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REDUCING THE CARBON FOOTPRINT OF IPCC ACTIVITIES

(Submitted by the IPCC Secretariat)

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REDUCING THE CARBON FOOTPRINT OF IPCC ACTIVITIES

Discussion Paper submitted by the IPCC Secretariat

1. Introduction

Consistent with the overall aim of the United Nations to reduce the carbon footprint and environmental impact of IPCC activities, the IPCC Secretariat has carried out an analysis of the impact of travel of participants to a number of recent IPCC meetings. Furthermore, it collected experience with the use of various video and audio conference tools by the IPCC and its Working Groups and other organizations and analyzed recommendations for greening of meetings with respect to their applicability to IPCC meetings. The matter was also discussed in the IPCC Executive Committee, which established a small group composed of Mr Ramon Pichs Madruga, Mr Chris Field and Ms Renate Christ, to consider the matter.

This discussion paper prepared by the IPCC Secretariat analyses the impact of meeting venue on the carbon footprint and presents options for reducing the IPCC's CO₂ emissions in the future through a range of means, while taking into consideration the benefits of holding IPCC meetings in different regions and countries of the world. It also presents experience and efforts to reduce CO₂ emissions during the current assessment cycle, including experience with using technologies such as Skype or WebEx. Finally it makes suggestions for other means to reduce the environmental impact of IPCC activities.

2. The impact of meeting venue on the IPCC's carbon footprint

An analysis of CO₂ emissions resulting from travel of participants to a range of representative IPCC meetings (two IPCC plenary sessions, one expert meeting, one Bureau session and three Lead Author meetings) in different locations around the world was carried out. For each meeting the actual venue and a range of alternative venues were analyzed, using the same list of participants and respective travel routes (see Annex 1). Various tools for calculating emissions from air travel were tested and a WMO tool appeared to be most appropriate for IPCC meetings. Despite some limitations, e.g. it assumes business class travel for all participants, it was used for analysis. Therefore, the numbers given below are only estimations and are provided to illustrate the potential savings.

The analysis showed that the difference between destinations in terms of carbon footprint was relatively large. For example, assuming that the Working Group I (WGI) Lead Author (LA) meeting held in Hobart would have been held in Geneva a savings of about 1,600,000 Kg CO₂ could have been possible. In the case of Working Group II (WGII), if the Buenos Aires Lead Author meeting had been held in Mexico City about 1,187,000 kg CO₂ could have been saved, and if it had been held in Geneva instead of Buenos Aires, about 1,116,000 kg CO₂ could have been saved. Geneva appeared to be a venue with low CO₂ emissions in almost every run. However, significant emission savings can also be generated by carefully choosing venues in different regions.

The findings showed that the location of IPCC meetings does matter in terms of CO₂ emissions, and this fact should be taken into consideration before a meeting is planned. On the other hand, there are clearly other benefits to holding IPCC meetings around the world in various locations and the carbon footprint from travel should not be the only consideration for choosing a meeting location. The value of awareness-raising, capacity building and inclusiveness resulting from meetings held in different countries and regions may outweigh the costs and impact of air travel.

The IPCC Secretariat also analyzed the impact of a meeting venue in terms of costs to the IPCC Trust Fund arising from the travel of Trust Fund eligible participants. While the matter is discussed under item 3, (see document IPCC-XXXVII/Doc. 7) the summary table is provided for information in Annex 2 to this document.

In order to strike the appropriate overall balance between the need for regional presence, carbon footprint arising from all IPCC meetings, costs and travel time for participants it is suggested that the venue of IPCC meetings for the 6th Assessment Cycle be decided by the IPCC Secretariat, in consultation with the IPCC Chair, and the relevant Working Group and Task Force Bureau (TFB) Co-chairs.

Further consideration in selecting any meeting venue, would have to include the following:

- Offer from a host country and willingness of the host Government to contribute to the achievement of the aims of the meeting, as well as provision of technical support to participants;
- Availability of adequate conference facilities, including reliable internet connection;
- Availability of hotels at reasonable cost in comparison with the United Nations Daily Subsistence Allowance (DSA);
- Easy access from international flights;
- Existence of leading institutions and experts who have been or are involved in IPCC activities;
- Relative easiness to obtain country Visa, including Visa for transits;
- Contribution of awareness and capacity building in the host country;
- Country security;
- Costs to the IPCC Trust Fund (travel and other costs);
- “Green meeting checklist” (see below).

3. Use of electronic meetings in the IPCC

During the current assessment cycle increasingly electronic means such as Skype, WebEx or teleconferencing were used for convening smaller meetings such as chapter team meetings, steering group meetings or cross cutting discussions. Almost all Executive Committee meetings and meetings of the Communications Action Team were held using WebEx. Skype and classical teleconferencing were also used successfully for consultations with a small number of participants. IPCC Working Groups and the Task Force on National Greenhouse Gas Inventories (TFI) were asked to report their experience in a short questionnaire sent to Technical Support Units (TSUs) on 31 January 2013. The responses received from TSUs are summarized in **Annex 3**.

In general all groups have observed that the use of electronic meetings requires a learning curve and efficiency improves as soon as participants become familiar with the system. Connectivity problems, in particular with developing countries, may arise with any system. Further, there seems to be a limit to the viable number of participants for such meetings depending on the technology used and whether the group is accustomed to using electronic meetings, as well as whether participants know each other, or not, from previous face to face meetings.

Video conferencing among United Nations agencies has been a mixed experience with some connections not working well from even some European cities. Therefore the IPCC has not actively pursued the use of video conferencing for regular meetings, despite the fact that there are excellent facilities in WMO meeting rooms. The use of video conferencing was tested for use by the IPCC Bureau.

For the Bureau and other larger meetings the concept of hybrid (in-person/electronic) meetings may be further explored. Options for holding Bureau sessions via electronic means were discussed at the Bureau Forty-Fifth Session (Geneva, 13-14 March 2012) and Forty-Sixth Session (Geneva, 28 February-1 March 2013). A document on this matter is submitted for consideration by the Panel under item 9.2 (see IPCC-XXXVII/Doc. 5).

Using regional hubs with video conferencing might be another option for larger meetings to reduce travel time especially for participants from regions which require long travel. However, currently the identification of suitable hubs and the connection to each other is likely to become costly and

difficult to manage. It is also unlikely to generate significant CO₂ savings but it may be an option to explore e.g. for expert meetings on a specific topic where only experts from a few regions may be involved.

The use of electronic meetings does not only result in reduction of the carbon footprint, but saves time for participants who may have to travel for days to attend a short meeting. It also enhances the interaction within teams. However, most options described here require a functioning internet and communications infrastructure and the IPCC will have to consider the potential unequal access to technologies across regions, which may have a negative impact on the participation of experts from certain countries. All proposed initiatives should ensure full participation of involved experts, including the possibility of hybrid meetings, when appropriate.

As options for electronic meetings are changing very rapidly and participants, as well as providers, learn rapidly to use the tools and respond to changing needs and circumstances, it will be important to have the flexibility to take advantage of new options and constantly explore which technology works best for the IPCC.

4. Green meetings checklist for all future IPCC meetings

For each IPCC meeting held in the future, it is proposed that the IPCC would follow a green meetings checklist (using for example UNEP's Green Meetings Guide), which would effectively encourage host countries to offer and provide greener conference facilities, and services that consider efficient use of resources - from eco-efficient ground transport options for participants, to the use of paper and other materials for the meeting, to the energy use in the conference center, to the catering services, recycling, or other innovations to save resources and reduce emissions. Our aim would be to reduce the entire environmental footprint of IPCC meetings.

5. Expanding the paper-smart system and steps to going paperless

It is proposed to evaluate the paper-smart system developed by the IPCC Secretariat with the aim to further reduce and eventually eliminate paper consumption in IPCC meetings. So far the paper-smart system developed by the Secretariat was used rather successfully in a smaller meeting – the Synthesis Report (SYR) Second Core Writing Team (CWT2) meeting held in Oslo (10 – 12 June, 2013), where approximately 30 participants used the paper-smart system out of 45. It was also tested at the Lead Author Meetings of WGII and WGIII in July 2013. To the extent feasible an evaluation of the application of the paper smart system at the 12th Session of WGI (23-26 September 2013), where a double track system (paper copies and paper smart system for in-session documents) was agreed with the Co-chairs, will be prepared for consideration by the Panel at its 37th Session and further guidance. It should be noted that most UN conferences have already moved towards more or less paperless systems.

6. Offsetting carbon emissions to the extent possible

While it is noted that some Working Groups already suggest carbon offset schemes a full study of offsetting options could be conducted. The Secretariat could review experience throughout United Nations agencies and other international organizations with carbon offsetting for travel to meetings. The study would include a proposal with options on how to implement a scheme. One option to explore further is offsetting the CO₂ emissions generated from the travel of participants supported by the IPCC Trust Fund. For other participants the IPCC could encourage them to offset their travel to IPCC meetings.

Provisions for regular review of any proposed IPCC policy on carbon offsetting should also be part of the future steps of the process. It is important to note that options for carbon offsets, in particular, are changing very rapidly. As we look beyond the Fifth Assessment Report (AR5), it will be important to have the flexibility to take advantage of new options, if they may work for the IPCC.

7. Next Steps

The Panel is invited to consider this document and the options suggested. Based on the guidance received, the IPCC Secretariat will further develop and implement activities that reduce the environmental impact of IPCC meetings, explore options, their feasibility and limitations, and collect experience from United Nations and other relevant organizations.

The lists of participants to the following IPCC Meetings were used for this analysis:

- 34th Session of the IPCC (Kampala, Uganda, 2011)
- 35th Session of the IPCC (Geneva, Switzerland, 2012)
- 46th Session of the IPCC Bureau (Geneva, Switzerland, 2013)
- WGII/WGIII Joint Expert Meeting on Human Settlement, Water, Energy and Transport Infrastructure (Calcutta, India, 2011)
- WGI LA Meeting (Hobart, Australia, 2013)
- WGII LA Meeting (Buenos Aires, Argentina, 2012)
- WGIII LA Meeting (Vigo, Spain, 2012)

The following alternate meeting locations for the above meetings were used in the analysis.

Panel and Bureau sessions tested and resulting ranking in terms of CO₂ emissions (lowest to highest with lowest on top; actual location of the session is highlighted for comparison):

IPCC-34	IPCC-35	B-46
Copenhagen	Copenhagen	London
Geneva	Geneva	Paris
Abu Dhabi	Stockholm	Frankfurt
Berlin	Berlin	Geneva
Stockholm	Abu Dhabi	Berlin
Oslo	Batumi	Vigo
Delhi	Delhi	Dubai
Batumi	Dubai	Bamako
Dubai	Vigo	New Delhi
Calcutta	Calcutta	Calcutta
Vigo	Beijing	Havana
Beijing	Bangkok	Beijing
Bangkok	Bamako	Bangkok
Bamako	Hong Kong	Mexico City
Hong Kong	Nairobi	Nairobi
Havana	Shanghai	Washington, DC
Shanghai	Seoul	Boston
Taipei	Taipei	San Francisco
Seoul	Havana	Buenos Aires
Nairobi	Kampala	Sao Paulo
Tokyo	Tokyo	Hobart
Mexico City	Mexico City	
Kampala	Washington, DC	
Washington, DC	Boston	
Boston	Dallas/Fort Worth	
New York	Los Angeles	
Dallas/Fort Worth	Cape Town	
Los Angeles	San Francisco	
San Francisco	Vancouver	
Cape Town	Buenos Aires	
Vancouver	Hobart	
Hobart	Sao Paulo	
Buenos Aires		
Sao Paulo		

Working Group meetings tested:

Calcutta Expert Meeting	WGI / Hobart LAM	WGII / Buenos Aires LAM	WGIII / Vigo LAM
Geneva	Berlin	Havana	Geneva
Berlin	Oslo	Mexico City	Berlin
Havana	Geneva	Paris	Havana
Vigo	Havana	Copenhagen	Vigo
Mexico City	Oxford	Frankfurt	Mexico City
Bamako	Mexico City	Berlin	Bamako
Lima	Vigo	Geneva	Dubai
Washington, DC	Beijing	Stockholm	Washington, DC
Boston	Bamako	Vigo	Beijing
Dubai	Bangkok	Dakar	Boston
Delhi	Washington, DC	Bamako	New Delhi
Beijing	Dubai	Washington, DC	Bangkok
Calcutta	Boston	Boston	Nairobi
Bangkok	Delhi	Batumi	Buenos Aires
Nairobi	Nairobi	Dallas/Fort Worth	Sao Paulo
San Francisco	Buenos Aires	Beijing	
Johannesburg	Hobart	Abu Dhabi	
Buenos Aires	Sao Paulo	Los Angeles	
Sao Paulo		Dubai	
Hobart		Calcutta	
		Tokyo	
		New Delhi	
		Bangkok	
		San Francisco	
		Seoul	
		Shanghai	
		Hong Kong	
		Taipei	
		Manila	
		Vancouver	
		Nairobi	
		Buenos Aires	
		Kampala	
		Sao Paulo	
		Cape Town	
		Canberra	
		Hobart	

Analysis of Travel Costs for Various IPCC Meetings (2011-2013)

Meeting	Tickets	DSA	Total	Number Participants	Average Cost
Kampala, Uganda: 14-17 November 2011	191,233	139,977	331,210	102	3,247
Marrakech, Morocco: 16-19 April 2012	88,291	64,827	153,118	59	2,595
Geneva, Switzerland: 6-9 June 2012	115,016	199,025	314,041	86	3,652
Buenos Aires, Argentina: 22-26 October 2012	181,010	200,664	381,674	94	4,060
Vigo, Spain: 3-9 November 2012	179,717	133,381	313,098	108	2,899
Hobart, Tasmania: 13-19 January 2013	178,012	141,304	319,316	64	4,989

Working Group I: Working Group I has found communication considerably enhanced by the use of WebEx for regular Chapter meetings first in the Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) and for AR5. They very much appreciate the availability of this option for AR5 through WMO, as do the authors wherever they are located. They note that in general these WebEx meetings are enhancements of communications, i.e., a new opportunity, rather than replacing a face to face meeting and its associated travel. They also successfully used WebEx to allow authors who were not able to travel to LA meetings to have limited participation at certain sessions of their Chapters. It was noted that it works well for small groups of up to 8-10 but not for larger groups if it is possible that all may want or need to intervene. However, it was noted that there are improvements to be made by good meeting management which include having a moderator of the WebEx interventions as well as someone running the meeting if the group is large, and getting the participants to take it seriously as a meeting so that they should arrange to take the call in an undisturbed environment.

Working Group II: In 2012, the Working Group II Technical Support Unit (WGII TSU) conducted approximately 140 chapter meetings via WebEx. This figure does not include other special sessions: WGII Bureau meetings, staff meetings, expert meeting planning, or special sessions. Considering the past 2 years to establish a baseline, 2011 did include SREX so the total would more than double. That being the case, a conservative estimate has the WGII TSU initiating 300 WebEx sessions over the past 2 years. On average these sessions have 8-10 participants. They note that above beyond a dozen participants, voice lags, VOIP issues, etc. often degrade utility of the session. All that is required is a computer or a smartphone. The system calls you back at no expense to the user. That said, in countries with sometimes unreliable internet access, quality can be poor when connecting via VOIP. The AR5 communications have been greatly enhanced by the chapter telecons for developed and developing country authors alike. If audio only, the TSU does not need to initiate the sessions; for document sharing, the TSU originates then makes a designated Coordinating Lead Author (CLA) the host. The CLAs manage the meetings, not the TSU. In sum, WebEx has been a terrific tool for chapter and cross-chapter sessions but cannot be considered a viable option for anything larger than groups of say 12-15 people max. Working Group II does not recommend WebEx as a solution for IPCC Bureau e-meetings. The WGII TSU does not possess any additional video conferencing expertise with which to inform the discussion.

Working Group III: The Working Group III reported that it held 3 meetings during this assessment cycle using electronic means to connect participants that could not attend in-person. The meetings were: 1) Emlnfa in Calcutta, India where Skype was used (initiated by authors) for more than one participant, however it was noted that the internet connection was very slow, computers are not readily available in the country, and it would have been better to connect such participants via the phone line only in this case; 2) 3rd Lead Author Meeting in Vigo, Spain where one person was connected by a regular phone line, one person by video conference and an unknown number by Skype. In this case it was reported that there were no problems with the country, but there were WiFi problems in the building; and 3) 4th Lead Author Meeting in Addis Ababa, Ethiopia where 10 people were connected via regular phone lines, and more than 2 were connected via Skype. In this case it was noted that phones were widely available, however computers were needed and there were problems with telephone and internet connections in the country. The internet and telephone connections were not reliable in this country.

TFI: WebEx experiences – Recent WebEx uses: (i) between the meeting and authors who were not able to come to the meeting (two sessions of the 2013 Wetlands Supplement Science meeting); WebEx was made accessible for several remote authors, (ii) WebEx discussions among a small number of authors on specific themes. Broadly speaking, WebEx uses have been found useful, in particular with a reasonable number of participants, and when the host location has a good internet connection. WebEx connections with up to 15 remote participants were undertaken, but technical difficulties were experienced, such as unknown noise or inaudible interventions, insufficient

connection speed at the meeting site, and inappropriate WebEx facilities. Lessons learned: (a) Careful preparation and preferably rehearsal of WebEx is pre-requisite, (b) it is difficult to accommodate a large number of remote participants. *Skype meetings* - There have been numerous cases of bilateral or oligolateral Skype meetings, which have been recognized as extremely useful. It does not require any additional cost involved so long as a telephone connection is not required. TFI is not aware of any major technical difficulties since all the participants have used their computer, and internet connections were reasonably good.

Synthesis Report Technical Support Unit (SYR TSU): In 2012, the SYR TSU conducted 16 meetings via WebEx. On average these sessions had 10-15 participants; some of them even had 20 or more participants. In their view “the number should not be over 25 given the fact that the maximum time you can keep people focused is 1 ½ to 2 hours, and everyone should have the opportunity to make interventions”. In terms of technical requirements and experience about availability of the technology in different countries, their experience is that with more than a few participants it is necessary to have, besides a Chair and someone to take notes, someone who hosts the meeting, who helps with connections, mutes people with a lot of background noise or echo, and who will be on call for participants who face technical problems. They also suggested that perhaps a few regular participants of IPCC meetings who have had trouble connecting in the past could obtain financial support for possible technical solutions, or otherwise receive IT advice from the Secretariat.