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## Vocational college becomes an energy-plus school

Well-considered refurbishment minimises energy expenditure

When refurbishing a building, using as much as possible of the existing building fabric saves money and energy. The planners and clients took this approach for the vocational college in Detmold. Furthermore, they placed value on using resource-saving materials. The primary objective was to generate more primary energy than it consumes during operation. The new BINE-Projektinfo “Refurbished vocational college achieves energy-plus level” (09/2018) presents the concept and the first monitoring results.

The three buildings plus a gymnasium constructed between 1954 and 1962 were comprehensively insulated. PV modules generate energy and at the same time, take on the function of the building envelope. Since the buildings are primarily used during the day, it is conducive to a high solar power self-consumption. In addition to opening the windows, the classrooms are mechanically ventilated via decentralised devices with heat recovery. Heating comes from district heating from biomass.

As proven by the monitoring performed by the Ostwestfalen-Lippe University of Applied Sciences, the school has already been achieving the objective of the primary energy energy-plus balance since its completion. The adjustment of the existing heating circuit, which is designed as a Tichelmann system, was complex. The project is part of the research initiative Energy-Efficient Schools – EnEff:Schule, in which the German Federal Ministry for Economic Affairs and Energy funded a total of twelve demonstration projects, including seven refurbishments. They are to show which measures can be technically implemented, how much energy these measures save and how much they cost.

The BINE-Projektinfo brochure, which can be obtained free of charge from the BINE Information Service at FIZ Karlsruhe, is available online at [www.bine.info](http://www.bine.info) or by calling +49 (0)228 92379-0. The brochure cover and additional image material can also be downloaded from this web portal in the press section.

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