



Brussels, 18 May 2020

WG2 - TESTING

Position on the discussion paper

These comments reflect the position of ECOS, the EEB and the Coolproducts campaign regarding the [discussion document](#) shared in the context of the [study](#) providing technical assistance for the revision of space and water heater regulations.

2. Harmonised test points heat pumps

2.1 - Assessing the energy performance of heat pumps

Question 1a: *What should test temperature regimes reflect? The average real-life temperature applications or test temperatures that are optimized for the product under test? Are there alternative suggestions?*

The tests should reflect average real-life temperature application to be as representative as possible, enabling comparison between technologies. A slightly conservative temperature regime would be preferred.

2.2- Dynamic testing of heat pumps.

Question 2a: *Do experts in principle agree that the dynamic/compensation test method better represents the real-life performance of the heat pump?*

Answer: Yes, we believe that the compensation test method proposed by BAM better represents the real-life performance of the heat pump. The dynamic test method is not yet ready and should be further investigated.

The compensation method should also be applied to hybrid appliances. A new standard to test hybrid appliances, currently based on EN 14825 is in development, but it should be made clear that the method needs to be based on the compensation method instead.

Question 2b: *Do experts agree that this dynamic/compensation test method must be further developed by standardization bodies and eventually introduced as the new test method?*

Answer: ECOS believes that a standard for the compensation method should be developed further and validated based on reproducibility. This method should be introduced as the new test method. The dynamic test method still needs further investigation and the compensation method only should be considered at this stage, as recommended by BAM.

2.3 – Heat Pump Settings

Question 3: *Do experts agree? Which conditions should be used regarding product settings according to the experts, and to define them?*

Product settings are irrelevant if the compressor speed is fixed, so to test heat pumps, the compensation method should be used. ANEC-BEUC's proposal to test the appliances for energy efficiency in the comfort mode and for product comfort in the eco-mode should be explored further to avoid the caveats of the "out-of-the-box" testing mode. Ideally, all the available modes should be tested, and the energy labelling should refer to the most energy-consuming mode.

2.4 – Display η_s on Energy Labels

Question 4: *Do experts support the approach proposed here?*

Answer: We fully agree with the proposed approach. Providing the consumer with information about the efficiency will allow to better differentiate between the available options in combination with the type of emitter.

3. Harmonised test point fuel boilers

3.1 – Assessing the energy performance of fuel boilers

Question 5: *Do experts agree that there is no valid argument for using different test temperatures and load conditions for assessing the energy performance of a fuel boiler to heat the same dwelling with the same emitters (compared to a heat pump heating this dwelling)?*

Answer: Yes, we agree that the conditions should be the same to test different types of heating appliances. With the proposal, boiler testing will also be more representative of real-life conditions. By specifying both in and outlet temperature, the flow is fixed for the specific condition. The alternative would be to specify the average temperature and eventually a minimum and maximum delta T. The approach to specify an average temperature should also be included in the relevant tables of EN 14825.

Question 6: *Do experts agree that a comparison between heat generators becomes more realistic and clearer for consumers and installers when harmonized test conditions are used?*

Answer: Yes, we agree that comparison between heat generators (especially between boilers and heat pumps) will be more realistic and clearer with the harmonised test conditions.

3.2 – Inter and extrapolation of test results for boilers

Question 7: *Do stakeholders find it acceptable to limit boiler testing to the suggested 4 points and derive the missing points through inter-/extrapolation? Are there suggestions for alternatives, e.g. further simplification at lowest temperature test point of HT and LT?*

Answer: The linear efficiency line may be interrupted in the transition from condensing to non-

condensing. A round of testing should be envisaged to clearly define the limits of condensing and non-condensing temperatures. The method could then prescribe to have one test point in the non-condensing area and two test points in the condensing area, with interpolation in the condensing area.

3.3 Boiler settings

Question 8: *Which conditions should be used regarding product settings according to the experts, and to define them?*

Answer: The regulation should indeed clearly define the configuration in which the appliance is tested. Boilers should also ideally be tested in all the available modes and manufacturers should provide information about all modes, while labelling should refer to the most energy-consuming mode.

4. Verification tolerances

Question 9: *What are experts' opinions on the adjustments needed regarding verification tolerances?*

Answer: The current verification tolerances for most of the parameters should be lowered on the basis of the RRT results presented, and as much as possible the tolerances should match the uncertainty. A solution needs to be found to lower the uncertainty in the measurement for the efficiency of air-to-water heat pumps, storage type products and the measurement for NO_x emissions, as these are currently really high. The 20% tolerance for the NO_x measurement in the regulation is in particular no longer acceptable.

5. Third party conformity measurement

Question 10: *Do experts agree that third party conformity assessment should also become mandatory for the other (electric) appliances in the scope of the Ecodesign of space heating and water heating appliances?*

Answer: 3rd party conformity assessment should be mandatory for fuel boilers and water heaters to check for compliance with Gas Appliances Regulation and ecodesign, and for heat pumps to check compliance with ecodesign requirements.

For electrical resistance water heaters third party testing does not need to be a requirement because of the low risk of wrong measurement (question 11).

6. Scope extension to 1 MW

Question 11: *Do experts agree that extension of the scope to 1 MW boilers is a feasible method to address the currently not considered product group of virtually indestructible jet-burner boilers (80% oil-fired) in mainly public non-residential buildings and thereby addressing the huge saving potential in that sector?*

Answer: We support the scope extension to those 1MW boilers if this allows to address the issue of jet-burner boilers. If this scope extension does not allow to appropriately address this issue, then these boilers could be explicitly included in the scope of the Regulation or addressed by Member State regulations.

7. New ErP Group: emitters and controls

Question 12: *Do experts agree that heat-emitters play a crucial role in achieving lower system temperatures in existing buildings and that there is insufficient knowledge and understanding as regards to how adequate radiator types and designs (including their hydraulic and temperature controls) can help lowering system temperatures?*

Answer: An information requirement should be introduced for emitters. This information requirement should provide data on the performance of the emitters at defined reference conditions, based on the heating temperature regimes (see table 2 and 3 in the discussion paper). These regimes should be as close to real-life conditions as possible (and an independent monitoring study could be performed). Information on the emitter's performance using average temperatures at two or three different flow rates should be made available. This will allow installers to select an optimal combination of heater and emitter, considering the flow that the heater provides to the emitter.

Question 13: *Do experts agree that a new Erp group 'Emitters and Controls' and related preparatory study can help further identifying bottlenecks and opportunities in achieving this large energy saving potential related to heat-emitters and their controls, for the existing building stock?*

Answer: A preparatory study should be considered if no straightforward support emerges for the information requirement.

Other issues discussed during the meeting

Noise

We strongly support the idea to improve the test conditions for noise for heat pumps as consumers are provided with unrealistic values at the moment.

Temperature controls

In awarding temperature controls we should take the following considerations into account:

- Presence detections and fence: both are similar so appliances should not get a bonus for each of them (either presence detection or fence).
- Remote control increases comfort but also the energy consumption as the heating is turned on earlier than if it would be turned on upon entering the house. This feature improves comfort but not efficiency and should therefore not receive a bonus.

Such parameters do not affect the efficiency of the appliance but of the system (boiler + emitter + controls).

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