

# Sustainable School Buildings

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economical resource-saving functional





# The system makes the difference

Building schools means taking responsibility. As public buildings and places of education for future generations, school buildings have an exemplary role in terms of their design and function. It is therefore appropriate that they are subject to particularly high sustainability standards. For GOLDBECK, sustainability, functionality and economic efficiency are not contradictory. We design, build, and operate future-oriented school buildings from a single source: quickly, energy-efficiently and, sustainability certified. Whether it's a thermally optimised shell, energy-efficient technical building services, future flexibility, or ecological surroundings – we conserve resources systematically throughout the design and approval process.



### Certified sustainability

We check the sustainability of our buildings and constantly develop them further. DGNB Gold / Platinum, LEED or BREEAM certifications are all possible for GOLDBECK school buildings as well as building to the passive house standard.



### Whole Life-Cycle Carbon (WLC)

Our in-house Sustainability experts and partners calculate carbon emissions resulting from the materials, construction, and the use of a building over its entire life, including its demolition and disposal.



### Integrated design

Our specialist design teams develop and optimise all aspects of your school building in an interdisciplinary, coordinated and future-oriented manner. Systematically resource-saving from the start.



### In-house production in our own factories

Our manufacturing processes allow us to optimize each component and determine exact quantities of concrete, steel, and other materials, saving resources and avoiding waste. We already purchase steel with an average secondary material content of almost 90 percent. Residual quantities of steel are recycled according to type.



### Flexible, open construction system

The GOLDBECK construction system provides the necessary flexibility to meet the bespoke needs of your project. The system-based school building can be connected to existing structures or be added to at a later date. In combination with our other system solutions e.g. for sports halls the systemised approach is highly adaptable.

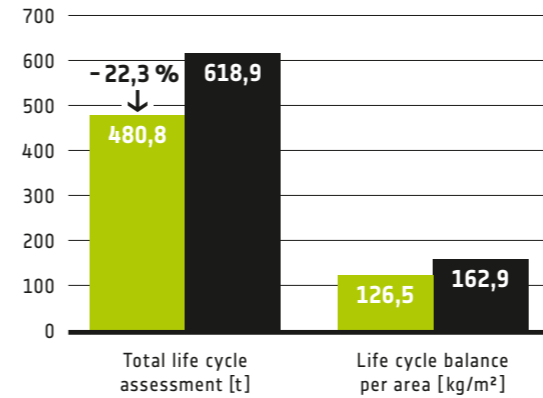


### Ecosystem

We promote biodiversity with well thought-out concepts for external spaces, sustainable rainwater systems and additional accompanying measures around the building. These can include the creation of a 'green classroom' in which pupils learn the importance of ecology and environmental protection at an early age through the preservation and development of green spaces.

## Manufacturing balance

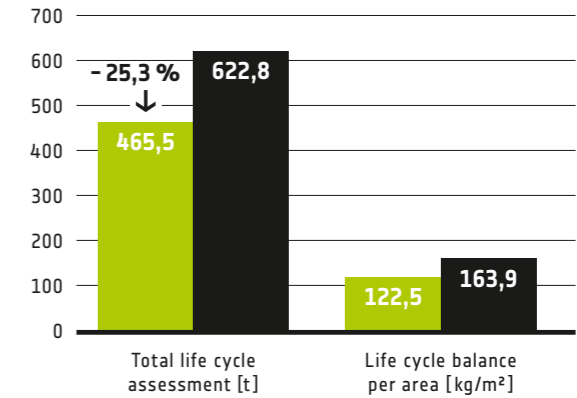
CO<sub>2</sub> emissions by construction method



■ GOLDBECK construction method  
■ Conventional reinforced concrete construction method

## Manufacturing and deconstruction balance

CO<sub>2</sub> emissions by construction method



Study project: The "Cube" in Engen on Lake Constance, six storeys, 3,800 m<sup>2</sup> – a typical GOLDBECK building.

## Building environmentally friendly buildings – is that possible?

For GOLDBECK, the answer is quite clear: Yes – because we build with a system we consider and optimise the sustainability of our school buildings during the design, construction, and operation phases – and even think about the deconstruction. Our system components are engineered to reduce material consumption. This, and a strictly coordinated process chain that avoids manufacturing errors and waste, makes our building system particularly resource efficient.

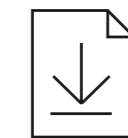
Taken together, the production, demolition, and recycling of a GOLDBECK system building saves over 25% of climate damaging CO<sub>2</sub> compared to conventional construction methods.



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**25 %**  
less CO<sub>2</sub> emissions compared to conventional reinforced concrete construction

**Would you like to know more?**  
We conducted a study in collaboration with independent engineering consultants IPU Ingenieurgesellschaft, Karlsruhe mbH.

You can find details of our comparison of construction methods in the brochure "Sustainable Buildings".



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