

Topical Discussion Meeting report

A Topical Discussion Meeting aims at active participation or interaction between the participants. The participants work and discuss on a predefined theme or problem heading towards an outcome or target. A working meeting is a 1h 15min informal afternoon meeting with NO abstract submission form and therefore NO poster contributions.

Name of the meeting: Reducing our carbon footprint in space weather and space climate activities: approaches and lessons learnt

Convener/s: Rico Behlke, Véronique Delouille (organised by the by [E-SWAN WG8: Sustainability](#))

Secretary: Thierry Dudok de Wit

Date – Time – Room: Thursday 23rd November 2023 - 11:45-12:45 - Cassiopée Room

Nr of participants: approx. 30

Form of TDM: in person, with no online attendance

Objective of the TDM

The goal of this TDM was to complement the plenary session P01 on « Pathways to sustainable space weather and space climate activities » by providing a forum for open discussion on ways to reduce our carbon footprint. It was organised by [E-SWAN WG8: Sustainability](#). The TDM was then meant to allow people to share their experiences and the solutions they have been able to implement in their professional activities to reduce their carbon footprint and leave a sustainable future for the next generations.

Discussion highlights

This TDM on sustainability began with a short debriefing of the one-day sustainability workshop held on 19 November. Participants were invited to write down their questions on sheets of paper. The questions were collected by the facilitators and then discussed with the audience. The questions put forward by the participants were related to :

1. **The footprint of the model runs:** Who is considering the eCO₂ of their model runs, whether Physics-based or based on Machine learning (training_and_running)
2. **Financial issue:** There is a TDM happening right now in another room on the topic of how we can get more sustained funding for space weather. Are really able to advance sustainability goals without all those people in the room here?
3. **Collaboration versus competition:** For sustainability, it would be better to collaborate rather than to compete (e.g. for mission design, launch of nano satellite, etc,...), but the grant system makes that competition is inevitable (if you want to get funded). How can we change that?
4. **Comprehensive assessment of CO₂ footprint:** We discussed the carbon budget tool from labos1point5 (<https://apps.labos1point5.org/ges-1point5>), which allows you to enter figures such as energy consumption, number of journeys, etc. and calculates your carbon footprint.
5. **Organization of conferences:** There was a lot of discussion about how we can make conferences greener. Some of the questions raised were: How can we encourage people to travel with lower carbon footprint to conferences? How can we convince other scientists of

the urgency of the climate crisis? Who should be prioritised for travel? Young scientists need to develop their network. Extensive travel is probably less necessary for senior scientists.

Finally, the estimated carbon footprint of the ESWW was presented, showing what contribution was coming from travel.

Main conclusion of the meeting

For this first TDM on sustainability, our objective was to collect questions and determine what issues participants wanted us to focus on. Two main streams of concern emerged: the need to better assess the carbon footprint of everyday research (CO₂ of the model run, CO₂ footprint of the research institute, etc.), and the need to rethink conferences to be more environmentally friendly. The E-SWAN group will continue to work on these and other issues.