2020

# Construction

## **DBU-**Funding information – Funding subject 4

## Funding subject 4: Climate- and resource-saving construction

If we are going to reach the goal of implementing energy- and resource-efficient construction methods for a climate-neutral and safe and healthy existing building stock by 2050, we will need a variety of interlinked strategies in the building and construction sector. Alongside exemplary development of the potential of energy-optimised existing building stock and environmentally friendly urban consolidation, future-proof concepts and technological approaches must be developed and tested as the primary innovation driver in new construction projects. Because wood is a renewable resource and, when used correctly, can also improve resource efficiency, it makes sense for us to build even larger timber structures.

We are particularly interested in funding projects aimed at comprehensive optimisation during the integral planning phase along with the dissemination of results to specific target groups. Sustainable construction is made up of a wide range of different aspects, and we are interesting in funding projects that comprehensively combine, implement, evaluate and document these aspects and communicate them through innovative educational measures in an exemplary manner while also ensuring top design quality.

## In particular, the following measures are eligible:

- Exemplary concept development, development of innovative components of implementation, and the evaluation and documentation of energy- and resource-optimised, healthy existing building refurbishment projects and new construction projects, taking into account the entire life cycle
- Exemplary development and implementation of, for example, concepts for improving indoor air quality, for passive heating and cooling, for Plusenergie and carbon-neutral buildings and districts, for minimising grey energy and emissions, for sufficiency, and for the evaluation and documentation of these concepts
- Further development and exemplary implementation and documentation of timber construction for larger buildings
- Optimisation of timber construction concepts, systems and projects and projects to increase the acceptance of timber buildings
- Optimisation of closed-loop recycling and recycling possibilities in building construction and construction materials/ products as well as lightweight construction development to improve resource efficiency
- Further development of planning methods, process quality and tools, including by means of digitisation, as an optimisation strategy for the sustainable and safe and healthy planning, construction and operation of buildings and dissemination of results to target groups
- Innovative methods and concepts for education, communication, participation and qualification, in particular by public and private developers, planning firms, licensing authorities, architects and building professionals, as well as the persons using the buildings
- Measures for communicating the connections between construction and the environment to children, young people and trainees
- Development and testing of new forms of participation in the planning and implementation of sustainable public construction projects (e.g. schools, sports facilities, recreational areas, etc.)

## DBU-funding – competent and service-oriented

The Deutsche Bundesstiftung Umwelt (DBU) can look back on more than 25 years of funding. The foundation has a broad wealth of experience and professional expertise in various fields. In its work, the DBU can rely on a broad network of experts working as honorary consultants.

The DBU is independent and neutral from any political party. When submitting an application, only the technical quality and the innovative content of the application are important. The DBU offers its applicants competent, result-oriented advice and individual support by a highly qualified, interdisciplinary team. The internal assessment of the projects and the external evaluation lead to a further development and qualification of the project proposal.

The DBU accompanies project partners from the project outline to implementation and provides support in finance and expertise.

DBU-partners of particularly successful projects are also supported in the dissemination of their project results by appropriate communication measures (trade fairs, exhibitions, events, publications, press work).

## From outline to funding

**online submission of the project outline**

**assessment by the project group**

**contents + goals**

**costs + financing**

**applicant + cooperation partner**

**call for application**

**supplementary information**

**expert appraisals**

**information**

**decision by the DBU-Secretary General or the DBU-Board of Trustees**

**letter of approval**

if assessment is positive

if assessment is positive

## First steps in a project outline

The DBU is interested in innovative, exemplary project outlines that will contribute to a climate-neutral and resource-efficient building stock by 2050.
When preparing your project outline, you should first consider the following questions:

- Does the project idea fit the funding subject and can it be attributed to one of the "bullet points"?
- If it is an integral planning approach for a new building or renovation project, is the project still at an early planning stage?

If this is the case, the following criteria must be taken into account when preparing a successful project outline:

- The innovation and the environmental relief effects - as distinguished from the state of knowledge and technology - are convincingly presented.
- Concrete solutions are to be expected for the addressed problem, and shall be developed in a practical manner, tested, and examined for strengths and weaknesses.
- The solution approach can be multiplied and the proposed measures and methods are particularly promising for this aspect.
- The results will be evaluated, put into practice, documented and disseminated.

If these criteria apply, interdisciplinary and systemic project approaches are of particular importance for the DBU.

You can submit your project outline online **www.dbu.de/antragstellung**

# Exemplary DBU-funded projects

The following projects show an excerpt from the thematic range of funding subject 4 and specify the implementation in the fields of action mentioned on page 1. Further information on the projects can be found at **www.dbu.de**

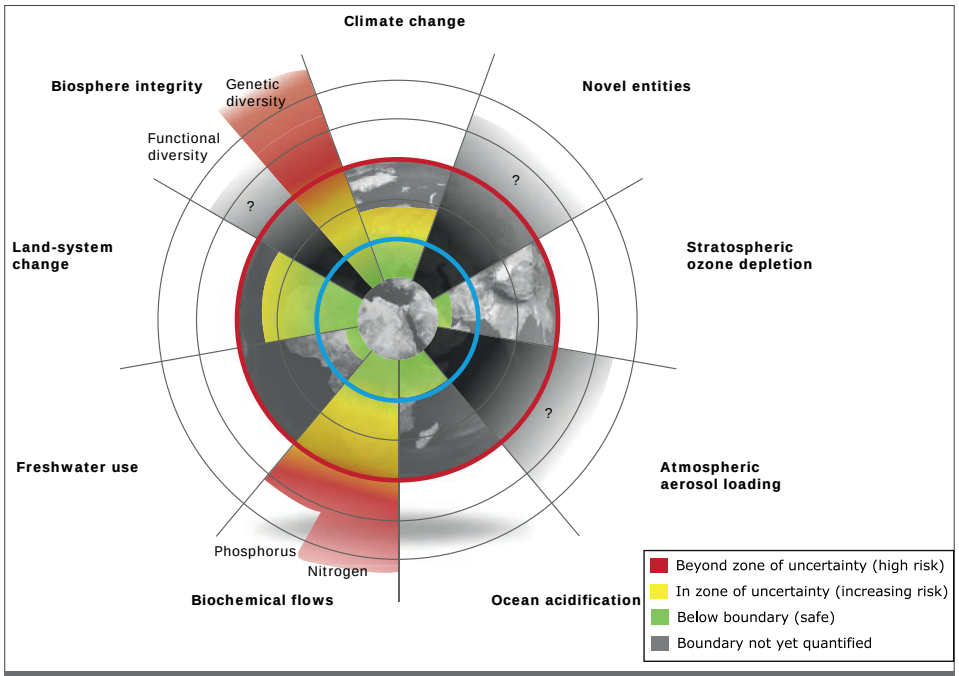
**Integral planning of a secondary school (AZ 29892)**
In the new building for the Schmuttertal Gymnasium (secondary preparatory school) in the market town of Diedorf, Augsburg district, constructive sample solutions were developed in an integral planning process as decision guidance for optimized timber construction, and as a reference project for the performance capacity of timber construction of this size. The combination of pedagogical architecture, »plus-energy« concept and timber construction required an interdisciplinary team from the very beginning of planning. The spatial program developed with the users provided the architects with the guidelines for the pedagogical architecture. The design was investigated and optimized in iterative steps and variant considerations with regard to pedagogical architecture, energy efficiency, fire protection, the special design features of timber construction and prefabrication, the requirements related to ecology and health, as well as the economic efficiency in the life cycle. The creative integration of these requirements represents an exemplary implementation of a new sustainable architecture model; the evaluation and documentation of the project results effectively supports their dissemination.

**Refurbishment of residential tower block (AZ 28538)**
Post-war buildings in Germany often show similar deficits in statics, building substance, or dimensioning of components. An exemplary renovation project shows solutions for a five-story residential building in Mannheim built in 1958, which can be transferred to a large number of multi-story residential buildings from the post-war period. The renovation was inspired by an energy concept based on integral planning. Initially, the original floor plans of the apartments were redesigned in order to increase the solar energy gains and create a comfortable living climate. The core of the energy concept is a double-shell façade with an air collector made of a polycarbonate panel placed in front of the original façade. In the cooler months of the year, air heated by the sun is led through this collector façade to the sunny sides of the casks. In summer, the coolness of the ground and the air circulation in the façade are used for air conditioning. A rock-bed storage unit in the basement serves as a buffer. The energy concept is supplemented by a ventilation system with heat recovery.

**Database for wooden building components (AZ 32350)**
Complex verification methods and a large variety of products and designs make it difficult to use wood as a building material in Germany. Following the example of the Austrian catalogue www.dataholz.com a similar platform for Germany is being created in a current research project, which can be accessed at www.dataholz.eu. The principle of freely available and practically applicable building components is adapted to the construction regulations and structural conditions in Germany. The applicability under building codes is verified and confirmed for designs selected independently of products and manufacturers. This improves the overview for planners and builders, provides security in the planning process, and simplifies the execution of the timber construction. In close cooperation with testing- and certification bodies for fire safety and noise protection, the necessary component tests are carried out and the associated certificates of usability are issued in Germany.

# DBU – We promote innovations

The Deutsche Bundesstiftung Umwelt (DBU) supports innovative, exemplary and solution-oriented projects for the protection of the environment in accordance with the foundation's mission statement, with special consideration for the mid-sized business sphere. Funded projects should achieve sustainable effects in practice, provide impulses, and have a multiplier effect. It is important to the DBU to contribute, in particular, to solving current environmental problems which result from unsustainable economic practices and ways of life in our society. The DBU sees key challenges above all in climate change, biodiversity loss, the unsustainable use of resources, and harmful emissions. The funding subjects thus tie in with both current scientific findings on »planetary boundaries« and with the Sustainable Development Goals adopted by the UN. Especially with regard to biological diversity (biosphere integrity) and the disruption of the nutrient cycles of nitrogen and phosphorus (biochemical flows), the planetary boundaries have been far exceeded. Humanity has therefore moved a long way from any safe operating space, and is now exposed to a high risk of negative ecological, economic and social consequences. Mankind has also already moved into the danger zone in terms of land-system change and climate change.




The »Planetary Boundaries« refer to nine areas which are important in maintaining the loading capacity of the Earth's systems (diagram according to Steffen et al 2015).

Deutsche Bundesstiftung Umwelt

## Your contact for the funding subjects

Your project outlines are worked on in an interdisciplinary project group:

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**We promote innovations**

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