

For climate protection and a healthy home!

24th International Passive House Conference opened - programme for three weeks

Darmstadt, Germany. The opening was a success: for the first time, the Passive House Institute welcomed the participants of the 24th International Passive House Conference in front of their computer screens instead of in a full conference hall. Despite the time difference, viewers from around the world logged into the online conference for the

24th INTERNATIONAL PASSIVE
HOUSE CONFERENCE 2020
20 September - 08 October 2020

Healthy Living: Passive House will deliver

The "Sick building Syndrom" ... Most Common Cause: Moisture



We just can't have this in Passive Houses!

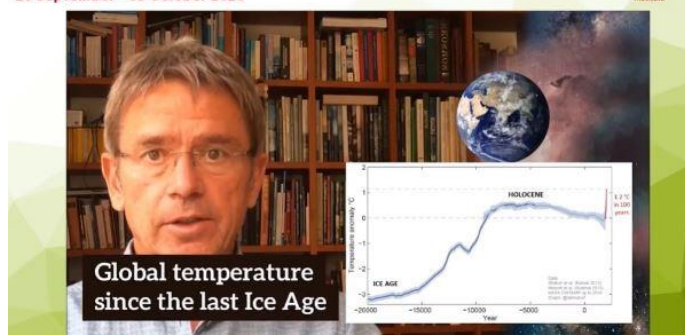
How does the Passive House standard avoid this?

- (I) **Improved insulation:** avoiding cold surfaces and condensation
- (II) Significantly **reduced thermal bridges:** no cold spots!
- (IV) **Really airtight:** no humid air flows through the fabric
- (V) **Sufficient ventilation:** Indoor air humidity is limited. In hot humid climates: dehumidification



opening plenary. Professor Wolfgang Feist made it clear that energy efficient buildings are an essential aspect of global climate protection. In addition, they have a positive effect on the health of the inhabitants. The climate researcher Professor Stefan Rahmstorf explained that global emissions had to be reduced quickly. Tickets for the conference will continue to be available until 8 October 2020.

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"Passive House buildings are crucial for climate protection – and for so much more," said Professor Wolfgang Feist during the inauguration. On the one hand, with their low energy demand for heating and cooling, they allow buildings to be supplied entirely with renewable energy. On the other hand, Passive House buildings provide advantages for building protection and a healthy living space, as the founder of the Passive House Institute explained.



A focus at the conference: to celebrate its anniversary, a Canadian company treated itself to a car showroom and workshop constructed to the Passive House standard. © Garrett Scott

Passive House pioneer Wolfgang Feist (above) and climate researcher Stefan Rahmstorf at the inauguration of the 24th International Passive House Conference. ©Passive House Institute

A healthy living space

Mould, unpleasant draughts and poor indoor air quality can be avoided with the Passive House concept. In view of the Covid-19 pandemic, Feist stated: "With a better ventilation concept, as used in Passive House buildings, the risk of infection is greatly reduced." However, wearing a face mask inside populated buildings remains indispensable for protection against larger droplets, Feist noted during the opening plenary.

Eyes on the German building regulations

Professor Dirk Messner, the new president of the German Federal Environment Agency, as well as Jens Deutschendorf, state secretary of the Ministry of Economics in the State of Hesse, have their eyes on the German regulations for the energy use of buildings (GEG): they do not provide any additional stimulus for energy efficient construction. The urgently needed energy revolution and a significant contribution to climate protection will not be achieved through this. "Building better than stipulated in the statutory standard and making use of subsidies is strongly recommended," explained Deutschendorf.

Subsidies for energy efficiency

Thorsten Herdan of the German Federal Ministry for Economic Affairs, patron of the 24th International Passive House Conference, talked about the more extensive programs for retrofits. Alexander Bonde, the general secretary of the German Federal Environment Foundation (DBU) elucidated the support of the DBU for energy efficient buildings, including research on the Passive House concept for indoor swimming pools. Bonde mentioned that even the offices of the DBU subsidiary Naturerbe were built to the Passive House standard.



This energy retrofit of a hotel in Spain will also be presented at the Passive House Conference. © Duque y Zamora

"There is no time to lose!"

The climate researcher Professor Stefan Rahmstorf underlined how serious the situation is. The increasing numbers of extreme weather events, leading to droughts, frequent wildfires and flooding are the result of global warming. Only reducing emissions to zero can stop climate change. "The Intergovernmental Panel on Climate Change (IPCC) has made it clear that time is of the essence here: emissions must already be reduced by half by the year 2030. That's a very ambitious goal," said Rahmstorf.

Passive House to celebrate

Extremely energy efficient buildings are a fundamental prerequisite for successful climate protection. Until 8 October, more than 90 presentations during the 24th International Passive House Conference will therefore be dedicated to this topic. Among other things, new build and retrofit projects from all over the globe will be presented, including the new Passive House car showroom with a workshop that was built to celebrate the anniversary of a company in Canada, as well as retrofit projects in Vienna and Spain.



Lecture series 11 during the conference will deal with multi-storey Passive House buildings, including the energy efficient retrofit of this office building in Vienna. © Schöberl und Pöll

This week's programme

The online programme will take place on Wednesdays and Thursdays. On the first two conference days – that is **Wednesday, 23 September and Thursday, 24 September 2020** –from 9 a.m. onwards, presentations will discuss Nearly Zero Energy Buildings (NZEB), components and supply concepts, as well as Passive House buildings in China. Passive House districts and Passive House tools will be presented in the late afternoon.

Manufacturers' Forum on Wednesday and Thursday

During the **Passive House specialists' exhibition** this week, the Manufacturers' Forum will be held on Wednesday and Thursday from noon onwards. Here, the staff of the Passive House Institute will briefly introduce the topics of airtightness, ventilation, windows, retrofitting and insulation. In parallel, manufacturers will answer questions during a live chat. 40 exhibitors will be displaying components for climate-friendly construction. The specialists' exhibition can also be visited without a conference ticket. Free registration is possible at <https://passivehouseconference.expo-ip.com/>

Workshop for municipalities

A workshop for cost-effective social housing, specifically aimed at municipalities and housing development associations, is planned for Wednesday, 7 October 2020. Two-hour **excursions** to different Passive House projects around the world are scheduled for 1st and 7th October 2020 in the **conference programme**. All recordings of the conference programme can be watched by the conference participants afterwards. Tickets for the conference, which will last three weeks and ends on 8 October 2020, will continue to be available for purchase.

All information can be found at www.passivehouse-conference.org

24TH INTERNATIONAL PASSIVE HOUSE CONFERENCE 2020

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General Information

Passive House buildings

With the Passive House concept the heat loss that typically takes place in buildings through the walls, roof and windows is drastically reduced. With the five basic principles – high-quality thermal insulation, windows with triple glazing, avoidance of thermal bridges, an airtight building envelope, and a ventilation system with heat recovery – a Passive House building needs very little energy. Passive House buildings can therefore dispense with classic building heating systems. Such buildings are called "passive houses" because a major part of their heating demand is met through "passive" sources such as solar radiation or the heat emitted by occupants and technical appliances.

In a Passive House building, the heat is retained for 10 to 14 days because it escapes very slowly. For this reason, active heating is needed only during extremely cold days and only a small amount of energy is required for providing this remaining heating. A Passive House building also offers an advantage in the summer: the excellent level of insulation ensures that the heat stays outside, therefore active cooling usually isn't necessary in residential buildings. Due to the low energy costs in Passive House buildings, the utility costs are predictable - a fundamental principle for affordable homes and social housing. A Passive House building thus consumes about 90 percent less heating energy than an existing building and 75 percent less energy than an average new construction.

Passive House & NZEB

The Passive House Standard meets the EU requirements for Nearly Zero Energy Buildings. According to the European Buildings Directive *EPBD*, all member states must specify requirements for so-called NZEBs in their national building regulations. These came into effect in January 2019 for public buildings and will apply for all other buildings from the year 2021.

Pioneer project

The first Passive House in the world was built in Darmstadt-Kranichstein (Germany) 28 years ago by four private homeowners. Dr Wolfgang Feist was one of them. Ever since the homeowners moved in with their families in 1991, these terraced houses have been regarded as a pioneer project for the Passive House Standard. With its newly installed photovoltaic system, this flagship Passive House now utilises renewable energy and received the Passive House Plus certificate for this reason.



The world's first Passive House building in Darmstadt-Kranichstein. © Peter Cook

Passive House and renewable energy

The Passive House Standard can be combined well with on-site renewable energy generation. Since April 2015, the new building classes "Passive House Plus" and "Passive House Premium" have been available for this supply concept.

Passive Houses worldwide

Passive Houses buildings for all types of uses now exist everywhere. In addition to residential and office buildings there are also kindergartens and schools, sports halls, swimming pools and factories built as Passive House buildings. The first Passive House hospital in the world is currently being built in Frankfurt am Main. Interest in Passive House is growing. In view of the consumption of resources in industrialised countries and climate protection, municipalities, businesses and private people are increasingly implementing new constructions or retrofits to the Passive House Standard.

Passive House Institute

The Passive House Institute with its headquarters in Darmstadt (Germany) is an independent research institute for highly efficient use of energy in buildings. The Institute founded by Prof Wolfgang Feist holds a leading position internationally with regard to research and development in the field of energy efficient construction. Among other things, Prof Wolfgang Feist was awarded the DBU Environmental Prize in 2001 for developing the Passive House concept.



Prof Wolfgang Feist.
© Peter

International Passive House Conference

The 24th International Passive House Conference will take place from 20 September till 8 October 2020 in the form of an online event. www.passivhaustagung.org/en/.

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