# Zukunft Bau

## Title

long title: „Datenerhebung zu den energetischen Merkmalen und Modernisierungsraten im deutschen und hessischen Wohngebäudebestand" (Data collection to the energetic characteristics and modernization rates in the German and Hessian residential building stock)

## Starting position

The residential building sector plays an important role in meeting energy saving and climate protection targets. The targeted further development of this sector requires current and reliable data on the energy status of residential buildings, renovation dynamics and the use of renewable energies – data that are otherwise not made available to an adequate extent and were therefore collected within the framework of this project.

## Subject of the research project

The subject of the research project was a survey of building features related to energy efficiency in randomly selected buildings with living space, of which residential buildings have by far the largest share. The data were collected on the basis of a four-page paper questionnaire. The German and Hessian building stock were examined.

The sampling was methodically designed in such a way that representative evaluation results with minimized quantifiable uncertainty of results were made possible. Furthermore it was ensured that "rarer" building types, specifically apartment buildings and new buildings, were sufficiently represented in the sample, and that a regional balance of the buildings constructed was achieved.

The data were collected between August 2016 and November 2017, also involving randomly selected municipal property tax authorities. They have taken on the task of researching the owners of the buildings and sending them the paper questionnaire directly. A total of 92,100 questionnaires were sent out by way of this transit procedure by 683 municipal property tax authorities. Almost half of the questionnaires were conducted in the federal state of Hesse.

After comprehensive processing of the survey data received, 16,982 building data sets were classified as evaluable and transferred to the evaluation database; 9,065 survey buildings were located in Hesse. Following data processing, weighting factors were assigned to the buildings to create representativeness. These take into account the different building drawing probabilities and also ensure that the official key data are met during evaluations.

The building database built up in this way not only served for evaluation purposes within the scope of project processing. Rather, interested third parties can also access the database and carry out their own evaluations by means of remote execution beyond the end of the project.

## Summary

Although the data evaluation revealed an increase in energy modernization activity in relation to the thermal building envelope, this increase still falls well short of what is necessary to achieve the politically set climate protection targets.

As far as the modernization of heat supply is concerned, the momentum is sufficient in that the majority of heat generators are expected to be replaced again by 2050, the target year of the long-term climate protection concepts. However, the necessary conversion of the heat supply to renewable energy sources for climate protection is currently not yet taking place to a sufficient extent in the residential building stock.

## Basic information

short title: Datenerhebung Wohngebäudebestand Deutschland/Hessen (Data collection residential building stock Germany/Hesse)

researches / project management: Dr. Holger Cischinsky (project management), Dr. Nikolaus Diefenbach

total costs: 467.945,00 €

federal subsidy: 327.562,00 €

project period: 29 months