

# ipcc

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## **SCOPING OF THE IPCC 5<sup>TH</sup> ASSESSMENT REPORT**

### **Summary of comments on the draft scoping document**

(Background information prepared by the IPCC Secretariat)

#### **IPCC Secretariat**

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## Summary of comments by governments, observer organizations and individual experts on the outlines of the AR5 and the synthesis report

following the AR5 Scoping meeting held in Venice, Italy, July 2009

### (A) General Comments on Structure and Content of the Report

#### On the structure/organization of the report:

- *China, Germany* - reduce number of chapters, *Germany* - using main headings
- *Bhutan* - reorder so the science behind the assessment is not compartmentalized
- *Chile, Netherlands* - use boxes to select and highlight pieces of relevant information, also: *Netherlands* - 'Boxes' with additional information for both authors and Panel can be approved at the Panel session
- *Spain* - in addition to the outlines document, there should be another document with explanatory notes and clarifications on content per chapter

#### On the timeline for the AR5:

- Support for proposed timeline:
  - *USA, New Zealand* – support the proposed 12-month time frame
  - *Netherlands* – if SYR can be approved by 2014 and the SPM of WG1 by mid 2013, instead of early 2013 – to have time for results from the integrated new scenarios process
  - *Sudan* – overall duration for the preparation of the report may need to be considered
  - *Spain* – 12-month period could be appropriate but prefer subsequent approval of WGI, II, III reports and SYR in a framework of 12 months to be finalized in 2014
  - *Germany* – agree with proposed modified schedule of publication of WGI report; delay is acceptable as long as the close cooperation between the WGs enables the use of WGI results by WGII and III before publication of WGI, and vice versa, mitigation scenarios from WGII and III should be used in WGI, e.g. by medium-complexity models; strong support for a closer cooperation of WGII and III in order to provide a more comprehensive picture of the options available for managing the climate problem; suggested schedule of publishing WGII/Part A, then WGIII, followed by WGII Part B could be an option, but ongoing exchange during the development of reports should assure inclusion of results of WGII/Part B in WGIII assessment; cooperation of WGII and III should be especially strengthened concerning vulnerability, adaptation, impacts, and mitigation including synergies between adaptation and mitigation
  - *Mexico* – agree to minimize time between publication of the reports of the WGs and between them and the SYR; support amending the schedule for completion of the WG reports
  - *France* - no objection to slightly delaying the WG I report and no strong objection to approval of WG III before WG II report; however, the idea of integration of adaptation and mitigation unclear (see 'on treatment of regional information')
  - *India* - release of scenarios by WG I at an early date so that this could be used effectively by WG II and III; also, there is a need to provide similar scenarios on regional level to be also made available by the WG I for assessment in the regional chapters of WG II and II
- Concerns about proposed timeline:
  - *Belgium* - the WGIII plenary should be before WGII plenary, also: 12 months is too short, said: "Using 'Budapest' timing at least 6 months more allowed for WGII and III to work with the WGI outcome"
  - *Netherlands, Belgium, Benin* - more work needed on detailed timetable for Assessment Reports and SYR including deadlines for admitting new findings from

- scientific literature; *Netherlands* - a clear outline of the iterative process around the Reference Concentration Pathways between WGI and III is necessary
- *Russia* - worrying about the timing, because a full scale use of the scenarios in the AR5 requires to have published the global numerical results of future climates very soon, in 2010 or 2011, otherwise impact assessment studies will be delayed; more attention to scenarios development needed, in particular, ensure better coordination between future climate and impact studies

### **On the use of FAQs in the report:**

There was general support for using FAQs throughout the full reports:

- Several countries supported the use of FAQs used not only in the WGI report but in all the WG reports (Korea, Germany, Belgium, Canada, Sweden, Mexico, India)
- Some like the USA and India would like the FAQs embedded in each chapter, and some would like an Executive Summary (in addition to FAQs) in each chapter in all WG reports (Mexico, Germany)
- Some suggested these FAQs should be prepared by the WGs (Canada), or that the panel be consulted on the choice of FAQs (Sweden).

### **On the treatment of regional information:**

- *Sweden, Sudan* - find it useful to split the WGII report into two parts; both parts should be prepared simultaneously and in a common review process – *Sweden*; also: “further addition of sub-regions should be thoroughly discussed”
- *France, China* - do not support including mitigation results within WG II report
- *France* - synthesis of adaptation and mitigation would be more appropriate for the SYR: “We have some doubts about the meaning of integrating adaptation and mitigation at a regional level: the mitigation problems differ widely from country to country within a region...”
- *Netherlands* - current description of outlines of WGI, II, III and SYR and the section on regional aspects (cross-cutting themes, chapter 7) do not guarantee a proper integration; not supporting delivering WGII report after the WGIII report; cross-WG author team to deal with regional aspect through the full writing and review process; workshop on regional aspects (para. 7.2) should be held as soon as possible with representatives from all WGs; by labeling texts/tables/figures with regional identification markers it might be possible for the user to find quickly all information relevant to his specific region
- *Republic of Korea* - would like more long-term regional information in WGI report (possibly in Chapter 12 or Chapter 14); also: climate projections should be given more page space
- *Spain* - strongly support to consider regionalization from the beginning of the process in parallel with the WGs activities, may be by a special group of authors
- *India* – AR4 WG I report had a chapter on regional scenarios, which is missing in AR5 “although the overall emphasis of AR5 is on regional analysis. Chapters 11, 12, and 13 of WG I should provide as detailed scenarios for different regions as possible, or a separate chapter should be included in this for regions”
- *China* – AR5 should continue to use AR4 regions, and treat regional division consistently throughout WG I, II and III; also: definition of regions should be further refined based on the AR4 regions, taking into account climate characteristics and social conditions
- *China* - not supporting the over-expansion of contents of WGs I and III in the WGII report
- *China* - assessment of regional aspects should be “reflected in each report of the WGs in a balanced manner and the basic elements of regional climate change science, impacts, adaptation, and mitigation should be reflected in SYR”

### **Other points on literature and coverage:**

- *USA* - supports use of grey literature, but encourages IPCC to establish guidelines for the use of grey literature early in the AR5 process

- *China* - expand coverage of the data and information used for assessments on the basis of AR4, especially reflecting the climate change assessments in the developing countries

**Suggested key topics or questions for the report:**

- *Germany, others* - dangerous climate change (what it means and how this can be avoided) and key vulnerabilities
- *China* - assessments on climate change impacts and thresholds should be enhanced, including full assessments on scientific basis and uncertainties of different stabilized concentration levels, especially on technical and economic feasibilities, as well as on resilience of social developments
- *Germany, others* – WGI to assess probability of different climate states under different emission scenarios
- *Germany, Bhutan* – WGII and III to explore corresponding risks and vulnerabilities, and management options in terms of adaptation and/or mitigation
- *Germany* - consider full range of scenarios
- *Germany* - consider recent decisions taken on long-term climate targets like the 2°C limit
- *Germany, Bhutan* - regional climate projections (near-term and long-term), with special focus on mountain regions – *Germany, Bhutan, others*

On the treatment of risks and uncertainty:

- *USA* – the AR5 needs consistent treatment of uncertainty. Guidance notes were not implemented fully in the AR4. True synthesis would require that uncertainty be treated in a similar, or at least complementary, manner
- *USA* - the use of more rigorous approaches to treat uncertainty, including the use of expert elicitation, are being explored. We should not confound the situation by developing formal language for describing levels of risks
- *USA* - AR5 will rely on numerous simplified and parametric models that are widely used for decision-making. It would be useful to have an IPCC evaluation of and guidelines on use of these models. Need for a special IPCC report on this issue. Or if such models are deemed to not be sufficient to be formally incorporated, then the state of those models should at least be discussed
- *China* - AR5 should give clear explanations on the certainties, uncertainties and limitations of its major conclusions to improve decision making on policy measures
- *Norway* – ‘geoengineering’ is best placed under “risk management”

On cost framework and metrics:

- *Chile* - not clear that "cost framework and metrics" can be considered as a consistent category across the different AR5 sections because it is more difficult to assign costs to vulnerability related topics rather than to mitigation or adaptation ones

**Suggested new chapters or material for the AR5**

- *India* - add detailed section in the WGI report on monsoons and uncertainties associated with future projections
- *India* - report may contain one chapter exclusively discussing feedback processes such as unknown climate feedbacks from clouds, aerosols and oceans, and what studies are required to reduce the uncertainties associated with these processes
- *India* - In the ‘observed climate change’ chapter, discuss changes of land surface properties, land use change and urbanization
- *Guatemala* - consideration of the dimensions of equity responses to climate change and implications for sustainable development, in the introductions of all 3 WGs and in SYR
- *Ecuador* – for making decisions on adaptation it is not only important to evaluate and manage risk but also involve the issue of monitoring the implemented actions and impacts of adaptation measures to climate (i.e. lessons learned in the process of building local capacity)
- *New Zealand* – needs consideration: (1) role of GHG metric; choice of GHG metric other than the current GWPs could have profound effects on the economic and other modelling underpinning much of the drive for mitigation. It would also affect expectations for the

output of WGI; continued use of GWPs uncertain, consideration of the implications of changes in the metric needs to be built into the early planning through treatment of GHG metrics as a cross-cutting issue; (2) social and societal factors, such as lifestyle choices and institutional arrangements, are important in driving the behaviour change that underlies both adaptation and mitigation. Economic analysis is only one set of tools for understanding and modelling behaviour change; a broader approach needed across the whole scope of WG II and III. Also: where is the role of communication for climate change impacts and vulnerability treated in present structure, in WG II chapter 2? Most appropriate place may be in the 'Pathways' part of WG III report

## **(B) General Comments on the Synthesis Report Structure and Content**

### **Supporting the SYR outline:**

- *Canada, Australia, India* – good outline, excellent proposed four broad headings
- *Japan* – supports structure, timing and implementation and outline; also: SYR needs to be informed by the on-going policy process under the UNFCCC considering that any definition of 'dangerous interference' (Art. 2) is by based on social and political ramifications
- *Netherlands* - current broad outline is a good start but more detail is needed – to be produced in the SYR scoping meeting, proposed to take place in August 2010
- *New Zealand* - intent and broad outline of the Synthesis Report is excellent; need to sort out some overlap and confusion in the draft outline around Sections 3 (Response) and 4 (Transitions and Transformation)

### **Framing the SYR and use of FAQs:**

There was general support for framing the SYR around topic (USA, Sudan, France, Chile, Norway, and India)

- Some also liked the idea of using FAQs in the SYR while still retaining the topics format for the SYR (Belgium and Sweden)

### **Suggesting new or modified SYR outline headings:**

- *Sudan* - add 5<sup>th</sup> broad heading on "Extremes and Disasters" to draw on the Special Report
- *Netherlands* - propose a 5<sup>th</sup> chapter on "Robust Findings, Key Uncertainties"
- *Belgium, Canada, Sweden* – supporting the four headings because they cut across all WGs, however, differentiation between Section 3 "Response" and Section 4 "Transitions and Transformation" not clear as response might also contain transitions; heading "Response" seems to cover technical and economical dimensions, while the heading "Transitions and Transformation" seems to focus on social dimensions –
- *Sweden* - "We therefore suggest new headings for the two last parts and propose submerging them into the same chapter: "Response: Technologies and policies" "Response: Development pathways, governance and societal change"; also: maybe "Costs, benefits and Co-benefits" should have its own heading.
- *USA* – heading 'Transitions and Transformations' title is somewhat mysterious. It appears that both heading 3 and heading 4 are focused on the topic of "solutions" with section 4 being particularly weighted toward social solutions based upon the social sciences. Perhaps this approach can be better reflected in the section titles
- *IPCC Bureau members (Lee, Skea)* –concerns about the last two headings : Mr. Lee would like to merge them; Mr. Skea would like to clarify the purposes of these sections (see Annex 1)
- *Norway* – unclear what is meant by 'Transitions and Transformation'

### **General comments on SYR content:**

- *Belgium, Spain* – SYR as a synthesis should include new graphs etc.
- *Belgium* – "it must be possible to include new issues if needed"
- *USA* – should include general comments on risk and uncertainty
- *France, Belgium* – SYR to include a description of scenarios (not only RCPs) and refer to these as widely as possible

- *Sweden* – suggests development of a “short and up to the point document, focusing on topics, which are more general than questions which depend on who is asking”; list of FAQs for the SYR should be established and sent for review by the Panel
- *UK* - all topics in the SYR broad outline should be traceable to the WG reports. “For example, elements mentioned in the SYR outline that may need to be added to the WG outlines include: WG1 Multi-metric valuations WG1 Representative Concentration Pathways WG3 Equity and Sustainable Development Dimensions”
- *USA* - SYR not to include material not assessed by WGs, every subject covered must be assessed by the relevant WG

#### **Treatment of regions in the SYR:**

- *India* – supporting emphasis on regions, however, “as per the current structure, the information on region will remain scattered in 3 WG reports”, suggests “a special synthesis report be also put together with 9 chapters, one for each proposed regions, written by the WGs ‘regional authors’
- *New Zealand* – SYR appears to miss “a discussion of the implications of different (physical and economic) national circumstances” which will impact hugely on both adaptation and mitigation commitments and will be reflected in the action that is taken on regional and global scales
- *China* – SYR should include evaluation of mitigation and adaptation actions and their effects taken by various countries so far, as well as latest research results of different GHG concentrations and climate change impact thresholds; also to be included: “technical feasibility, economic feasibility and social resilience for achieving different stabilized GHG concentrations, fully taking into account the differences in regions and development stages in countries, and making uncertainty analysis”, with special emphasis on regional scale
- *France* – synthesis of adaptation and mitigation (by region) would be more appropriate in the SYR.

#### **On the timeline for SYR:**

- *Spain* - SYR outlines and process to start at the beginning of the AR5 process; crucial to have a SYR scoping meeting as early as possible with IPCC national focal points/governments representatives participating in that meeting; SYR outline should be leading the outlines of the WGs and especially the CCTs
- *Belgium* - timing and implementation plan should be integrated in the overall AR5 ‘management’ plan (timeline graph needed) to ensure the WG interactions
- *USA* - SYR authors to be selected from each working group after the WGs complete the majority of the work for the first draft. Change statement saying SYR authors are to be appointed soon after the approval of the SYR outline to: “at an appropriate time after the completion of the first order reviews the WG reports are completed”

#### **On a SYR Technical Support Unit:**

- *USA* – no support for a TSU at this time (further justification required; majority of work will occur within WGs)
- *China* – “it is essential to set up a specialized TSU, and that this unit should include at least two experts, one from the developing countries and the other from the developed countries”

#### **Other points:**

- *Netherlands* – SYR outline (and time horizons) needs to provide strong guidance and a clear description and division of tasks between the three WGs at the very start of the assessment process to help the harmonization process; all WGs can produce ‘building blocks’ that are designed to fit together into the SYR at a later stage; new scenario results and model projections are essential parts of these ‘building blocks’ – how these will be incorporated needs to be clarified

## (C) Cross-Cutting Themes

### General comments:

- *Many countries/organizations* – welcome and support to the identified seven CCTs
- *Germany, UK; Spain* – scenarios should be treated in a cross-cutting manner by all WGs
- *Germany, China, Netherlands, Spain* – questions how to manage CCTs in the development process of assessment report and how to treat CCTs in each WG
- *Netherlands, Spain* - the best way to manage CCTs would be to give a coordination task to Synthesis report team
- *Russia, France* - The number of cross-cutting themes is too large to be seriously dealt with

### Suggested new/additional themes:

- *UK, IUCN* - geo-engineering
- *Germany* - key vulnerabilities in the context of Art. 2
- *Belgium* - dealing with scenarios
- *USA* - biodiversity
- *USA* - land use, planning, and development
- *Sweden* - 2°C target which deal with climate impacts as a result of a 2° change, costs for implementation, adaptation capacity at 2°
- *Norway* - N-cycle
- *UK* - sectoral activities (transport, farming, industry etc)
- *UK* - finance and Investment
- *Denmark* - agriculture (as part of the terrestrial ecosystem)
- *New Zealand* - treatment of GHG metrics
- *IUCN* - biogeochemical cycles
- *GCOS* - assessment of future needs for observations
- *GCOS* - assessment of the impact of current observational gaps on uncertainty

### On implementing CCTs:

Give a coordination task to the Synthesis report team:

- *Netherlands, Spain*

Idea of a common workshop:

- *Sweden* - a workshop to serve needs for consistency should also serve the CCT work; making use of regional expertise is a good idea as is the suggestion of “Attending Contributing Authors” for another WG
- *Netherlands* - the workshop/expert meeting with WGI, II and III on regional aspects as suggested in para. 7.2 should be held as early as possible

Guidance papers suggested:

- *Netherlands* - as an output of the IPCC-31, the three WGs should produce ‘guidance notes to the authors’ in addition to the WG and SYR outlines, which include additional detail, information and clarification; approval of these documents may be left to the IPCC Bureau
- *USA, Canada, Netherlands* - guidance papers should be prepared at an early stage so that the WGs can address the ‘risks and uncertainties’ theme properly

### CCT1. Risks and Uncertainties

- *USA, Canada, IAEA* - uncertainty and risk should be treated in a consistent way across all three WGs (lack of consistency in TAR and AR4)
- *USA* - ‘risk’ needs to be well defined, balancing presentation of uncertainty, low-probability points with equal attention to what is well understood and probable
- Other comments
  - *France* - accuracy of the qualitative and quantitative description of uncertainties is more important rather than aiming at consistency among the WGs
  - *Belgium* - theme title does not reflect what is really meant; proposes: ‘Coherent framework for communicating risks and uncertainties’

- *USA* – ‘risk management’ is the wrong term as we are not actually managing risk; we are characterizing or making more transparent the risk

### **CCT2. Water and the Earth System: Changes, Impacts and Responses**

- Most of the comments go into details such as; ‘Managing complexity should be added as a consideration’, ‘Assimilation of pollutants, sewage treatment could be included’, ‘There needs to be a robust discussion of the land use/water intersection’.
- On WG III involvement in this theme:
  - *Canada* - WGIII contribution to this CCT should be more fully developed
  - *China* - WG III should focus on the interactions between water and energy
- *France* - This CCT is essential for WG I and II, but it is not really a cross-cutting issue
- Other Comments:
  - *IAEA* - The suggested approach is too water centric. A more balanced climate, land-use, energy, water approach is needed
  - *Canada* - water impacts need to be tied together with water management issues

### **CCT3. Carbon Cycle including Ocean Acidification**

- *Chile* – to be included: a statement about the relevance of understanding how the phenomenon of increases in GHG concentrations and their absorption from oceans relates with changes in water chemical equilibrium and submarine life
- *France* - rather than treating this topic as a cross cutting issue, a chapter of the SYR should be devoted to it

### **CCT4. Ice Sheets and Sea-Level Rise**

- *USA* - because WGII does not have a chapter devoted specifically to the impacts of sea level rise, collaboration between WGI and II authors will not necessarily provide the WGI authors with the level of stakeholder input needed at the outset. The experts reviewing the WGI sea level chapter need to include expert users of the information, as well as expert producers
- *France* - topic is of utmost importance, but it is not really a cross-cutting issue

### **CCT5. Mitigation, Adaptation and Sustainable Development**

- *Many countries/organizations* - this theme is highly policy relevant, suggestions include:
  - *USA* - add a more explicit discussion of implications of "Decision-making under uncertainty"
  - *China* - proposing that more attention be given to the effects of comprehensive policies, rather than being limited to the assessments of specific adaptation and mitigation policies
  - *World Bank* - two-way relationship between sustainable development and climate policies should frame at the outset of the discussion on mitigation and adaptation
- Other comments
  - *France, World Bank* - WG II and III report should be complementary to each other concerning this theme
  - *France, World Bank* - theme is relevant to SYR and could be included in one of its chapters
  - *Belgium* - under 5.2 we suggest to add the term ‘institutional’ before ‘social’. (=> ‘...and assessing the institutional, social, economic and ecological consequences’)
  - *UNEP* – need to also consider: “How do climate change responses influence achieving internationally agreed development goals including MDG”

### **CCT6. Costing and Economic Analysis**

- Comments on the consistency and balance between WGII and III:
  - *France* - consistency between WG II and III economic estimations deserve a good concentration
  - *Netherlands* - unclear where in WG II (or WG III) the relations between adaptation, mitigation and residual damages are taken into account



- *Netherlands* - SYR should treat the balance of costs of adaptation and mitigation
- Comments on the description of 'cost':
  - *China* - proposing that not only analyses of the direct cost of climate change-related damage but also analyses of its social costs, other indirect costs, opportunity costs as well as existing barriers be made
  - *Belgium* - description of the contents of this CCT is quite unclear whether it focuses on and stops at technical-methodological issues of economic
- Other comments:
  - Differentiate economics of adaptation and of mitigation. The economic analysis must be very precise and convincing

### **CCT7. Regional Aspects**

- On regional classification:
  - *Chile, World Bank, Economic Commission for Europe* - special care must be devoted to select the geographical arrangement of zones of the world which can be particularly affected by climate change, i.e. South America shouldn't be divided into a mere North-South division; classification of Caucasus / Central Asia, not Europe/Asia; countries in the Middle East and the Gulf share the same cultural and language background and, largely, similar climatic conditions
  - *Japan* - national or sub-national assessments should be carried out by the country, not by IPCC
  - *Netherlands* - further subdivision into sub-regions may create additional problems with downscaling and disaggregation
- Other comments
  - *Canada* - strongly discourages the IPCC from instigating the dissemination of interactive figures, etc., via GIS and other approaches. Such an action would be accompanied by very large risks
  - *Netherlands* - unclear how the regional division as (WG II/B-part) could work as a 'landing sites' for WG I and WGIII regional assessment results

(Please also see comments on treatment of regional information on page 2, submitted with the general comments, for further views on integrating regional information into the reports by India, China, Sweden, Sudan, France, Republic of Korea, and Spain)

## Annex 1

### Specific Comments on the Synthesis Report (Chapter headings 1-4)

#### Observed Changes and their Causes

- USA - good to clarify the split between "natural" and "human systems" (& also in other headings)
- USA – include clarification/examples of the human systems considered under each heading

#### Future changes (in the short and long-term)

- Republic of Korea - what constitutes dangerous interference with the climate system?
- USA - clarify what is meant by short and long-term.
- USA - unclear how "temperature" in the second section would be different than the "air and sea surface temperature" in the first section
- USA - remember to include trends in temperature extremes (heat waves, temperature minima, etc.)
- USA - suggest separate bullet on "Changes in the Vegetation"
- Norway - address the connection between future emission levels and projected changes
- Netherlands - "Limits to adaptation" belongs under Section 3 "response"
- IPCC Bureau member (H. Lee) - on 'high risk uncertain probability' - There is no such thing as uncertain probability. Should be changed to 'high consequence low probability'

#### Responses

- Korea - what is the cost of inaction for adaptation and/or mitigation?
- USA - we suggest that this heading be re-titled "Response Options"
- USA - with respect to "equity" dimensions, provide assessment of literature, not political considerations
- Norway - suggests to find another word than "response"
- Norway - synthesize geo-engineering part here
- World Bank - spell out a clear and concise framework for integrated climate policies, linking adaptation and mitigation responses, both with broader development pathways
- UN-Human Settlements Programme - suggests adding Urban Systems Habitat (and suggested eight elements defining this)
- GCOS - observational needs should be considered – e.g. long-term reliable climate data record
- IPCC Bureau member (H. Lee) – "Response" and "Transition/Transformation" should be merged
- IPCC Bureau member (J. Skea) - need to clarify the respective purposes of the "Responses" and "Transitions and Transformation" sections
- IPCC Bureau member (A. I. Boncheva) - 1) differentiate developed and developing economies here; 2) include the policies and instruments to support the developing countries in their mitigation and adaptation actions
- Netherlands - add 'relations between mitigation, adaptation, and residual damage'

#### Transitions and Transformation

- USA - heading title is somewhat mysterious. It appears that both heading 3 and heading 4 are focused on the topic of "solutions" with section 4 being particularly weighted toward social solutions based upon the social sciences. Perhaps this approach can be better reflected in the section titles
- USA - For this section, we suggest "Adaptation and Mitigation." Does the term "developmental pathways" differ markedly from "emissions pathways" or "emissions scenarios"? And if so, could they be distinguished to eliminate confusion?
- USA - "Institutional arrangements" should also include information/guidance on how data sets can be standardized and evaluated for use by a diverse set of researchers
- Canada - discuss adaptive capacity and barriers to adaptation or barriers to responding
- Canada - greater emphasis needed on the transition and pathways to a low carbon society, and the development and deployment of transformational technologies over the long term, than that indicated by the current outline
- Norway – unclear what is meant by "transitions and transformation"
- IPCC Bureau member (A. I. Boncheva) - 1) include consumption patterns transformation; 2) explain what could be done on individual level to contribute to the climate change mitigation; 3) highlight the co-benefits for countries, regions, communities and persons