

Press Release

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Monitoring confirms efficiency of Passive House tennis hall in Sweden

Former pro Stefan Edberg focuses on minimal energy consumption in his hometown



The "Södra Climate Arena" in Växjö – first of its kind in Passive House Standard. *Photo: Günter Lang*

Växjö, Sweden. On the tennis court, Stefan Edberg was the number one for a long time – today the Swede is reaching top scores with his own indoor sports centre. As the first of its kind, the "Södra Climate Arena", in the former players' hometown of Växjö, was built to the highly energy efficient Passive House Standard in 2012. New monitoring results not only confirm the low consumption values, but the heating demand during the first two years of operation was even lower than anticipated,

as stated in a report by Swedish energy consultant Simone Kreutzer. A user survey also indicates a high level of satisfaction with the comfortable conditions inside the hall.

According to the operator, the building functions almost entirely without any active heating or cooling. Despite this, the indoor temperature is a consistent 18°C both in winter and summer. "Monitoring has once again demonstrated that the Passive House principle works, even in the cold climate of Sweden and even in a high sports hall", says Professor Dr. Wolfgang Feist, Director of the Passive House Institute in Darmstadt. "As always, competent planning and quality-assured implementation were decisive for success".

The globally established Passive House Planning Package (PHPP) was used to calculate the energy values of the building during the planning phase. A heating demand of 11 kWh/(m²a) was calculated in advance; the measurements then resulted in an actual demand of just 8 kWh/(m²a) – which was significantly lower than the limit value of 15 kWh/(m²a) required for certification as a Passive House building. This was achieved, among other things, by means of excellent thermal insulation, thermal bridge free construction, an airtight building envelope,

and a demand-controlled ventilation system with heat recovery. Extensive Passive House windows on the south side let natural light into the building, while fixed shading devices protect against overheating. In addition to the actual tennis courts, the building also has offices, a conference room, and a café as well as changing rooms and a fitness room. In these areas, the temperature can be regulated individually according to demand.



Energy consultant Simone Kreutzer checking the building services. *Photo: Günter Lang*

The building, designed by the Danish architect Kent Pedersen, is also visually impressive. The façade consists mostly of wood and appears natural and elegant at the same time. In 2013, the "Södra Climate Arena" won the [Swedish Passive House Architecture Award](#) announced by the national IG Passivhus Sverige network. The international jury expressly acknowledged the combination of attractive architecture and an intelligent energy concept.

The tennis hall is operated by the company "Ready Play" which is owned by Stefan Edberg and other former professional tennis players in the region. Edberg, who led the world ranking list in the early 1990s, emphasised in a [video interview](#) with the IG Passivhus Sverige how important the subject of energy efficiency was for him with regard to the construction of his own indoor court. The aim was to build a "tennis hall of the future". The complete report on the energy monitoring (in Swedish) as well as other information about the tennis hall are available on the [IG Passivhus Sverige](#) website. All the technical data of the building can be viewed online at: www.passivehouse-database.org



The Passive House Standard provides optimal indoor air quality for the tennis players. *Photo: Robin Fritzson*



Heating demand remains extremely low even in winter due to good thermal insulation. *Photo: Robin Fritzson*

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