FWF Austrian Science Fund

Orientation Guide for Preparing an Environmental Sustainability Statement

When applying for funding, applicants in selected programs need to provide information on sustainability-relevant aspects in the implementation of the proposed research. This is required in the following programs: Principal Investigator Projects, Clinical Research, and Principal Investigator Projects International (if the FWF is responsible for the review process). In particular, the aim is to consider how resource-saving and emission-reducing measures can be integrated into the research process. These measures should not, however, limit the generation of knowledge: Scientific excellence is still the decisive criterion in the assessment of proposals. For details on the funding of the research project, please consult the Application Guidelines for Principal Investigator Projects or Clinical Research or see the FAQ. The sustainability statement is part of the FWF Sustainability Strategy.

The questions and examples listed here are either generally applicable (section 1) or discipline-specific (section 2 to section 4) and are intended to help applicants prepare their sustainability statements. They are not meant to be prescriptive, but to encourage reflection on how aspects of environmental sustainability[1] can be taken into account in the research process in various disciplines.

1   Travel

- Is travel really necessary or could similar results be obtained using hybrid or digital formats?
- Can air travel be replaced by train or bus travel during project implementation, or trips combined with other events or destinations? Are direct flights an option (even if they are more expensive)?
- Can the locations and times for meetings be chosen to allow as many participants as possible to travel by train?
- As a rule of thumb: Travel to destinations that are less than 1,000 km away or can be reached in less than 1.5 hours by plane should be primarily by train or bus. If your research institution has guidelines on sustainable travel, the sustainability statement can also link to the relevant website or guidelines.

Literature

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[1]   This includes the responsible use of natural resources, the conservation of biodiversity, limiting emissions and waste, and protecting ecological systems to safeguard human and animal life in the long term.

- [Successful research, less flying - FlyingLess](#): Offers a "Travel Decision Tool" to make travel decisions based on environmental impact and travel time criteria, as well as a greenhouse gas monitoring tool
- Wenger, Ariane et al. (2025): Conference air travel's relevance and ways to reduce it - ScienceDirect, [DOI: 10.1016/j.trd.2024.104488](#)
- ALLEA (2022) Towards Climate Sustainability of the Academic System in Europe and Beyond, [DOI: 10.26356/climate-sust-acad](#)

2 Experiments & field work

2.1 General information

- In your opinion, what methodological strategies could be used to reduce resource consumption and sustainably mitigate ecological damage?
- Are the design and scope of the experiment and the field work efficient with regard to the research question or can they be further optimized or (partially) replaced by a simulation?
- Taking into account the novelty of the planned research, can existing experimental data be used to improve work processes in terms of sustainability?
- Can new measurements and experiments be reduced or avoided by fully utilizing and/or (as far as possible) making available and/or reusing previously collected data? See also the FWF's [Open-Access Policy for Research Data](#).

Examples:

- Use of existing samples and data to reduce transportation and travel
- Cooperation with trained staff on location instead of traveling yourself
- Bundling research stays and field work from various projects

2.2 Laboratory and consumables

- Does your laboratory/institute have a sustainability certification program?
- Is it possible to reduce or reuse consumables or use recycled materials? Is it possible to use glass or bioplastic instead of single-use plastics?
- Can materials be sourced from more environmentally friendly suppliers or from regional production?
- Can the cost of storing consumables be reduced by purchasing smaller quantities (especially for refrigerated storage)?

Examples:

- The initiatives [Green Labs Austria](#) and [Sustainable European Labs](#) offer materials on their website to make laboratory work more sustainable.

- Frameworks for certification as sustainable laboratories (e.g. LEAF, MyGreenLab) can help to reduce the environmental impact of laboratory research.

2.3   Research materials

- Can existing research materials be used?
- Is it possible to reduce or reuse research materials or make them available to other research groups?
- Can storage conditions be designed to conserve resources?

Examples:
- Sharing the use of existing equipment or materials and checking materials for reusability (e.g., laboratory equipment or sample containers)
- Replacing environmentally harmful and climate-damaging substances in laboratory and field research with more climate and environmentally friendly compounds such as krypton/helium mixtures instead of SF6 tracers
- Check whether smaller quantities of samples can be used if environmentally harmful chemicals are used (e.g., smaller quantities of soil samples); establish protocols to reduce contaminated water in laboratory research (e.g., water consumption when washing roots)
- Freezers make a significant contribution to energy consumption and projects' CO_2 emissions: Check whether more efficient use of -80° C freezers is possible (e.g., by raising the temperature to -70° C); sharing (avoiding empty freezers), and maintaining inventory lists (to minimize searching time in open freezers). See also Freezer Challenge.

3   Computing and AI use

- Can simulations be reduced with hypothesis-driven, efficient planning?
- Can the computing power for modelling, simulation, evaluation, and visualization be reduced, e.g., by using more resource-efficient methods or selecting a lower model depth with comparable result quality?
- Is simulation data already available that can be used to avoid duplication of work and unnecessary computing load?
- Can collected simulation data be fully utilized, reused, or (as far as possible) made accessible to reduce emissions?
- Can the environmental impact (e.g., CO_2 emissions) of particularly computationally intensive simulations be tracked and made transparent?
- AI systems should only be used if scientifically necessary and plausibly justified, as the associated high computing resources cause a considerable carbon footprint.

Examples:
- Use benchmarks to select the most efficient software package available

- Ensure high utilization and efficient operation of decentralized computer resources
- Track resource consumption (e.g., by monitoring CPU/GPU hours, electricity costs, or estimated CO_2 emissions)
- Take advantage of opportunities for a more efficient use of resources, such as HPC use training, green IT strategies, or performance engineering
- Consider sustainability certifications for computing laboratories (e.g., GreenDiSC)

Literature

Lannelongue et al. (2021) Ten simple rules to make your computing more environmentally friendly, DOI: 10.1371/journal.pcbi.1009324

Grealey et al. (2022) The carbon footprint of bioinformatics. Molecular Biology and Evolution 39/3, DOI: 10.1093/molbev/msac034

Lannelongue & Inoue (2023): Carbon footprint estimation for computational research, DOI: 10.1038/s43586-023-00202-5

4 Project-specific equipment usage, repair, and procurement

- Is a new purchase necessary or can existing equipment be used or repaired?
- Is the equipment you plan to purchase demonstrably more energy-efficient than existing alternatives?
- Is information on environmentally friendly and resource-efficient production and operation available for the equipment you plan to purchase?
- How can the service life of the equipment be extended through maintenance and efficient utilization?
- Have provisions been made to recycle old equipment?
- If your research institution has guidelines on sustainable procurement, the sustainability statement can also link to the relevant website or guidelines.

Example:
- Shared use of equipment, for example through centralized and coordinated allocation of usage time, promotes efficient and resource-saving use.