

## EHPA position on Peak temperature

In the WG4 interim report for water heaters in section 2.2.5, **it is proposed to ban the use of the virtual backup heater that is today allowed within EN16147 for reaching  $T_{\text{peak}}$  equal to 55°C**. It is proposed that “*the water heater should actually supply the hot water with the peak temperature*”.

EHPA would like to point out that the eco-design and labelling regulations are dealing with product efficiency whereas health issues in relation with sanitary/domestic/drinking water are regulated by other pieces of legislation which are for most of them established at member state level.

Heat pump water heaters testing method recommended within regulation 812/2013 and 814/2013 is largely inspired from EN16147 testing standard. This testing standard aims at assessing the energy efficiency of heat pump water heaters and combination heat pumps while providing comfort in accordance with the end-user's need. In particular, tapping profiles and their draw-off mimic domestic hot water daily usage and aim at ensuring that both the water temperature is high enough and sufficient energy is available to fulfil the hot water need.

There are two draw-offs where  $T_{\text{peak}}$  shall reach 55°C. These draw-offs were initially named: dish washing draw-off and logically occur at 12h45 and 20h30. At the time where EN16147 was drafted, it was commonly accepted by experts that 55°C water temperature is not essential to comfort as water at 55°C is generally far too hot to be used without mixing it with cold water. As a consequence, the option for a virtual backup heater was introduced in EN16147 for the dish washing draw-off, and exclusively for the dish washing draw-off.

Water tanks are generally heated up overnight and may be re-heated once during the day. The water temperature where the heating period is completed needs to be high enough so that each and every draw-off of the tapping profile can be successfully completed. Heat losses and a couple of draw-offs occur in between the tank heating period and the dish washing draw-off. As a consequence, in order to achieve an average temperature being 55°C over draw-off occurring at 12h45 and 20h30 the water is to be heated up to 58 or 59°C, or the water tank has to be heated more often. The vast majority of heat pump water heaters and combination heaters can easily reach 55°C while maintaining a high energy efficiency level and unless specifically required by national laws, factory setting of domestic hot water temperature is set to 55°C or below. Increasing the water temperature by 3 to 4°C, or increasing the tank heating period frequency will dramatically reduce the overall energy efficiency of the heat pump water heaters and combination heat pumps without bringing any additional comfort. More evidences have been provided in [EHPA position paper](#) issued on 16<sup>th</sup> July 2020.

Considering the above mentioned reasons, EHPA recommends that regulations 812/2013 and 814/2013 should not deviate from their primary objectives which are to promote energy efficiency and to help end-users choose the more efficient product. **In that perspective we recommend to reduce the peak temperature to not more than 50°C with the current load profile so that heat pump can achieve the temperature without the virtual backup heater.** This minimum value to the reference hot water temperature should be the same for all technologies. This option would allow for a fair comparison in between products without destroying the COP of heat pumps.

If this proposal goes forward, there are two side effects to take into consideration. First of all, the manufacturers will have to re-test all the products which requires time and additional costs. This is why we would kindly ask some flexibility in terms of time to re-test all the products. Secondly, this change might have an impact on the minimum energy efficiency values and we consequently might need to adapt the minimum efficiency requirements. After an assessment of the impact of the agreed new peak temperature, we would come back to you with adapted minimum energy efficiency values.

To conclude, EHPA believes that reducing the peak temperature to not more than 50°C with the current load profile is a fair compromise to ensure a level playing field with all technologies.

## ABOUT EHPA

The European Heat Pump Association (EHPA) is a Brussels based industry association which aims at promoting awareness and proper deployment of heat pump technology in the European marketplace for residential, commercial and industrial applications.

EHPA provides technical and economic input to European, national and local authorities in legislative, regulatory and energy efficiency matters. All activities are aimed at overcoming market barriers and dissemination of information in order to speed up market development of heat pumps for heating, cooling and hot water production.

EHPA coordinates quality initiatives: including the HP KEYMARK, a Quality label for heat pumps and Certification standards for heat pump installers. The association compiles the annual heat pump statistics and organizes a number of events, among them an annual heat pump conference.