Introductory note: EHPA would like to thank the study team for the work already carried out and welcome the opportunity given to comment on the options proposed in the interim report and/or during the WG4 technical meeting on water heaters. Please find below EHPA’s comments on several options and recommendations addressed during the technical meeting of 25 June 2020.

1. SCOPE

EHPA believes that the scope of labelling should not be extended to the 3XL and 4XL. However, we support that products are not double tested for ecodesign and labelling with two different load profiles.

2. DEFINITIONS

EHPA would like to make some suggestions on the following definitions:

For the water heater definition, EHPA recommends deleting the item C of the proposed revised definition found in Annexes E and F. Using load profiles is the means to fulfil the requirement on energy efficiency. It can be understood that if a product does not fulfil any load profile, then it is not a water heater in the way the regulation defines it and thus not in the scope of the regulation. Therefore, the product can be put on the market but with no energy efficiency requirements or label.

For the drinking water definition, EHPA supports to define drinking or sanitary water and proposes a definition as follow: ‘Drinking or sanitary water’ means water intended for human consumption supplied from a water distribution network to and from a water heater by plumbing (such as pipework, fittings, appliances) to taps and showerheads (possibly integrated in the water heater) for washing, cleaning, showering and bathing, drinking and food preparation purposes.

For the off-peak definition, it is proposed to replace the existing off-peak product definition by three new smart function definitions, we would like some clarifications on this replacement. We
would like to know if a product tested as an off-peak product will be considered as a smart grid product. As of today, product can be "off-peak" and/or "smart" and thus tested accordingly as "off-peak" and/or "smart" appliances. In the proposed revision of regulation 814/2013, description of the "off-peak" testing procedure is still there. Measurement of "smart" is unchanged. Does it mean that whatever the smartness the test to be performed is the same? EHPA recommends keeping the "off-peak" testing procedure as it is in the current regulation. Finally, we would like to know how the three new smart functions will be tested and verified.

3. REQUIREMENTS FOR HEAT GENERATOR W/O TANK

EHPA believes that at this stage it is too premature to define threshold for heat generator as there is no sufficient data on the actual performance and efficiency. Instead of minimum efficiency requirements, EHPA proposes to start with information requirements.

4. TEST CONDITIONS

A. Peak Temperature

EHPA does not agree to change the current approach of EN16147 for Peak temperature. We would like to stress that 55°C value is not linked to customer needs and real-life usage: main usages are around 40°C. An increase of the set point would be detrimental to consumers, who would need to pay for additional energy used while they do not require the temperature of 55°C in their daily usages. Such a measure would be also counterproductive to our common target for energy savings.

EHPA would like to remind that operating temperatures, including the set point, have a big influence on the efficiency of thermodynamic products. The approach recognized in the current Regulation and specified in the EN16147 takes into consideration this influence and allow a fair comparison between products with application of a penalty when the product does not achieve the 55°C.

We would like to give some evidence on this point with the following illustration of production of hot water and the temperature achievable at the different stages:
<table>
<thead>
<tr>
<th>Temperature</th>
<th>Current configuration</th>
<th>55°C to be achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerant / outdoor unit</td>
<td>58°C</td>
<td>61°C</td>
</tr>
<tr>
<td>Heat transfer fluid / indoor unit</td>
<td>56°C</td>
<td>59°C</td>
</tr>
<tr>
<td>DHW max</td>
<td>55°C*</td>
<td>58°C</td>
</tr>
<tr>
<td>DHW min (in case of optimised hysteresis of 3°C)</td>
<td>51°C</td>
<td>55°C</td>
</tr>
<tr>
<td>COP</td>
<td>2.68</td>
<td>2.22</td>
</tr>
<tr>
<td>Electric consumed energy</td>
<td>4.46 kWh</td>
<td>5.46 kWh</td>
</tr>
</tbody>
</table>

**Tpeak=55°C**
- 55°C exceptionally achieved
- Efficiency penalty taken into consideration for efficiency according EN16147 to achieve Tpeak=55°C.
- The overconsumption will not be paid by the consumer
- Reliability issues due to operating conditions not in line with some heat pump technologies.
- Less efficient product
- Overconsumption of 20%

*The temperature of 55°C could be achieved during the load pattern after the heating of the heat pump but we could not ensure that this achievement will occur during required tapping (e.g. 12h45 and 20H30 for L tapping profile)

Due to technical limitation when putting into practice the physical principle (temperature limitations of some refrigerants e.g. R410A), the maximum temperature will be 58°C on appliances put on the market. Considering the design of heat pump (former illustration), it is not possible for this kind of appliance to achieve 55°C.
B. Storage Tank Temperature

EHPA would like to stress that the 65°C requirement should only apply to the standing losses of the storage tank. Additionally, it is already prescribed in the standard EN 12897 and EN 15332. We do not see the necessity to introduce a fixed storage temperature in the ErP regulation for the measurement of standing losses of water heaters.

EHPA does not support the proposal to set the new eco-design limit to an equivalent to class B. This will lead to an increase of performance by nearly 30%: An increase of the requirements of 5% for products with a capacity equal or lower to 100L and 15% for products with a capacity higher than 100L seems more relevant. EHPA is strongly against limiting the market to storage tank achieving at least the threshold corresponding to B class.

5. CORRECTION FOR MULTIVALENT TANKS

EHPA supports the proposal on the multivalent except for increasing the threshold to B class level.

6. INFORMATION REQUIREMENTS

EHPA believes that we should maintain the label as simple and clear as possible for the end-user. Too many information could water down the value of the label for end-users. This is why we are not in favour of having the volume or the V40 on the label.

EHPA is in favour to support to display the energy efficiency for the average climate on the label.

Finally, EHPA questions the proposal on RPM declaration. It is proposed in the information requirements for technical documentation that the fan and compressor speeds (RPM) are to be declared for TOL and +7°C outdoor temperature condition. However, TOL is not define in lot 2 and the condition +7°C is only applicable to outdoor air HPWH. As such, EHPA does not see the relevance of declaring this information for HPWH.

7. VERIFICATION TOLERANCES

EHPA agrees that V40 tolerance could be increased.

8. THIRD PARTY CONFORMITY ASSESSMENT

EHPA does not have a common position on whether or not mandatory third-party conformity assessment should be extended to heat pumps.
9. MATERIAL EFFICIENCY REQUIREMENTS

A) Availability of spare parts

EHPA is not in favour of making spare parts available to end users for safety reasons e.g. electrocution and burns. In several European countries, national legislation makes it compulsory to be a professional duly qualified person to service or maintain electrical appliances. It is the case in Denmark (Executive Order on the Authorization of Companies for Electricity, Plumbing: LBK No. 30 of 11/01/2019), Sweden (ELSÄK-FS 2017:4) and Norway (FOR-2013-06-19-739). Similar requirements can among others be found in Finland, Germany and Austria.

In addition, in case any damage is caused by a water heater after being serviced or maintained, insurance companies may refuse to pay in case the repair has been done by a non-professional person.

For these reasons, EHPA would not advise to make any spare parts available to end-users nor to encourage for self-repair or maintenance.

Finally, for safety and quality insurance reasons, only partner, duly trained and qualified, are allowed to maintain and repair heat pumps. We do not want to see that any installers can have access to repairability information and thus claim to be in the position to be able to maintain and repair the heat pump for safety reasons.

B) Information requirements for refrigerant gases

EHPA does not support to include information requirements for refrigerant gases as it is already covered by the F-gas regulation. EHPA is against having a double regulation.

C) Recoverability and Recyclability

EHPA believes that it is too premature to have such indexes. At the moment, it is being developed at the horizontal level consequently we are not ready to apply it at a product level. It should progress at the time foreseen and not be rushed.

10. LABELLING REQUIREMENTS

EHPA does not support introducing A++ and A+++ because it is equivalent to a rescaling of the energy label. EHPA suggests defining the layouts of A++ and A+++ for models achieving A++ and A+++, respectively. For models with classes up to A+, the current layout should remain applicable.
11. HEAT PUMP SPACE HEATER / STORAGE TANK PACKAGE LABEL

EHPA is currently investigating the proposal to allow the introduction of packages of space heaters and separate storage tanks. Based on our investigation, we would like to highlight a couple of issues that should preferably be solved before implementing any change.

First of all, there is information lacking in order to be able to use the formula as specified in the Guidelines 2018. Secondly, the formula may overestimate the etas_WH and consequently, the calculation can create an unfair situation between the different technologies.

EHPA recommends that the issues identified above are further looked at by the consultant. In case an appropriate calculation method is found, additional information should be declared in the scope of eco-design and labelling regulation such as:

- COP\textsubscript{rated},
- heating capacity of the heat pump at conditions that are to be defined (standard rating condition for medium temperature application according EN14511-2?).
- tank heat exchanger surface
- storage capacity at 40°C and 55°C