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IPCC TRUST FUND PROGRAMME AND BUDGET

Financial Implications and Estimates Associated with Travel-related Carbon Emissions of Holding Physical, Virtual and Hybrid Meetings

(Submitted by the Secretary of the IPCC)

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1. Background

Decision IPCC-LVII-4, para 26, on the IPCC Trust Fund Programme and Budget for the years 2022, 2023, 2024 and 2025, taken at the 57th Session of the IPCC (Geneva, Sept 2022) requests the Secretariat to prepare a document presenting the **financial implications and estimates associated with travel-related greenhouse gas emissions of holding physical, virtual and hybrid meetings**, to be presented to the 60th Session of the IPCC.

2. Purpose

The purpose of this document is to present information for the Panel's consideration to inform decisions aimed at reducing costs and the carbon footprint of the IPCC meetings during the Seventh Assessment Report (AR7) cycle.

3. Approach

The data and estimates presented in this document are grouped into two categories, financial and emissions. They are derived from the information obtained from meetings held during the IPCC Sixth Assessment Report (AR6) cycle.

Estimates are provided for the following three IPCC Panel Sessions held during the AR6, selected as case studies:

- a. The Fifty-third (bis) Session of the IPCC (IPCC-53bis; Electronic and Written Session, 16 – 21 March 2021) was the selected virtual meeting.
- b. The Fifty-sixth Session of the IPCC (IPCC-56) and Fourteenth Session of the IPCC Working Group III (WGIII-14) held in hybrid mode from 21 March – 3 April 2022 was the selected hybrid¹ meeting.
- c. The Fifty-eighth Session of the IPCC (IPCC-58; Interlaken, Switzerland, 13 – 19 March 2023), the second post-COVID19 in-person meeting was the selected physical meeting.

The financial costs of three Panel session are derived from Oracle, the Enterprise Resource Planning (ERP) tool used at the World Meteorological Organization (WMO). The standard costs used in the preparation of these estimates have been established at CHF 4,000 per journey and 17 per cent of total travel costs are used to cover meetings costs. The estimated cost per Panel session has been established at CHF 70,000 per day.

The emissions from the IPCC meetings are estimated as the sum of the emission from travel and conference facilities used by meeting participants. The International Civil Aviation Organization (ICAO) [Carbon Emissions Calculator](#), the official United Nations tool to quantify air travel CO₂ footprint, was used to calculate the CO₂ emissions attributed to individuals' air travel. The ICAO Calculator requires that the user inputs the origin and destination aerodromes, as well as the cabin class. This information is used by the tool to estimate the passengers' aviation emissions. A detailed description of the methodology used by the tool is available [here](#).

¹ For IPCC-56, only a few Bureau members traveled to the UK. In a regular session, the number of attendees is usually much higher, with very few participating online. Therefore, the hybrid estimates for both financial and emissions aspects may not accurately depict the situation. It is important to note that in a genuine hybrid meeting with a participation ratio of 70% (physical) to 30% (online), the resources and technical requirements will significantly increase.

The calculations were split into two broad categories (i.e. delegates funded from the IPCC Trust Fund and those funded from other sources). For delegates funded from the Trust Fund, the input data required by the ICAO Calculator (e.g. departure, transit and destination aerodromes, and cabin class) were available. For delegates funded from sources outside the Trust Fund, estimates were generated based on information IPCC-58 participant list indicating their country of origin and the number of delegates per country or Observer Organization. In the absence of the information on their itineraries, the following assumptions were made:

- The travel was presumed to originate from their respective capitals to Zurich.
- Negligible emissions from electric trains, led to the exclusions of estimates for the train ride from Zurich to Interlaken. While this method lacks precision, it serves as a preferable alternative to lacking data and is justifiable.
- For IPCC Observer Organizations, it was assumed that they travelled from the capital of the country where the headquarters of the respective organization is based to Zurich.
- For delegates from European countries except Switzerland, it was assumed that they travelled by air.
- Economy class travel was assumed for all passengers.

The emissions related to conference facilities were estimated using the tools available on the United Nations Carbon Offset Platform. The primary data used here were the duration of the meetings and the number of participants. Details of the tools are available [here](#).

Enhancements to the comprehensiveness and accuracy of the estimates provided in this document can be achieved with the availability of all relevant data including itineraries for all participants, market-based emissions from the generation of purchased electricity at the meeting venue, those due to lodging of delegates in hotels, and those associated with catering.

4. Financial Implications of holding physical, virtual and hybrid meetings

The table below provides the breakdown of cost estimates for various cost categories, associated with a physical, virtual, and hybrid meetings. The costs solely represent Trust Fund financial implications based on expenditure incurred under various categories, including, but not limited to travel, conference venue rental, interpretation, etc.

For the IPCC-58 session, 147 journeys were funded from the IPCC Trust Fund and 276 were funded independently, whereas for the IPCC-56 session, 22 journeys were funded.

Breakdown of Financial Implications by Cost Category
(in Swiss Francs)

Cost Category	Type of Meeting		
	Physical (IPCC-58)	Virtual (IPCC-53 bis)	Hybrid (IPCC-56)
Travel (delegates)	471,634	0	69,140
Travel (IPCC staff)	60,483	0	80,745
Interpretation	283,922	30,069	358,340
Venue rental	445,411	0	0
Security	0	432	3,518
Miscellaneous	12,419		3,136
Cleaning	0	198	479
TOTAL	1,273,869	30,699	515,358

Carbon emissions from physical, virtual and hybrid meetings

The table below shows the estimated carbon emissions for the three different types of meetings considered.

Carbon emissions (KgCO₂)

	Type of Meeting		
	Physical (IPCC-58)	Virtual (IPCC-53bis)	Hybrid (IPCC-56)
IPCC Trust Fund	129,802.90	0.00	6,717.30
Independently funded	152,824.10	0.00	3395.00 ²
Conference facilities	37,533.40	0.00	12,151.86
Total	320,160.4	0.00 ³	22,264.16

5. Suggested options

The above estimates demonstrate the potential of virtual and hybrid meetings in terms of cost savings and reducing the carbon footprint.

The options outlined below offer potential avenues for the Panel, to deliberate upon, focusing on *cost saving and strategies to reduce the carbon footprint of IPCC meetings during AR7*:

5.1 Cost -saving strategies

- **Virtual meetings:** Exploring the viability of conducting meetings entirely virtually, wherever suitable.
- **Hybrid meetings:** Exploring the possibility of organizing hybrid meetings, balancing in-person attendance and virtual participation as appropriate, noting the logistical challenges in organizing it.
- **Optimal venue selection:** Considering hosting meetings in United Nations Offices such as Geneva, Nairobi, and Vienna, or United Nations Regional Economic Commissions like Addis Ababa, Bangkok, Beirut, Geneva, and Santiago. These locations offer lower venue rental costs and reduced interpretation expenses since on-site interpreters obviate the need for flying them to the venue.

6.1 Emission reduction strategies

- **Hybrid and virtual meeting integration:** Evaluating the feasibility and benefits of hybrid and virtual meeting models to mitigate emissions.
- **Promoting train travel:** Encouraging travel by train for attendees whenever feasible, as an environmentally friendlier alternative.
- **Establishing carbon emission reduction targets:** Setting explicit targets for reducing carbon emissions, aiming for net-zero emissions to align with climate goals.
- **Carbon offsetting:** Exploring avenues to offset carbon emissions generated by the meetings through sustainable projects or initiatives.

² This estimate includes travel for Bureau Members from developed countries and WGI and WGII TSU staff who participated in-person in the session.

³ The emissions associated with teleconferencing technology while very low are not entirely zero. The technology-related GHG emissions could not be estimated.