Low, May-Yin

From: Arvind Rajendran, IAS Secretary <secretary@int-ads-soc.org>
Sent: 23 June 2023 16:48
To: Low, May-Yin
Subject: Report from the IAS Working Group on FOA14 carbon footprint/offsets

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Dear Members of the International Adsorption Society (IAS)

Please see below a report from Dr. Benoit Coasne on behalf of the IAS working group of carbon footprint/offsets

Sincerely
Arvind Rajendran, Secretary IAS

*****MESSAGE FROM BENOIT COASNE*****

Dear Members of the International Adsorption Society (IAS),

As you may be aware, a discussion was initiated at FOA-13 (Cairns) about the CO_2 emissions associated with the FOA conference and measures we could take to reduce and compensate for them.

As a result, the Carbon Neutral FOA Working Group was established, and its first tasks were to estimate the CO_2 emissions of the next FOA conference (FOA-14, Denver) based on historical attendance data and propose an approach to compensate for them. This culminated in an optional $70 charge to the conference registration fee, which was included by default, to purchase CO_2 offsets. The Working Group has submitted a publication detailing this process.

Following FOA-14 the actual attendance data were reviewed, and the average emissions per attendee was 2.26 t_{CO2}, down from the original estimate of 2.6 t_{CO2}. Of the 333 attendees, 301 paid the additional charge, and $21,070 was collected for mitigation efforts. Three attendees undertook their compensation, leaving 746 t_{CO2} to be compensated for.

Following a review of CO_2 offset providers, CO_2 removal providers, and their respective certification schemes, we have purchased CO_2 offsets from MyClimate. The total cost to offset 746 t_{CO2} is $23,469, and the IAS will contribute the difference of $2,399 to ensure that the total amount can be offset. The purchasing process has been completed, and the CO_2 offset certificate will also be uploaded to the Carbon Neutral FOA website once received. I've included more details on the alternatives considered in the presentation that can be found here, and will also be uploaded to the website in due course.

The offsets provided by MyClimate are CO_2 avoidance credits (reforestation, AFOLU, and energy projects), and they also have co-benefits of contributing to the UN SDGs. That is, a third party is emitting less CO_2 or avoiding the release of CO_2 that would have otherwise happened if the project was not undertaken. The risk associated with this style of the project is that their actual CO_2 avoidance may be different than the stated amount in the long run. This could be due to the reversal of the project/action or the assumptions made in calculating the

avoidance becoming invalid over time. Ideally, we would opt for engineered atmospheric CO_2 removal with permanent storage. However, balancing the desire for long-term permanence and the available budget was necessary.

The vast majority (approximately 80%) of the CO_2 emissions associated with FOA are due to flights. Until the cost of engineered atmospheric CO_2 removal and storage or carbon-neutral aviation fuels is reduced, the only way to negate flight emissions is to hold fully virtual conferences. Based on feedback received at FOA-14, the desire for a fully virtual conference is very low. Furthermore, although 90% of post-FOA-14 survey respondents were concerned about the environmental impacts of FOA to some degree, only 5% of respondents were willing to pay more than $500 for compensation efforts, which would ultimately be required for the ideal case.

The CO_2 offsetting and removal landscape has evolved greatly over the last 4 years and will continue similarly to FOA-15 and beyond. Apropos of that, CO_2 emissions compensation, whether offsets or removals, are a moving target for the IAS and wider society in general. Therefore, the Working Group will continue to find the balance between the interests of the IAS membership, FOA, and the best practices at the time. Our current position is that some action (albeit unideal) is better than no attempt to remedy our climate impacts, but we should also be aware of its limitations.

These efforts for FOA-14 have set the bar, and we thank the conference chairs (Profs. Chris Jones, Krista Walton, and Ryan Lively) for their enthusiasm and support of this initiative. Likewise, we thank the chairs of FOA-15 (Profs. José Paulo Mota, and Alexandre Ferreira) for engaging with us and agreeing to make appropriate plans to reduce the CO_2 intensity of FOA-15.

The Working Group will continue to meet to discuss our plans for FOA-15 in conjunction with the organizers and to prepare a new set of site-selection guidelines for future FOA that prioritize CO_2 emissions reduction. These new guidelines will be published before the opening of applications to host FOA-16

(early 2024).

We welcome any comments, feedback, or suggestions to benoit.coasne@univ-grenoble-alpes.fr

Best regards,
Benoit Coasne

On behalf of the IAS Working Group on Carbon Neutrality
https://www.int-ads-soc.org/carbonfree-foa/

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