Deutsche
Forschungsgemeinschaft

Anchoring sustainability considerations in DFG funding activities

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Deutsche Forschungsgemeinschaft
Kennedyallee 40 · 53175 Bonn · Postanschrift: 53170 Bonn
Telefon: + 49 228 885-1 · Telefax: + 49 228 885-2777 · postmaster@dfg.de · www.dfg.de

Foreword

The urgent need for action in the area of sustainability applies equally to research as a sub-sector of society. An awareness of this is already widespread among most actors in the research system. However, the profound, ongoing shift towards resource conservation and emission-reducing practices in research requires broad-based and far-reaching support. As part of its responsibility towards research funding and helping to shape overall conditions in the research system, the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) seeks to anchor a framework for sustainability in its funding activities.

The DFG Sustainability Commission, established by the Executive Committee of the DFG in November 2021, drew up recommendations to this effect. At its meeting on 24 March 2023, these were unanimously adopted by the DFG Senate after considerable deliberation. The Senate affirmed that the Commission's suggestion to introduce mandatory considerations on environmental sustainalility at the proposal level has considerable potential to stimulate and utilise the creativity of the individuals and organisations involved. In doing so, the process of change will be driven from within the research system itself. It was emphasised that considerations of climate protection, environmental compatibility and resource conservation at the project level should not be an obstacle to scientific knowledge advancement. Addressing concerns expressed in the research community regarding potentially excessive requirements in this regard, the Senate proposed that applicants' plans for sustainability in project proposals should be concise; rather than being subject to a discipline-specific assessment as part of the evaluation process, however, this aspect of the proposal will undergo a plausibility check.

The Senate agreed that an accompanying communication concept, consisting of an interdisciplinary catalogue of guiding questions (sustainability guide) combined with an online collection of subject-specific examples, would provide valuable orientation. The catalogue and examples are in the process of being created and further developed in collaboration with the research community.

From the beginning of 2024 onwards, the updates should be successively incorporated in the proposal templates and guidelines; in addition the catalogue of guiding questions and website should be published then. The experience gained by assessing sustainability at the proposal level is then to be reported to the Senate after a period of three years.

At its meeting on 27 June 2023, the Joint Committee of the DFG also unanimously approved the recommendations and the catalogue of guiding questions, highlighting the potential of the DFG initiative to produce more sustainable processes throughout the entire research system. Here it was emphasised that applicants' statements on sustainability aspects in the implementation of research projects need to be considered in the context of existing conditions on site, for which the respective institution is responsible. In terms of concrete implementation of sustainability measures in research activity, it must be ensured that the expectations regarding contributions to climate protection and environmental compatibility to be made by individual researchers on the one hand, and by institutions on the other, are balanced.

Furthermore, close dialogue between actors in the research system will be important, and DFG statutory bodies and other actors involved will need to be regularly updated on the experience with regard to the newly introduced considerations on sustainability at the proposal level. The Joint Committee also stated that it would be vital to ensure that details of this experience were

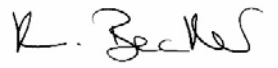
made publicly accessible, especially subject-specific examples. It is important for people to learn from each other in this area, given that it is new to everyone involved, with a view to ensuring an overarching and creative competition of ideas.

The DFG General Assembly acknowledged the recommendations and the catalogue of guiding questions on 28 June 2023.

The almost two-year discussion and development process was driven by a positive, research-led spirit and involved a large number of experts as well as members of DFG statutory bodies (review boards, Senate Committees, the Senate, the Joint Committee and the Executive Committee). The result is a well-balanced package of measures that addresses the breadth of the research community and stimulates the creativity of researchers with regard to sustainable research processes, best-practice models and subject-specific standards.

I would like to express my sincere thanks to all those who have contributed to this process of anchoring considerations on sustainability in DFG funding activities.

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Professor Dr. Katja Becker
President of the DFG

Members of the DFG Sustainability Commission

Professor Dr Katja Becker, President of the DFG, Chair of the Sustainability Commission

Professor Dr Marietta Auer, Max Planck Institute for Legal History and Legal Theory, Frankfurt am Main; Vice President of the DFG

Professor Dr Axel Brakhage, Friedrich Schiller University of Jena and Leibniz Institute of Natural Product Research and Infection Biology (Leibniz-HKI); Vice President of the DFG

Professor Dr Karin Jacobs, Saarland University, Saarbrücken; Vice President of the DFG

Professor Dr Hans Hasse, University of Kaiserslautern-Landau (RPTU); Vice President of the DFG

Professor Dr Kerstin Schill, University of Bremen and Hanse-Wissenschaftskolleg (Institute for Advanced Studies), Delmenhorst; Vice President of the DFG

Professor Dr-Ing Christos G. Aneziris, Technische Universität Bergakademie Freiberg

Professor Dr Astrid Eichhorn, University of Southern Denmark, Odense M (Denmark)

Professor Dr Anita Engels, Universität Hamburg

Professor Dr Markus Fischer, University of Bern (Switzerland)

Professor Dr Klaus Ferdinand Gärditz, University of Bonn

Professor Dr Armin Grunwald, Karlsruhe Institute of Technology (KIT)

Professor Dr Daniela Jacob, Helmholtz-Zentrum hereon GmbH, Climate Service Center Germany (GERICS), Hamburg

Professor Dr Tina Kasper, Paderborn University

Professor Dr Sebastian Lehnhoff, University of Oldenburg

Professor Dr Christoph Möllers, Humboldt-Universität zu Berlin

Professor Dr Dr h.c. Stefan Schaltegger, Leuphana University Lüneburg

Professor Dr Michael Schulz, University of Bremen, MARUM - Center for Marine Environmental Sciences, Bremen

Professor Dr Elke Seefried, RWTH Aachen University

Professor Dr Silja Vöneky, University of Freiburg

Professor Dr Andreas Weber, Heinrich Heine University Düsseldorf

I Background and objective of the Commission

Climate protection, environmental compatibility and resource conservation are existential requirements that extend into all sectors of society, including research. Together with the other members of the Alliance of Science Organisations in Germany, the DFG acknowledges its responsibility[1/2/3] to promote better sustainability in research processes, both in its funding activities and its involvement in shaping the framework conditions for research.

For a long time now, the DFG has funded numerous research projects that address the full range of sustainability issues. Though their relevance in terms of climate protection, environmental compatibility and resource conservation is never a foregone conclusion, basic research taken as a whole forms a repository of knowledge that makes it possible to address issues in the field of sustainability and to make informed decisions. At the institutional level, the DFG supported the networking of researchers working on sustainability in Germany in a wide range of research areas by establishing and funding the German Committee for Sustainability Research (DKN). In addition, several DFG Senate Commissions address[4] issues of sustainability from various disciplinary perspectives.

In November 2021, the Executive Committee of the DFG established the Commission on Sustainability with the goal of developing an appropriate, interdisciplinary and legally secure approach to the fundamental notion of sustainability across all DFG funding activities. This followed intensive work on the subject by the Senate Commission on Earth System Research, the DFG Executive Committee and the DFG Senate in the course of the preceding year.

The focus of the DFG Sustainability Commission is to systematically integrate sustainability considerations and raise awareness of the potential impact of research processes on the environment and natural resources. The Commission's brief is not to encourage contributions to sustainability research.

The 20-member Commission is made up of representatives of DFG statutory bodies from the various scientific disciplines, experts in sustainability research, experts in constitutional law, and ethics specialists.

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[1] Press release 25 September 2020.

[2] Press release – CO_2 compensation.

[3] Statement on the contribution to climate neutrality 13 September 2021.

[4] Senate Commission on Earth System Research, Permanent Senate Commission on Fundamental Issues of Biological Diversity and Permanent Senate Commission on Animal Protection and Experimentation.

II Points of departure and framework conditions

A number of scientific concepts of sustainability are currently being discussed, each of which involves varying emphases and breadth in terms of the environmental, social and economic dimensions involved. For example, the 17 Sustainable Development Goals (SDGs) formulated by the United Nations go far beyond climate and environmental protection, as they also define a number of social and economic aspects as being relevant to sustainability. In anchoring the considerations on sustainability in DFG funding activities, the Commission is initially focusing on environmental sustainability. On the one hand, this focus is derived from the fact that freedom of research (Article 5 (3) of the *Grundgesetz* [Basic Law]), as an unconditional right of freedom, can only be restricted by conflicting constitutional law, which in this case can be the state aim of protecting natural resources (Article 20a of the *Grundgesetz*). On the other hand, it does not seem feasible to take into account the entire spectrum of sustainability in all its complexity in the DFG's funding process at this point in time. Nonetheless, interdependencies with some sustainability aspects should explicitly be taken into account. With regard to the social dimension of sustainability and research, the DFG is particularly committed to gender equality and the promotion of diversity – in other words, fair participation. This is similarly called for in the United Nations Sustainable Development Goals.

In the research process there are various levels of responsibility for taking sustainability aspects into account, in the sense of avoiding emissions (not only of greenhouse gases) and conserving resources. Each level has its own specific framework for action. First there is the level of the individual researcher or applicant institution in connection with the research project, and second the level of those involved in research assessment and funding decisions. Third, at the institutional level, research institutions establish the framework conditions for research activity because they are responsible for implementing legal requirements and operating central research infrastructures. Fourth, regulatory competence lies with the federal government and the federal states.

The objective is to ensure close coordination between actors at the various levels of responsibility in the research system so as to cluster efforts to make research activity more environmentally friendly and tap into synergies. With regard to the institutional level of responsibility, the obvious option is to cooperate with the German Rectors' Conference (HRK), since it is also developing approaches to the transformation of the governance and structures of higher education institutions in the form of a sustainability audit. Here it will be particularly important for the sustainability audit to make concrete reference to research activities and research infrastructures to ensure that DFG and HRK activities are mutually beneficial.

As a research funding institution, the DFG primarily targets its members and funding recipients, higher education institutions and research institutions, as well as individual researchers and the reviewers and statutory body members who carry out the evaluation process. In view of this, the Commission recommends the following approach to developing standards and structures in the context of DFG research funding.

III Anchoring considerations on environmental sustainability in DFG funding activities

In line with its role as a driving force in the German research system, the DFG should strengthen the framework conditions in the research system regarding the importance of and need for resource-saving and environmentally friendly research processes.

In the spirit of the freedom of research (Article 5 (3) of the *Grundgesetz*), it is essential and in line with the DFG's fundamental principles to ensure that research projects are not limited in subject matter and that freedom in the choice of methods and materials is maintained. Consideration of sustainability aspects should not lead to a reduction in the quality of the research.

Taking this into account, the Commission suggests anchoring considerations on sustainability at the proposal level. By directly addressing applicants (researchers and institutions) and indirectly also project staff, it will be possible to achieve broad inclusion of the research communities. In addition, this strengthens the individuals' and institutional applicants' own responsibility in achieving resource-saving and low-emission research practices. The wide range of addressees also opens up a large space in which subject-specific solutions can be developed and standards can be established. As an operation method, the Commission suggests that all DFG funding programmes require applicants to engage in obligatory considerations on environmentally compatible and resource-conserving procedures in the research process; this is then to be included as supplementary information with the proposal.

The term "consideration" here means that applicants are to provide a concise and comprehensible presentation in their proposal of the project planning deliberations they have made with regard to the sustainability aspects of their research process, such as reduction potential and/or alternative methods. In this way, applicants document their engagement with the issue and, if necessary, can also point out any unresolved questions in terms of achieving sustainable research processes or having to tackle conflicting objectives. The goal is to stimulate creativity and diversity of ideas among applicants and those involved in the evaluation process. In the course of processing, reviewing and assessing proposals, it should be possible to ask questions about the relevant statements made by applicants in individual cases. Rather than being subjected to a discipline-specific assessment, these statements can then be taken into account in each proposal's evaluation process by way of a plausibility check. This might be the case when an extremely high level of emissions or high resource consumption is indicated, for example, or when the applicant's explanations are not sufficiently plausible.

On this basis, the DFG will allocate limited financial resources in an appropriate manner and also pursue its statutory purposes in the light of the constitution (especially Article 5 (3) and Article 20a of the *Grundgesetz*), particularly by providing research funding and by helping to shape framework conditions conducive to research. It is already possible to apply for increased funding where more resource-efficient and emission-reducing approaches are more cost-intensive.

The idea of integrating these considerations in a bottom-up way is to help support and promote a shift towards resource-conserving and emission-reducing research practices. This process must be flexible to allow for adaptability in research. All in all, the aim is to adopt an approach that avoids excessive regulation and keeps the administrative burden to the parties involved within limits.

By providing an interdisciplinary catalogue of guiding questions and including exemplary points of departure and questions – neither exhaustive nor requiring a full set of responses on the part of applicants – the aim is to invite applicants to engage in considerations and to support them, which to some extent will involve differentiated weighing up of ambivalent approaches. Such categories might be: travel, methodology and design, computing, and equipment procurement/operation.

IV DFG support in implementation and raising awareness

For many of those involved in the DFG's funding programmes, especially applicants, reviewers and members of evaluation and decision-making bodies, anchoring sustainability considerations in DFG funding activities results in adjustments, additional considerations and possibly changes to work processes; at the same time, this is an opportunity to make an active contribution to achieving climate protection, environmental compatibility and resource conservation. The intention here is to start a future-oriented process of change and pursue it on a step-by-step basis, allowing sufficient flexibility for ongoing improvement. As a funding organisation, the DFG should actively promote approaches to environment-friendly, resource-conserving research practices as well as encouraging actors in their efforts and stimulating knowledge sharing in this regard.

In order to support applicants in their respective considerations in the conceptual phase of projects, it is helpful for the DFG to initiate and administer an online collection of subject-specific examples of sustainability aspects drawn from research practice and also best-practice models; links to external websites and other references will also be useful.

In many cases, additional research will be needed to develop alternative, more sustainable approaches to the research process and to understand how these impact research content and quality. Researchers in particular will be invited to address these questions from a scientific perspective. The DFG could potentially support this through its funding activities by issuing specific, strategic calls for proposals. It also seems productive to build better framework conditions for using funding to carry out repairs and updates of major scientific instrumentation.

Together with other actors in the German research system, the DFG should be actively involved in shaping and communicating this complex transformation process of society as a whole, in the interest of future generations**.**