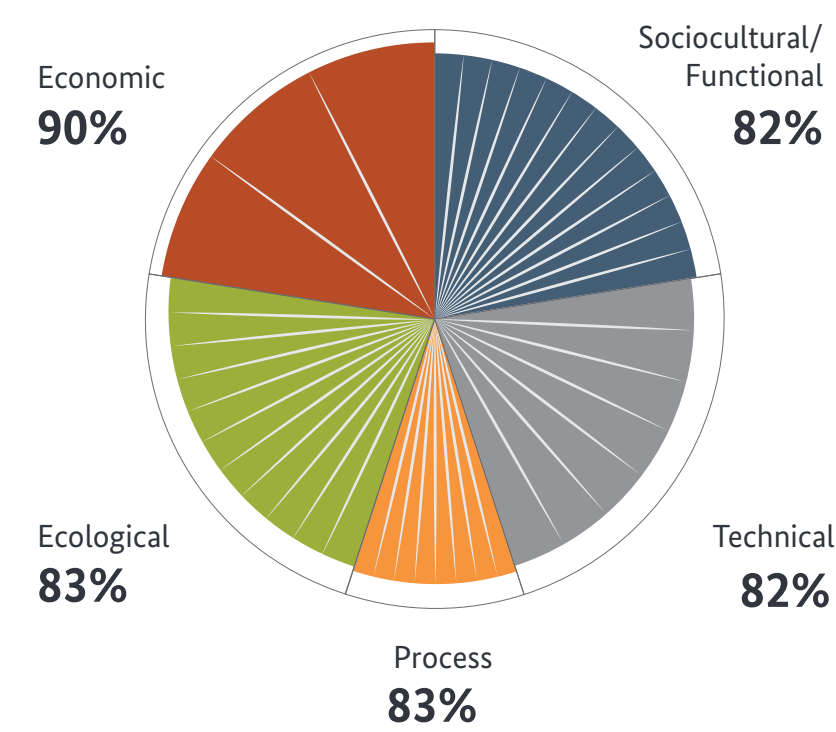


Center for Neurodegenerative Disease

New Construction | Bonn | Grade 1.4 | GOLD

Weighting of Assessment Quality **84.1 %**



Laboratory (New Construction)	Gold according to BNB_LN 2014
Client	DZNE e. V., Bonn
Architect / Planner	wulf architekten gmbh, Stuttgart
Auditor	Johannes Hopf, DS-Plan GmbH, Stuttgart
Completion	April 2017
Gross Floor Area (GFA)	35,938 m ²
Gross Construction Costs	€ 127 million
Construction Costs (KG 300, 400)	2,296 €/m ² _{GFA} (net)
Operation Costs	1,588 €/m ² _{GFA} (net)
Life Cycle Costs	4,579 €/m ² _{GFA} (net)
Primary Energy Demand (LCA)	total: 343 kWh/(m ² _{NFAa} a)
Global Warming Potential (LCA)	67.6 kg CO ₂ eqv./(m ² _{NFAa} a)



The building is located on the campus of the University Hospital Bonn, as part of the German Center for Neurodegenerative Diseases (DZNE).

The new building houses approximately 500 employees in 40 research groups, working in the fields of basic, clinical and population research and the central administration of DZNE's nine nationwide locations as well.

Three organically shaped buildings are connected by circulation areas, where spacious seating offers meeting points. They consist of a main building including the entire general facilities, entrance hall, cafeteria, lecture hall, library, clinical research, MRI and administration representing a central research building providing all laboratory facilities and offices, and the preclinical institute.

From the outside, the new building's facade captures the eye with its more than 2,400 solar shading slats in various shades of red and green and inspired by the changing colours of the neighbouring forest within the seasons.

User-relevant Qualities

The DZNE's spatial concept sets new standards in laboratory construction. By a depth of around 20 meters being planned and organized compactly. Workstations measure a depth of up to 17 meters from the facade, while the setting in the forest is still visible from the inside.

Heating / Cooling / Air Quality

By using geothermal energy for heating and cooling, the local regenerative potentials are fully utilized and the base load is covered all over the year. The ventilation systems are equipped with adiabatic exhaust humidification reducing cooling energy requirements, especially in the laboratories. A block-type thermal power station covers the base load for high-temperature heat and electricity. In summer, an absorption refrigerator provides cold water through a trigeneration system (CHCP).

Energetic and Economic Qualities

In order to optimize investment and operating costs, comprehensive mechanical ventilation of the offices was dispensed with. The rotatable vertical slats provide optimum shading from direct irradiation, still enabling visual connection to the outside. Simultaneously diffuse light ensures a high daylight quality in the rooms and allows high quality visual contact to the outside.

Environmental Risk Evaluation

Great emphasis was put on ecological aspects and simple constructions when selecting the building materials. A measurement of indoor air quality had proven the low level of air pollutants due to the use of low-emission materials, minimising the exposure to harmful substances during both processing and use phases.

