

DBU Funding Guidelines

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Preamble

The German Federal Environmental Foundation (Deutsche Bundesstiftung Umwelt, DBU) was instituted by the federal government in 1990 as a foundation under civil law. The task of the foundation is to promote projects for the protection of the environment with special consideration of small- and medium-sized enterprises. Upon initiation of DBU funding activity in 1991, the first "Guidelines for Support by the German Federal Environmental Foundation" were published. New editions followed in 1998 and 2004.

Based on a comprehensive evaluation, fundamentally new funding guidelines are now being presented. These address the current challenges of environmental protection while taking into account social transformation on the basis of the principles formulated in the Errichtungsgesetz (establishment act) and the foundation statutes. The DBU funding is based on interdisciplinary funding topics that are continuously adapted to the changing requirements of environmental protection. With the open topic funding, innovative ideas of project partners can be taken up and innovative environmental protection projects with special significance can be promoted outside the defined funding topics.

The DBU promotes innovative, exemplary and solution-oriented projects to protect the environment in accordance with its mission statement. Sustainable development in its ecological, economic, social and cultural aspects as well as small and medium-sized enterprises in their dynamic diversity are considered. In this sense, environmental protection can also be understood as health protection.

Funded projects should achieve sustainable effects in practice, give impulses and develop a multiplier effect. The DBU supports the communication and dissemination of the project results and integrates them into the discussion processes on the central challenges of environmental protection.

It is the objective of the DBU to contribute to the solution of current environmental problems, in particular, which result from unsustainable economic practices and ways of life in our society. The DBU sees the crucial challenges above all in climate change, loss of biodiversity, unsustainable consumption of resources, and harmful emissions. The funding topics thereby address both current scientific findings about planetary limits, and also the UN Sustainable Development Goals. With its funding activities the DBU simultaneously would like to make a contribution, in particular, to the implementation of the Federal Government's sustainability and biodiversity strategies. Education and the active participation of children and young people are of principal importance in achieving ambitious sustainability goals. The DBU faces up to this central task as well as to the challenges of increasing urbanization.

Complex environmental problems can only be solved by interdisciplinary, systemic and socially inclusive approaches. The DBU funding wants to set accents here and integrates its statutory tasks consequently in its funding regime. Following objectives receive equal consideration in the funding topics: The research, development and use of new environmentally friendly technologies and products compatible with precautionary integrated environmental protection; the preservation and restoral of the nation's natural heritage; and the encouragement of environmental consciousness and related behavior in the population through information and environmental measures.

The digitization of production, business and information processes is proceeding rapidly and offers many approaches to the solution of environmental problems. Using these approaches consequently in all funding topics is an important DBU objective.

A. Open topic funding

In addition to the specifically defined funding topics, the DBU also supports other projects that make a significant contribution to solving environmental problems.

Eligible projects must comply with the statutes of the DBU and make a significant contribution to environmental protection. Support is given to professionally sound project ideas whose successful implementation has not yet been sufficiently secured, as well as to projects aimed at disseminating exemplary and innovative solutions.

Eligible for funding are in particular:

- research, development and innovation in environmentally and health-friendly processes and products;
- the exchange of knowledge about the environment between science, industry and other public or private bodies, as well as projects to transfer knowledge about the environment;
- the preservation and restoration of the national natural heritage.

B. Specific funding topics

1. Instruments and competencies for sustainability assessment and strengthening sustainability awareness and action

The sustainability assessment of processes, products and services is a major challenge. It involves developing and utilizing decision-making tools for the evaluation of sustainability, on the basis on indicators. The dissemination of corresponding skills and systemic relationships, and the encouragement of awareness and related action within the framework of education about sustainable development, are conditions for the formation of a sustainable society. This involves, also, considering issues of guiding values and basic ethical attitudes. This necessitates the development of new methods and instruments of communication, learning, dialogue and participation, conceived especially for children and young people.

Eligible for funding are in particular:

- measures for the identification and development of practical sustainability indicators;
- development, optimization of, and research on practically applicable methods and concepts of sustainability assessment;
- measures for the development and reinforcement of sustainability competencies, in particular for multipliers;
- new methods and approaches for communicating systemic sustainability contexts and goals, especially in schools, universities, and extracurricular educational institutions;
- new methodical means of developing and strengthening sustainability awareness, especially in children and young people;
- developing and optimizing transformative methods of reinforcing sustainability practice and participation (i.e. citizen science, field tests);
- developing and testing of digital methods and techniques in sustainability education.

2. Sustainable nutrition and sustainable handling of food

Sustainable nutrition is based on resource-conserving and animal-friendly processes in the production, processing and preparation of food as well as increased consumers awareness of the environmental and climate impact of food selection. Plant production and livestock breeding are still associated with negative impacts on, above all, soil, biodiversity, water and air quality. The DBU funding aims to reduce the environmental impacts at the various stages of the food value chain from primary agricultural production to processing and trade.

Another urgent problem are avoidable food losses, which occur along the whole value chain of food and during consumption to a considerable extent. All involved parties, but especially consumers have a major responsibility in reducing these losses. Better knowledge of the sustainable production, manufacturing, marketing, storage and preparation of food is needed. Therefore it is important to strengthen the competencies of all involved parties with regard to sustainable nutrition and to create alternative behaviors. Product- and process-related information on sustainability, which is made accessible to consumers in a comprehensible form, can make an important contribution to this.

Eligible for funding are in particular:

- resource-conserving and animal-friendly concepts for environmentally compatible food production;
- energy-saving and loss-reducing provisioning processes along the value chain for food (production, manufacturing, marketing, processing, storage, transport);
- projects to prevent food loss and waste in food retailing and for private and bulk consumers (purchasing, interpretation of shelf life information, storage and processing);
- approaches for process- and product-specific sustainability assessments of food products, and to passing on sustainability information along the value chain to the consumer;
- imparting decision-making and action competences in nutrition and in sustainable handling of food, particularly with regard to children and young people;
- research, development and practical introduction of processes and products for environmentally compatible plant protection, especially in organic farming.

3. Development, design, and acceptance of environmentally friendly consumer goods

The development, design, and acceptance of environmentally friendly products are essential instruments for reducing resource consumption and negative environmental impacts. Of particular interest here are durable (i.e. with a longer use phase) consumer goods such as furniture, electronic appliances, household appliances, textiles, vehicles and toys. Environmental pollution occurs during production as well as during and after usage. The aim of the funding is to make consumer goods more environmentally friendly, to increase their acceptance and to support the societal change in values towards such products.

Eligible for funding are in particular:

- elaboration and testing of new methodological product development concepts;
- development of consumer goods and their components with low resource consumption taking into account the entire life cycle (e.g. minimization of resources in the use phase, minimization of materials, longevity, ease of maintenance and repair, recyclability);
- incentives for and testing of new business models that increase the value of consumer goods and/or reduce their negative environmental impacts, in particular by improving their recyclability within closed loops and increasing their use intensity;
- innovative measures for the digitization of production processes (e.g. in the areas of "internet of things" or "decentralized production"), which lead to a sustainable organization of material and energy flows;
- innovative concepts for the further utilization and reuse of used materials;
- awareness raising, measures for better acceptance and better education in business and society (especially among children and young people) for the technical realization and use of sustainable consumer goods;
- development of valid decision-making aids for the purchase and use of environmentally friendly consumer goods.

4. Climate- and resource-saving construction

In order to achieve the goal of energy and resource efficient construction for a climate-neutral and health-friendly building stock by 2050, diverse and connected strategies are required in the construction industry. The potential of energy-optimized building stock and environmentally compatible urban densification should be exploited in an exemplary manner. In new construction, as a primary innovation driver, sustainable concepts and technological approaches are to be developed and tested. Since the increased use of wood as a renewable resource in construction can represent a lever for improving resource efficiency, the development of large building volumes for timber construction should also be considered.

The funding focuses, in particular, on holistic optimization within an integral planning phase and a target group-specific dissemination of results. The various aspects of sustainable building are to be included, implemented, evaluated, documented as comprehensively as possible in model projects with high design quality and communicated with innovative educational measures.

Eligible for funding are in particular:

- exemplary concept development, innovative implementation as well as evaluation and documentation of energy- and resource-optimized, healthy old and new buildings, taking into account the entire life cycle;
- exemplary development and implementation i.e. of concepts for the improvement of indoor air quality, for passive air conditioning, "plus energy" and CO₂-neutral buildings, for the minimization of gray energy, emissions and immissions, for sufficiency and its evaluation and documentation;
- further development, exemplary implementation and documentation of timber construction in larger building volumes;
- optimization of concepts, systems and constructions of timber work, as well as raising the acceptance for timber construction;
- optimization of closed cycles and recycling in constructions and building materials/products as well as developments in lightweight construction to improve resource efficiency;
- further development of planning methods, process quality and instruments, also by using digitization as an optimization strategy for sustainable and health-friendly planning, construction and operation of buildings and their target group-specific dissemination;
- innovative methods and concepts for education, communication, participation and qualification, in particular of public and private builders, planning agencies, approving authorities, construction-related professions, and users;
- measures to transfer knowledge about ecological construction to children, young people and trainees;
- development and testing of new participation formats in the planning and implementation of sustainable public construction projects (e.g. school buildings, sports and leisure facilities, etc.).

5. Energy- and resource-saving district development and renewal

In the area of district development and renewal, the DBU supports measures to reduce resource consumption, to conserve natural resources, to protect the climate and to adapt to climate change. The DBU considers these aspects to be more efficient if they are located and cross-linked reasonably within the district and also consider the existing physical-technical, natural-spatial, social, economic and architectural-cultural conditions and requirements. The focus on the entire district enables a spatially consistent development process as well as the utilization of synergies and the development of effective, well-integrated overall solutions which avoid counterproductive stand-alone solutions.

Approaches to renew district energy systems with high-efficiency combined heat and power systems, local heat networks, and structurally integrated systems for the generation, storage and use of renewable energies should all be developed and tested, as should the resource saving modernization of grid based infrastructures and their integration in a coherent overall concept which also includes urban green spaces (green infrastructure). The population must be involved in this process.

Eligible for funding are in particular:

- exemplary development, monitoring and documentation of the implementation of innovative concepts for energy- and resource-efficient district development and renewal which take into account social impacts;
- concepts for the resource-saving reconstruction of the supply and disposal infrastructure using mutual synergies of different infrastructure areas;
- documentation and evaluation of correspondingly implemented concepts and measures;
- concepts and strategies for the further development of the administrative, institutional and social requirements for the development of innovative concepts for energy-efficient and resource-saving district renewal;
- further development of planning methods, process quality and instruments, also by using digitization, for an energy- and resource-saving district development;
- new approaches for the participation of the district population in energy- and resource-saving district development;
- innovative methods and concepts for education and training, communication and qualification.

6. Renewable energy, energy saving and efficiency

The Energy Transition is a major project for the whole society with the aim of completing the transition from the use of fossil and nuclear energy sources to a sustainable, climate-neutral energy supply and use. The climate protection targets promised by Germany can only be achieved with a mix of measures. These include:

- expansion of renewable energies including the necessary distribution and storage,
- increasing energy efficiency and implementing energy-saving measures,
- optimization of the overall energy system in terms of the increasing integration of fluctuating renewable energy, the flexibilisation of demand and the coupling of the consumption sectors electricity, heat and mobility,
- the consideration of environmental and social compatibility as well as aspects of participation and acceptance.

This requires novel, exemplary ideas and interdisciplinary approaches from applied research, practice-oriented technology development and testing as well as target group-specific environmental communication and education, taking into account digitization in all areas.

To this end, the DBU supports projects with a special focus on small and medium-sized enterprises (SMEs).

Eligible for funding are in particular:

- development, optimization and exemplary application of renewable energies. In the case of projects for the energetic use of biomass, funding focuses on the optimization of existing plants and the use of waste and residual materials;
- development, optimization and exemplary application of innovative technologies for efficient energy conversion and energy storage (e.g. for heat and cold generation, Power to X);
- development, optimization and exemplary adaptation of operational processes due to new energy carriers (e.g. sector coupling) and fluctuating energy supply (e.g. through demand side management). This also includes new operator and business models for the inter-company coupling of energy flows (e.g. waste heat);
- development, optimization and exemplary application of innovative solutions to reduce the energy consumption of manufacturing and machining processes in industry, trade, commerce and services. This also includes supply and cross-sectional technologies (e.g. steam, pressure, etc.) as well as operational logistics and transport processes, taking into account possible rebound effects;
- development, optimization and exemplary application of comprehensive and system-serviceable aspects of data transmission (e.g. for decentralized energy supply, Smart Grid);
- further development of energy-saving and low-emission drive systems in mobile applications;
- development, optimization and testing of new approaches for information and knowledge transfer, qualification as well as education, further education and training with special consideration of children, young people, trainees and students. This also includes new approaches, methods and formats in the areas of participation, promotion of acceptance and conflict resolution;
- development of new concepts and technical solutions for the environmentally friendly and safe use of renewable energies compatible with health and nature conservation.

7. Resource efficiency through innovative production processes, materials and surface technologies

The reduction of raw material- and material consumption as well as the minimization of harmful emissions are central challenges to achieve the goal of a sustainable economy. Innovative production processes, materials and surface technologies are becoming more and more important for increasing the efficiency of products. Funding will be provided for innovative approaches to reducing resource consumption over the entire life cycle.

Project objectives can be production-integrated measures, the use of new materials and surface functionalities and further development of the circular economy, for example by taking into account more efficient traceability in product development or new separation processes for composite materials. Resource efficiency should also be increasingly incorporated into education for the promotion of sustainability knowledge and skills as well as of qualified young professionals.

It is about innovative resource consumption reduction through pre-competitive development projects in small and medium-sized enterprises and about practical projects in education and research with a holistic view and exemplary approaches.

Eligible for funding are in particular:

- new processes and production methods that increase resource efficiency in raw material-intensive processes and applications throughout the entire value chain;
- material and surface technology projects to significantly reduce the consumption of resources;
- the innovative closure of material cycles at the highest possible level of added value;
- developments to avoid or substitute harmful substances and their emission, respectively;
- projects that replace particularly scarce or problematic materials with unproblematic materials;
- educational concepts to promote sustainability competencies as well as systemic and problem-solving thinking and acting.

8. Closed material flows and efficient use of environmentally critical metals and mineral residues

The extraction of raw materials is often associated with considerable damage to the environment. Dissipation (fine distribution) of the substances with different consumer goods often stands in the way of the recycling of the substances after the use phase. Efficient use and strict closing of material flows of raw materials that are difficult to substitute are therefore indispensable for a sustainable economy. This applies in particular to environmentally critical substances such as certain metals, which are required for high-tech and environmental technologies, as well as to phosphorus, which is indispensable for the food security of a growing world population. Thus the closing of material flows of (in particular) platinum group metals, indium, cobalt and rare earth metals should be accelerated.

Mineral residues represent one of the largest material flows in Germany. The recycling of, for example, demolition material at a technical level comparable to that of the primary product preserves landfills and primary raw materials.

Eligible for funding are in particular:

- educational concepts for the promotion of systemic thinking using the example of the substances mentioned;
- projects that reduce the use of environmentally critical metals and avoid their dissipation or in which environmentally critical metals are replaced by environmentally friendly exploitable materials;
- projects for the recovery and processing of environmentally critical metals and mineral residues;
- projects to increase the efficiency of the above-mentioned substances in industry and agriculture;
- development of measures for the environmentally sound use of phosphorus-containing material flows (sewage sludge, biowaste, agricultural manure, etc.);
- development of environmentally friendly phosphorus recovery processes, taking into account, where appropriate, other nutrients (waste water/sewage sludge, animal residues);
- use of the digitization of production and information processes for the sustainable handling of environmentally critical metals and mineral residues;
- action-oriented projects for children and young people to transfer knowledge about material flow related connections and to strengthen awareness regarding the substances mentioned.

9. Reduction of nitrogen emissions in agriculture

On the one hand, as a central component of protein, nitrogen is one of the most important building blocks of life and a motor of all biological growth. On the other hand, reactive nitrogen compounds lead to complex environmental impacts such groundwater pollution with nitrate, eutrophication, release of climate-relevant trace gases such as nitrous oxide and ammonia, and biodiversity loss. Exposure to reactive nitrogen compounds exceeds the safe range of planetary boundaries to a greater extent than any other environmental problem.

Even though nitrogen is essential as a nutrient, undesired emissions into the environment must be avoided as far as possible. This has not yet been achieved. The nitrogen surplus in Germany's agriculture amounts to around 100 kg per hectare per year.

There is a need for action to increase the efficiency of mineral- and organic nitrogen fertilization and to reduce losses caused by reactive nitrogen compounds. This can only be realized with a series of measures which address the various emission sources.

Eligible for funding are in particular:

- development of technologies and processes to improve animal welfare while avoiding nitrogen losses in livestock buildings and in the storage and application of manure;
- preventive approaches in the field of protein supply, feeding and feeding technology with the aim of avoiding nitrogen surpluses/nitrogen emissions;
- improvement of processes for temporally- and spatially targeted application of fertilizer depending on the plant requirement;
- measures to make more efficient use of the quantities of nitrogen present in the soil;
- approaches in plant growing to reduce nitrogen emissions in vegetable and commercial horticulture;
- recovery/reuse of reactive nitrogen from waste streams and waste water treatment;
- target group-specific communication of new findings (to animal keepers, plant growers, water conservation area consultants, etc.);
- recycling of waste or use of "new substrates" in the field of bioeconomy.

10. Integrated concepts and measures for the protection and management of groundwater and surface waters

Pollutants from point sources as well as diffuse inputs deteriorate the quality of surface waters and groundwater bodies. Changes in the hydromorphology of water bodies led to structural depletion and thus to the loss of typical water habitats, biodiversity and ecosystem services.

Thus for the protection of surface waters and groundwater bodies it is essential to establish integrated concepts of the catchment areas as system-oriented approaches. Material flow models, decision support systems, and concrete measures for the reduction of anthropogenic influences and for the structural optimization of waters bodies in urban and rural areas can contribute to a solution. Interdisciplinary education, training and further education concepts serve to optimize the provision and dissemination of information and to build up specialist skills. The aim of the projects is to improve water quality and ecological water status.

Eligible for funding are in particular:

- integrated solutions for catchment or sub-catchment areas to improve water quality and secure ecosystem services through decision support systems, further development of material flow models as well as integration of innovative, adapted technologies for wastewater treatment and interdisciplinary information and advice;
- development of exemplary measures for the ecological upgrading of water bodies and floodplains;
- development and exemplary implementation of water-improving, integrative, practical concepts for the reuse of water and the energy and substances contained therein in settlement areas;
- development and exemplary implementation of measures and concepts for dynamic flood and inundation protection;
- development and testing of exemplary measures for information, qualification and participation of stakeholders;
- projects with a special focus on children and young people which address central aspects of integrated water protection in an innovative and exemplary way in relevant areas of education.

11. Nature conservation and sustainable use of nature in human-modified environments and protected areas

Naturally accentuated cultural landscapes are of great importance for biodiversity, which is highly dependent on the type of cultivation. The intensification and standardization of land use lead to an unabated loss of biodiversity, which must be halted with appropriate measures in close cooperation between all actors. Extensively-farmed landscapes can play an important role as networking elements between these cultural landscapes and protected natural landscapes, and should be supported through appropriate concepts for sustainable regional development and concrete implementation projects.

Further action is needed to ensure or increase the effectiveness of protected areas beyond the regulatory possibilities. In doing so, the requirements of current social and ecological developments must be met.

Eligible for funding are in particular:

- concepts and instruments for the grouping and prioritization of regional nature conservation objectives and their operationalization at landscape and farm level, also in the context of sustainable regional development;
- development and testing of biotope management measures and instruments for extensively used and/or semi-natural habitats and protected areas;
- further development and implementation of innovative technologies for the optimization of farming- and forestry-related production processes, adequate for effective natural protection;
- new forms of information and knowledge transfer to land users, consultants and authorities involving civil society actors;
- development and implementation of biotope network systems and structures and of measures for species- and biotope protection;
- concepts and instruments for wilderness development;
- projects with a special focus on children and young people which focus on addressing challenges in biodiversity conservation using innovative and exemplary communication methods.

12. Conservation and securing of nationally valuable cultural assets from harmful environmental effects

Anthropogenic influences on the environment do not only harm nature, but also nationally valuable cultural assets. The extent and types of their damage has changed in recent years. These include changes in anthropogenic emissions as well as the impacts of climate change and the management of chemicals formerly used for protection. For a sustainable protection of cultural assets, new strategies, methods, processes and products shall be developed, implemented exemplarily, and communicated.

Model projects in this funding area usually follow an interdisciplinary approach, in particular with the participation of medium-sized companies and application-oriented research.

Eligible for funding are in particular:

- development and exemplary implementation of new methods, processes and products for the protection of nationally valuable cultural assets against the effects of anthropogenic immissions;
- development of strategies and concepts for the preventive conservation, securing and preservation as well as maintenance and care of nationally valuable cultural assets and historical cultural landscapes;
- development and testing of processes, methods and products for management of harmful past restoration;
- further qualification in the field of sustainable protection of cultural assets and historical cultural landscapes;
- innovative measures to resolve conflicts at the intersection of monument, nature and cultural landscape protection, particularly with regard to urban areas and energy use requirements;
- projects for the protection of cultural assets especially for children and young people which focus on aspects of participation and voluntary commitment and on corresponding innovative methods respectively.

Reasons for exclusion

To avoid applications which are not compatible with DBU funding, the DBU has issued this "negative list" for the further orientation of potential applicants.

The following are not eligible for funding:

- projects which serve the fulfillment of legal requirements;
- project-unrelated applications (institutional support);
- projects without implementation perspective;
- pure investment projects;
- projects already begun;
- projects for the market launch of developed products;
- projects of pure basic research;
- monitoring of environmental pollution;
- studies not focusing on implementation;
- replenishment of funds from other sponsors;
- pure printing- and travel cost subsidies;
- projects which do not correspond to the EU state aid law.