

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<b>Comment No</b>	<b>Chapter</b>	<b>From Page</b>	<b>From Line</b>	<b>To Page</b>	<b>To Line</b>	<b>Comment</b>	<b>Response</b>
41852	13	74	18			There is no reference to this Table in the text; it warrants mention / discussion.	Taken into account. The table is mentioned at top of section 13.13. The table has been moved to the top of section 13.13, This will mean it is clear that the whole section 13.13. elaborates the details of the essential messages contained in table 13.4. IT has also been significantly revised to sharpen the policy relevance of the section (in response to for example comment #1038).
41853	13	74	18			Why is the current (Cancun) system not assessed? It's weird to try to inform policymakers without assessing the most relevant system. Also, this system (or some version) should be included in the "proposed architectures" as well.	Reject. This is part of the cells on "further agreements under the UNFCCC", and linked to the section 13.13.1.3 which has the same title, which discusses Cancun explicitly.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41854	13	74	18			It is not the case that the "pledge and review" system is dependent on finance. In fact, many countries are taking autonomous and self-financed actions. Additionally, what are "sustainable development criteria"? Several revisions to this table are needed: (1) a discussion of inventory and report. (2) No legal obligations for reductions from Annex I countries. (3) Add CEM to list with G8, G20, MEF. (4) Add row for CCAC. (5) Need to add non-governmental cooperation to this table. (6) De-centralized uncoordinated need to be added. (7) KP was not designed to reach the 2C goal, so its invocation in relation to the KP row is very misleading	<p>Taken into account: "Sentence 1-2: reject, comment is incorrect</p> <p>Sentence 3: reject, sustainable development is discussed in Ch. 4 and shouldn't be cross-referenced in the table</p> <p>Point (1): Insert a new row in Table 13.4 before Kyoto Protocol, titled "UNFCCC"; add point about transparency</p> <p>Point (2): reject, doesn't apply to Table 13.4</p> <p>Point (3): reject, CEM comes from MEF</p> <p>Point (4): reject, table only includes major institutions – literature not available on the CCAC.</p> <p>Point (5): other institutions are too methodologically complex to evaluate, as explained in the text, and the literature evaluating its performance doesn't exist. VCM is the one example where some literature does exist.</p> <p>Point (6): reject, outside of scope of chapter</p> <p>Point (7): accept, delete sentence in Kyoto Environmental Effectiveness "not sufficient to reach 2 degree C"</p> <p>Make it clear that 13.13.1 is ex-post and 13.13.2 is ex-ante: Change title of table to "Summary of Ex-Post Performance Assessments of Existing Cooperation and Ex-Ante Assessments of Proposed Accepted. Text revised accordingly.</p>
41855	13	74	18			The indicators/metrics listed under the "Distribution Impacts" column of the "Strong Multilateralism" row are arbitrary. Delete the examples of indicators as there is no agreed-upon indicators; everyone would inevitably choose what suits their interests most.	

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
21343	13	74	9	74	17	The paragraph would benefit from a discussion on how to make technology agreements effective. See Newell, R. "International Climate Technology Strategies" in Post-Kyoto International Climate Policy: Implementing Architectures for Agreements (eds. Aldy, J. & Stavins, R.) (2010). Cambridge University Press: New York, NY.; Winkler H. et al. (2008) Methods for Quantifying the Benefits of Sustainable Development Policies and Measures (SD-PAMs). Climate Policy 8, pp. 119-34. <a href="http://www.eri.uct.ac.za/Research/publications/08Winkler-et-al_Quantifying_benefits_SDPAMs%20methods.pdf">http://www.eri.uct.ac.za/Research/publications/08Winkler-et-al_Quantifying_benefits_SDPAMs%20methods.pdf</a> ; Bradley, R. & Baumert, K. (2005) Growing in the Greenhouse: Protecting the Climate by Putting Development First. <a href="http://pdf.wri.org/growing_in_the_greenhouse.pdf">http://pdf.wri.org/growing_in_the_greenhouse.pdf</a> .	Taken into account - Added cross reference to 13.9.3 in 13.13
24934	13	74	18	74	18	Accuracy- please update that 91 (not 80) countries have made 2020 pledges under the UNFCCC (in the "institutional feasibility" column)	Accepted
24933	13	74	5	74	8	To improve clarity, suggest replacing with "For example, unrestricted linkage between and an ETS and carbon tax would effectively turn the ETS into a tax, pegging the permit price to the other country's tax rate, and allowing aggregate emissions above the permit system's established cap."	Reject. Already clear.
26000	13	76	1	146	39	references- it seems too much to list 68 pages of references for a text with 76 pages.	Rejected -- references have been included to guide the reader; suggestions for superfluous references are welcome
41648	13	8	2	8	2	The focus on how "cooperation" is necessary can be misleading. Actually it's global *ambition* that's needed, not necessarily cooperation; a slew of disjointed policies - while perhaps not the most efficient path - could readily achieve a given climate goal, but only if global (mitigation) ambition is great enough.	Taken into account - use of "ambition" increased
41647	13	8	23	8	24	How do "harmonized national policies" differ from "coordinated national policies"? Please clarify.	Taken into account - 13.4 makes this distinction
30260	13	8	4			Perhaps a case study would be useful for illustrating the difficulties associated with engaging countries due to "problems in arranging incentives." This could provide empirical evidence of the impacts of 'free-riding' etc. as experienced in particular instances and assessed within the literature.	Reject: not in introduction
21286	13	9	18	9	19	"because GHG emissions from any source mix globally in the atmosphere and have global impacts."  This is not correct. Some short-lived GHGs, such as ozone, as well as short-lived aerosols that cause warming, such as soot, have only regional impacts near their sources.	Taken into account - text revised to recognise unequal impacts
41652	13	9	18	9	18	"Global climate change is caused by a global commons problem". The authors should remove "caused by" as climate change is not *caused by* a global commons problem; rather, it IS a global commons problem.	Accepted - text revised as suggested.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
21287	13	9	19	3	20	<p>"mitigation of climate change through emissions reduction, enhancement of sinks, and climate engineering"</p> <p>This is incorrect. Enhancement of sinks and climate engineering are not mitigation. They are geoengineering, which involves deliberately attempting to actively control the climate. This is made clear in the IPCC special report on geoengineering and elsewhere in this chapter and the rest of AR5.</p> <p>Furthermore, "climate engineering" is synonymous with "geoengineering." The special report agreed that for the entire AR5 we would use the term geoengineering, so it is confusing to introduce the term "climate engineering" here.</p> <p>Finally, geoengineering includes CDR (enhancement of sinks) and SRM. It is not correct to list "enhancement of sinks" separately.</p>	Taken into account - combined with comment #1104.
25475	13	9	20	9	21	replace 'institutions' with 'firms and countries', since these are the entities which cannot be excluded from benefiting from climate protection.	Rejected - the more general term 'institutions' is appropriate.
21288	13	9	20	9	21	<p>"yields shared global benefits"</p> <p>Mitigation and CDR might yield shared benefits, but SRM would certainly have differential regional impacts, including risks as well as benefits.</p>	Taken into account - comment combined with #1106.
28025	13	9	20	9	20	A more cautious wording would be advisable. Please reformulate, e.g.: "...and potential climate engineering yields...".	Taken into account - comment combined with comment #1104.
26680	13	9	21	9	29	CDR and SRM technologies are not proven technologies and linking these to the investments here is not backed by any evidence. Please amend.	Taken into account - combined with comment #1104.
22166	13	9	21	9	29	CDR and SRM technique are not proven and linking these to investments here is not backed up by any evidence	Taken into account - combined with comment #1104.
25476	13	9	21	9	23	the non-rivalry characteristic of a public good has also to be mentioned in order to state "these public good characteristics..."	Accepted - text revised as suggested.
26704	13	9	21	9	23	The framing of this sentence including words such as "free ride" necessitate that this sentence be preceded with one that makes reference to the right to equitable sharing of atmospheric space and resources and the fact that some regions in particular Africa, taking into account the cumulative historical responsibility and use of such resources by Annex I Parties, have extremely low emissions and will need to continue to emit so as to meet their development aspirations. My other recommendation is to delete this sentence from line 21 to 23.	Accepted, text revised to refer to unequal atmospheric space; but not specific reference to historical responsibility (discussed under principles) or one region (Africa)
28026	13	9	23	9	23	A more cautious wording would be advisable. Please reformulate, e.g.: "...or potential carbon dioxide removal (CDR) efforts."	Accepted - comment combined with #1104.

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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
21307	13	9	24	9	29	SRM is not the only example of mitigation actions that are attractive because of local benefits. The text should include the following text on black carbon and land use: "Reducing black carbon also has significant beneficial impacts on air quality and health outcomes, which provides strong incentives for certain regions and localities to address this pollutant. UNEP. (2011) Integrated Assessment of Black Carbon and Tropospheric Ozone. Nairobi: UNEP, <a href="http://www.unep.org/dewa/Portals/67/pdf/Black_Carbon.pdf">http://www.unep.org/dewa/Portals/67/pdf/Black_Carbon.pdf</a> . In addition, atmospheric brown clouds form from black carbon and other air pollution and are located above densely populated regions and downwind of these areas. UNEP. (2008) The Atmospheric Brown Cloud: Regional Assessment Report with Focus on Asia, p. 4; UNEP. (2002) The Asian Brown Cloud: Climate and Other Environmental Impacts, U.N. Doc. UNEP/DEWA/RS.02-3, p. 23. Therefore, these regions have strong incentives to address these pollutants. Land impacts is another example of actions with local benefits. If done correctly the land use sector can have safeguards built in to protect biodiversity and livelihoods. For example, some project-based methodologies for the land use sector have developed such safeguards, resulting in potential co-benefits: <a href="http://www.climate-standards.org/ccb-standards/">http://www.climate-standards.org/ccb-standards/</a> "The CCB Standards identify land-based projects that are designed and implemented using best practices to deliver robust and credible greenhouse gas reductions while also delivering net positive benefits to local communities and biodiversity." Also the same is true of non-land based projects. See the gold standard methodology which ensures sustainable development benefits: <a href="http://www.cdmgoldstandard.org/">http://www.cdmgoldstandard.org/</a> "	Taken into account - text revised to include the suggested mitigation actions with community co-benefits, specifically of reducing black carbon and of strategic land use change to enhance biodiversity. Relevant peer reviewed literature has been included; Bond, et al. (2013), Bounding the role of black carbon in the climate system: A scientific assessment, J. Geophys. Res. Atmos., 118, 5380–5552, doi:10.1002/jgrd.50171; and Seto et al. (2012), Global forecasts of urban expansion to 2030 and direct impacts on biodiversity and carbon pools, Proceedings of the National Academy of Sciences of the United States of America (PNAS), 109: 16083-16088, doi:10.1073/pnas.1211658109.
23371	13	9	24	9	29	Specific: these lines could be deleted to save space and lower risk of distracting the reader; instead a reference to 13.4.3. and 6.9.2 instead may be sufficient;	Accepted - comment combined with #1104.
21289	13	9	25			"13.4.3" Change to "13.4.4"	Accepted - typographical error corrected.
28027	13	9	26	9	26	A more cautious wording would be advisable. Please reformulate, e.g.: "...that SRM strategies might yield...".	Accepted - comment combined with #1104.
21290	13	9	29			"13.4.3" Change to "13.4.4"	Accepted - typographical error corrected.
41653	13	9	32	9	32	It's worth elaborating on what is exactly meant by "effective common property management" in the climate context.	Accepted - text revised to elaborate common property management" in terms of climate protection.
26681	13	9	34	9	43	The social costs (and benefits) of climate change are often not known. For example, see Weitzman, M. L., 2010. Climate change: Insurance for a warming planet, Nature, 467, 784–785. doi:10.1038/467784a ) Therefore it is not possible to incorporate these into prices despite it might be desirable	Rejected, change would detract from clarity, or require more space than available here. Literature cited is a book review
22167	13	9	34	9	43	The social costs (and benefits) of climate change are often not known. For e.g., see Weitzman, M. L. (2010) "Climate Change: Insurance for a warming planet", Nature, 467, 784-785. Therefore, it is not possible to incorporate these into prices even though it might be desirable to do so.	Taken into account - combined with comment #1122.
25477	13	9	34	9	36	to facilitate understanding of the concept 'external costs and benefits' it might be useful to add 'indirect' (in a parenthesis) after external.	Accepted - text revised as suggested.



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Comment No	Chapter	From Page	From Line	To Page	To Line	Comment	Response
41077	13	9	34	43		<p>It should be “Buchholz” and not “Bucholtz”.</p> <p>Furthermore, Nordhaus 2006 proposed a Pigovian tax scheme. This scheme, like the matching scheme, influences effective prices. Yet, it is distinct from a ‘real’ matching scheme. Instead, matching has been first suggested for application in climate policy by Barrett (Barrett, S. (1990), The Problem of Global Environmental Protection, Oxford Review of Economic Policy 6: 68-79.) and was first applied/modeled in this context (climate policy) by Rübberke (Rübberke, D. (2006), An Analysis of an International Environmental Matching Agreement, Environmental Economics and Policy Studies 8: 1-31.).</p>	Accepted, typographical error corrected. Suggested reference reviewed, but is earlier than those cited.
25478	13	9	44			‘Coordinated action’ needs to be defined especially since FAQ 13.1. focuses on the concept of ‘international cooperation’.	Accepted - text revised to replace "Coordinated action" with 'International cooperation'.
41650	13	9	6	9	6	Insert "...AS WELL AS ITS COPENHAGEN ACCORD/CANCUN COMMITMENTS, and agreements outside..."	Noted - 13.1 substantially shortened
41651	13	9	9	15	28	This section on framing is rather odd in that it seems to be re-inventing what is already in the framing chapters of WGIII. In fact, there is little or no reference to those framing chapters. Suggest more cross-chapter coordination.	Taken into account, increased references to framing chapters
30177	13	9	17	11	7	This section could benefit from including reference to and discussion of published materials that examine not only the "free rider" problem, but also the "lone ranger" problem (see Petsonk, "The Role of the United Nations Environment Programme (UNEP) in the Development of International Environmental Law," 5 Am U J Intl Law and Pol 351 (1990) (text of article Emailed under separate cover).	Rejected, concept not common in literature assessed; self-reference.
35306	13	9	9			The “five principles” under the Convention shall be mentioned in the sequence consistent with the Convention. It is suggested to rearrange the sequence accordingly. Whether these principles (mentioned in 13.2.1.2) are complied with and implemented shall be the fundamental evaluation criteria of international agreements. Thus, the discussion on the criteria (mentioned in 13.2.2) shall not be in parallel with that on principles, but be part of the discussion on corresponding principles, with a focus on how these criteria can be used to evaluate the implementation of principles.	Accept, text revised to introduce principles in order
26703	13	9	18	9	19	Same as the above comment	Taken into account - combined with comment #1045
29722	13	9 of 140	18		21	We suggest editing the second sentence of this paragraph to read: "As a result, mitigation of climate change yields shared global benefits from which it is difficult to exclude any individual or institution." The discussion of SRM in the rest of the paragraph should be DELETED. Even with the qualified language used here (e.g., "possible," "partial"), the idea that SRM could be applied locally is so speculative that it amounts to an unnecessary distraction in an already crowded chapter.	Taken into account - text revised to remove the discussion of geoengineering from 13.2.1.1. The discussion of geoengineering is covered in 13.4.4 and cross-referenced from 13.2.2.1 on 'Environmental effectiveness'.
41078	13	96	9			Instead of “FELL” please write “Fell”.	Accepted