

Press Release

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Passive House Institute also focuses on energy efficiency for hot water

German manufacturer receives the first-ever certificates for drain water heat recovery

Darmstadt, Germany. For millions of people, a hot shower in the morning is an essential part of modern life – but it also consumes a lot of energy. In order to contribute to increased efficiency in this area, the Passive House Institute has introduced [certification criteria](#) for systems for heat recovery from wastewater. The first certificates to be issued in this context were presented to the company Wagner Solar at the International Passive House Conference 2015 in Leipzig (Germany). A white paper on the savings potential of drain water heat recovery is available on the online platform [Passipedia](#).

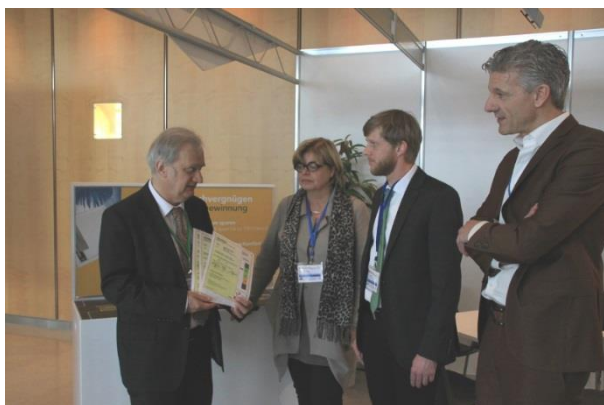
The principle behind heat recovery from shower water is simple: warm wastewater from the shower is conducted in counterflow alongside the incoming cold water in a hygienically separated way. In doing so, the cold water is preheated and energy required for final heating of the water decreases accordingly. Depending on the type of device, certifiable heat recovery devices are either maintenance-free or are easy to clean. These systems are a good investment even for normal residential usage, and are even more profitable in cases of higher hot water demand.

In many countries, heat recovery from shower water is standard practice, and sometimes also included in the national energy performance standards. In order to facilitate market introduction where these systems are less common, the Passive House Institute has formulated minimum requirements for their thermal efficiency. A manufacturer can receive a certificate from the Institute if these requirements are met. At the same time, this ensures independent evaluation of the devices – the necessary characteristic values are set out in the certificate. The potential savings in a specific installation situation can also be calculated easily using the latest version of the energy balancing tool [PHPP](#) (Passive House Planning Package).

In existing buildings, hot water generation is of little significance in the energy balance when compared with space heating. This is completely different in a Passive House building in which the heating energy demand is already drastically reduced; here, the energy consumption for hot

water is of the same scale as that for heating – with heat recovery from shower water in a household, savings of up to one third of the total energy demand for hot water use are possible.

At the specialists' exhibition during the International Passive House Conference which was held from 17 to 18 April 2015 in Leipzig, the founder and director of the Passive House Institute, Dr. Wolfgang Feist presented the first-ever certificates of this type to the company [Wagner Solar](#) for its drain water heat recovery systems. Three systems were certified: the shower pipe "ECOshower 15" and the shower channels "ECOshower 800" and "ECOshower 900".



Presentation of the certificates to representatives from Wagner Solar at the International Passive House Conference.
Picture: Passive House Institute

The shower pipe "ECOshower 15" is installed in place of a wastewater downpipe. The free cross-section of the downpipe is not changed, the system is completely maintenance-free. This requires an installation height of about one storey, the steady-state efficiency is 66 %. The two shower channels "ECOshower 800" and "ECOshower 900" are installed at ground level in tiled shower bases and require minimal installation heights; the steady-state efficiencies of these are 42 % and 54 % respectively.

As an independent authority, the Passive House Institute tests and certifies products with reference to their suitability for use in Passive House buildings. Building components and systems holding the international certificate "Passive House Approved Component" have been tested according to uniform criteria, are comparable in respect of their characteristic values, and are of an excellent energy efficient standard. The use of certified products facilitates the task of planners and contributes significantly to ensuring proper functioning of a Passive House building. An overview of Passive House components that have already been certified is provided in an online [database](#).

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