POSITION PAPER

COMMENTS ON THE REGULATIONS ABOUT ECODESIGN AND ENERGY LABELLING REQUIREMENTS FOR SPACE AND WATER HEATERS

Brussels, June 2023

SUMMARY

We welcome the European Commission ecodesign and energy labelling proposals for space and water heaters and propose a few modifications, namely:

- Increase the energy efficiency requirement in Ecodesign for space heating by 115%, no later than 2027, with no exemptions to be addressed.
- Tighten the requirements for 'stand-alone' fossil fuel boilers, hybrid units (gas boilers and heat pumps) and electric heat pumps, in Tier 1 and Tier 2.
- Introduce the compensation method as standard measurement for heat pumps.
- Add requirements on material efficiency and repairability.

ECODESIGN REGULATION

Article 1 – Subject matter and scope

We agree with the proposal to **extend the scope to space heaters** with a rated output up to 1 MW.

Regarding cogeneration heaters, the limit of the scope of 50 kW, which mean that there is no regulation between 50 kW_e and 1000 kW_{th}, above which size they are included in medium-sized combustion plant directive. We propose to increase the scope for this product, up to 1000 KW_{th}.

Reversible appliances (chillers/heat pumps)

Reversible products that can both provide heating and cooling services are currently not covered under ecodesign and energy labelling requirements for their combined functions. We expect a growing market for this product group, hence its importance to be included in the ongoing revisions of ecodesign and energy labelling regulations. **We therefore support its inclusion**, especially for products above 400 kW heating capacity.

For the scope, we propose to cover products up to 1 MW heating capacity and up to 2 MW cooling capacity, aligning with current limits of existing regulations for non-reversible heaters and coolers, easing the process of inclusion in the current revisions of the regulations.
Concerning the ecodesign requirements, we propose that the reversible products follow the ecodesign requirements for heat pumps in the ecodesign regulation for space heaters (EU 2013/813). While these products might have lower efficiency than dedicated heat pumps, the proposed ecodesign requirements for heat pumps are far from BAT and should allow efficient reversible products in the market. We propose that for cooling, they follow requirements for chillers in regulation (EU) 2016/2281, possibly with a delayed introduction of requirements to allow manufacturers to adapt to the new regulation.

Lastly, for energy labelling, we propose for heating to follow energy labelling regulation for space heating (EU 2013/814). For the cooling function, we propose that a new label is developed, which should by no means delay any energy label revision.

Article 4 – Conformity assessment

We support the proposal that heat pumps, fuel boilers and hybrids are subject to third party conformity assessment. We propose in addition that **all heaters** in the scope of this regulation are independently tested and certified also for sound power, emissions, and for combination heaters, also water heater efficiency and water heating load profile.

We find that module B type conformity assessment is appropriate for third party assessment (conformity assessment of a one specimen of the product). We also support that the test report from the conformity assessment is included in the technical documentation of the product.
For testing of products above 400 kW, we propose that in-situ testing can be allowed.

Article 6 – Circumvention and software and firmware updates

We support that all software necessary for heating products to properly function is to be open source and accessible by grid operators and maintainers. This is required to allow interoperability and smart demand control management of the grids as well to prevent planned obsolescence.

We also want to stress that the software updates / OS system (where applicable) should not impede repair for independent operators, and it should not reduce the expected lifetime of the heating appliance.

We suggest that security updates, corrective updates and functionality updates should be available for at least the expected lifetime of the appliance e.g. 17 years for connected appliances.

Annex I – Definitions

We propose some improvements of the currently unclear definitions in the draft ecodesign regulation for space and combination heaters:

- (22) *'efficiency at minimum heat input'* should be the ratio between minimum part load output (P_0) and the input at P_0.

- (35) *'maximum bivalent temperature'* there should be only one bivalent temperature for the declared capacity.
- (36) *'reference design temperature'* should be specified as a parameter for heat pumps, it is not useful for hybrids.
- (51 & 56) only when the heat pump does not have capacity control or when demand is below minimum heat output, the defined condition for capacity ratio will result in cycling. Instead of "*declared capacity for heating*" should be defined "*minimum capacity for heating in continuous operation*" in (51) as a basis for defining conditions for cycling.
- (58) *'adjusted outlet temperature for cycling'* must be the average outlet temperature during the cycling
- (97) *'peak temperature'*, it should be renamed as '*draw-off temperature*' and be defined as the average water temperature during a draw-off instead of the 'minimum' temperature. The current wording causes confusion also in the development of the standards.
- (136) *'on/off cycle'* should be defined as a period, where the heater function switches on and off repeatedly. The time period should be defined.

Annex II – Ecodesign requirements

1. Requirements for seasonal space heating energy efficiency

Given the importance to decarbonise energy use in residential buildings and specifically heating, we propose to use ecodesign to **stop the installation of fossil fuel boilers by 2025**. **Thus, we support the increase of ecodesign energy efficiency requirements to 115%,** but we find that it should be in 2025, as recommended by the IEA in its recent "Net Zero by 2050" report[1] and, in any case, **no later than 2027**.

It is key **not to include any exemptions** for Tier 2 of such requirements, which will water down the robustness and credibility of Ecodesign as an energy efficiency policy.

Multiple studies pointed out that electric heat pumps should be the main driver to decarbonize the entire building stocks, where important roles are played also by hybrid units, solar thermal energies and district heating. Research made by Fraunhofer Institute2 and others showed that heat pumps exhibit good efficiency even in non-renovated buildings, including in detached and semi-detached houses. They also found numerous examples of successful heat pump installations in apartments as well. Furthermore, they found that barriers to adoption are often administrative rather than technical.

Hybrid heaters

The proposed energy efficiency requirements of 125%, with the new CC, is very low, allowing fossil fuels to provide a large majority of the heat as energy inputs. This jeopardises the efforts to reduce fossil fuel consumption with a phase-out of 'stand-alone' fossil fuels boilers.

We believe that low-efficient fossil fuel boilers could still be sold on the market by adding contribution from renewables (i.e. a small HP). This would therefore circumvent the intention of the regulation by keeping gas

[1] https://www.iea.org/reports/net-zero-by-2050. The report states "In buildings, bans on new fossil fuel boilers need to start being introduced globally in 2025, driving up sales of electric heat pumps"

[2] https://www.ise.fraunhofer.de/en/key-topics/heat-pumps.html

as the main energy source for the upcoming decades. To avoid this, energy efficiency requirements for hybrids should be increased.

As shown in the below table, currently 125% will allow in the market both the combination of low-efficiency appliances and several combinations with high shares of gas consumption, in contradiction with several EU targets.

We analysed the possible combinations of hybrid heaters, highlighting the shares of energy inputs (the best BAT heat pump is for air-to-water appliance with crankcase standby demand 1 W and boiler as gas boiler):

Hybrids heaters (% of heat production)- as MT	PEF=1,9	Boiler efficiency	Heat pump SCOP
Poor boiler (15%) + poor heat pump (85%)	125%	75%	2,7
BAT boiler (65%) + good heat pump (35%)	125%	94%	3,6
BAT boiler (35%) + good heat pump (65%)	151%	94%	3,6
BAT boiler (19%) + good heat pump (81%)	165%	94%	3,6
BAT boiler (5%) + BAT heat pump (95%)	190%	94%	3,85

Hence, we proposed to raise the **energy efficiency limits up to 150% for the 1st tier and 190% for the 2nd tier** in medium temperature (MT) regime.

Similarly for hybrids in **low temperature (LT) regime**, we propose 190% in first tier and 220% in second tier, corresponding to below proposals for LT heat pumps, where the heat pump provides 78% of the heat in first tier and 81% in the second tier.

The choice of using hybrid heaters would be that heat pumps cannot reach higher temperature with good efficiency. Hence, we encourage to set up **minimum efficiency values for hybrid heaters to be in HT regime**. If a heat pump is close to its limit at the medium temperature regime, its contribution on the high temperature application might be drastically reduced.

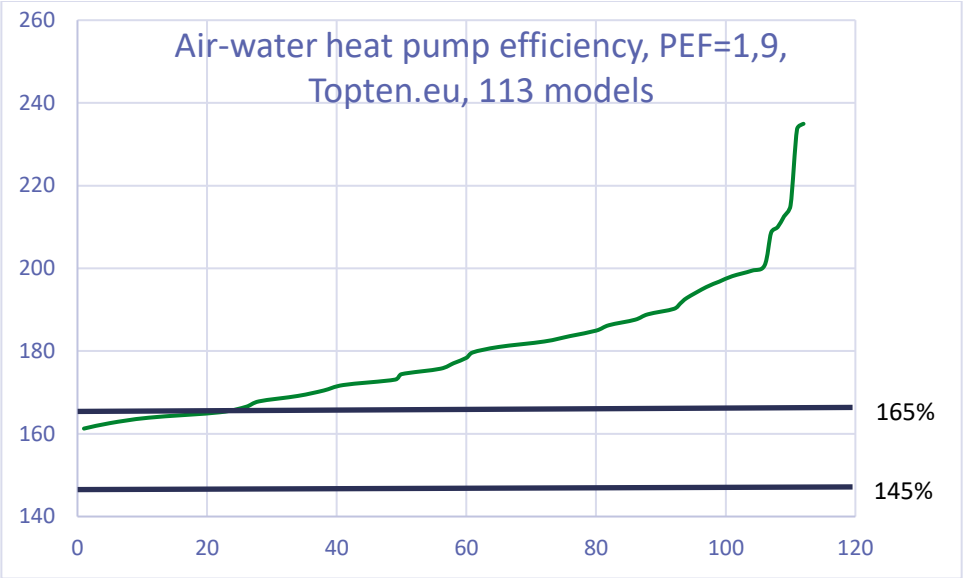
In the case of setting requirements for high temperature (HT) hybrids, the requirements shall be lower than MT regime requirements, but the final precise limit is to be set according to market data.

Heat pumps

The proposed efficiency **for MT heat pumps** is currently 145% with the current PEF. According to Topten.eu and the Danish Varmepumpelisten databases, the lowest efficiency of MT heat pump is already 161%.

Because Ecodesign should reflect the technological development of heating appliances in the market, we consider 145% not ambitious enough, and we propose to raise it **up to 165% for the 1st tier and 200% for 2nd tier** for MT regime.

Below, the graph shows the efficiencies of 113 heat pump models included in Topten.eu in MT regime and the proposed efficiency limits for the 1st tier, with recalculation from PEF=2,5 to PEF=1,9.



Similarly, for **LT heat pumps**, our suggestion is to raise the current 170% as in the proposals for both tiers, **up to 220% for the 1st tier and 250% for the 2nd tier**.

By applying both, according to the Topten database, it will effectively be removing from the EU single market only the least 10% and 14% efficient air-water heat pumps, for MT and LT respectively in the 1st tier. Currently there are 7 air-water heat pumps that already meet the Ecodesign proposed thresholds as of 2029 in MT regime, thus we see that innovation would be spurring the technology development even further until then.

If measuring methods are changed, efficiency limits have to be changed accordingly, for instance introducing the compensation method.

Fossil fuel boilers

We fully support **the increase to 115% of energy efficiency thresholds** for fuel boilers and electric (combi) boilers as of 2nd tier.

Concerning the proposed thresholds for gas and oil boilers, 87% is below the current BAT for such appliances (94% for gas boilers and 91% for oil boilers). Considering also their phase out in 2nd tier, we propose that, only the BATs should be in the market between the transition period among the two tiers, thus we propose to raise the limit **up to 90% for the 1st tier**.

Lastly, having the energy efficiency threshold as of 115% is potentially not allowing hydrogen heating as of 2nd tier. Indeed, hydrogen should not be used to heat households. The suggestion that it could be is unrealistic and complicates a question for which a simpler answer already exists.

Electric heat pumps are the primary way forward, whereas there is also a place for district heating (powered by large-scale heat pumps, solar energies, geothermal heat and clean waste heat sources), solar thermal energy, or solar PV (and/or combinations to be coupled with electric heat pumps).

2. Requirements for water heating energy efficiency

We support the Ecodesign energy efficiency thresholds for all the different technology. Nevertheless, there are a few requirements, listed below, that should be more ambitious in the current proposals:

- For **heat pump combi**: for size M, the current ambition of the proposals about the threshold is 88%, whereas for size L and XL, the threshold is 99%, leading to small removal of least efficient appliances, while it will keep 85% of the L models and 100% of the M models in the market, according to the EPREL database. We propose to increase the **requirements up to 105% and 130% for size M and L/XL,** respectively and, with this requirement, only the least 20% and 5% of the size L and M will be removed.
- For **fuel combi boilers**: for size M and L, the proposed limits will remove only the 40% of the models in the markets, meaning there is no alignment with the space heating requirement of 115% efficiency. We propose 2-steps to phase out such appliances, as currently is the case for space heaters, thus, **to raise the current limits up to 70% and 75% for size M and L** respectively, in 2025. For 2nd tier, in line with the phase out of fuel boilers for space heating, we propose to raise it further up to 105% and 115% for size M and L respectively.
- For **cogeneration combination boilers**: there is no rationale in allowing lower water heater efficiencies for size M, compared to fuel combination boilers. Thus, we propose that the thresholds' efficiencies are **raised to 70% for size M and 75% for size L**, as the more advanced technology should result in higher efficiency, not lower efficiency. Similarly, they low efficiency combi boilers should be phased out during the 2nd tier of the space heating ecodesign revision.
- For **dedicated water heaters,** we propose:
    - For size L and WL, to raise efficiency **level up to 130%,** which will phase out fuel and simple electric water heaters and will remove around 5% - only 15 models in EPREL - of size L heat pump water heaters, also keeping the majority of solar assisted water heaters in the market.
    - For sizes XXL and above**:** to increase the efficiency limit for all water heaters to the proposal for heat pump water heaters, meaning up **to 133% for XXL and to 144% for 3XL/4XL.**
    - For size M and S**:** the market of heat pump water heaters is not mature enough to phase out traditional water heaters (only 136 M-size models and 1 S-size model in EPREL), but we recommend that it anyway is considered **to phase out fossil fuel-based water heaters** in these smaller classes, while keeping electric water heaters available to consumers.

Regardless of their size, all electric space and water heaters should be able to react to grid signal and communicate to the electricity grid, in order to use them as ancillary services, such as flexibility and storage.

3. Requirements related to emissions

For emission limits, the NO_x emission limits are not changed in the draft from current requirements for natural gas, **G20 (methane)**. For LPG gases, it is proposed in the draft to make that limits less tight for **G30 (butane) and G31 (propane)** family gases, by 30% and 20% respectively compared with current limits.
Contrarily, we propose to have 30% lower NO_x emission limits for gas equipment for normal gas and to keep current limits for equipment using G30 and G31 gases, instead of making requirements less tight for this type of equipment.

We do not support the proposed emissions limit of 420 mg/kWh and propose to reduce NO_x emission limits of all **cogeneration heaters to 200 mg/kWh**. Likewise, for **cogeneration heaters above 400 kW, we propose**

160 mg/kWh, in line with the Medium Combustion Plant Directive[3]. For engines that cannot meet this limit, the manufacturers shall equip them with flue-gas NOx reduction technologies.

4. Requirements for material resource efficiency

Requirements related to repair

We believe that the access to spare parts and information for repairs should at least be allowed for all independent operators defined as "a natural or legal person, other than an authorized dealer or repairer or remanufacturer, who is independent from the manufacturer and the producer and is directly or indirectly involved in the repair, maintenance and installation of heating appliances", as it is currently the case in other EU policy measures. For spare parts, where the exchange requires authorisation, the supply can be limited to repairers that are authorised to work on for instance gas appliances or electric appliances, as applicable.

In a context where professional repairers must provide evidence of their professional status to manufacturers before accessing repair and maintenance information, requiring manufacturers to motivate their rejection is necessary.

However, we actively support the end of the distinction between professional repairers and end-users in terms of access to spare parts and repair information: all the parts currently listed for professional repairers should be made available to everyone, together with repair information necessary to conduct repair operations as safely as possible. This distinction is purely discriminatory and based on unsubstantiated safety issues. Analysis of data from community repair initiatives shows that the range of repairs performed by end users at repair cafes is wide, requiring access to all the same spare parts used by professional repairers[4]. At least, end-users should be able to replace the control buttons on their own.

Repair information must contain the level of detail necessary to replace parts. Besides, we think there should be **no fee for repairers** to receive information on products, provided that this information is accessible in a digitalised form.

Given its relevance for metal consumption and the carbon-intense production chain linked with heating technologies, and building on the EU's Green Deal Industrial Plan and the EU's Circular Economy Action Plan **we strongly support the insertion of recyclability criteria** in this products group. For this reason, we suggest that from 48 months after entry into force all heating technologies that contain copper, aluminium, lead and steel will have to contain a share of at least 50% recycled content for those material streams, coming from manufacturing waste or post-consumer waste.

Equally important, from 48 months after entry into force all products regulated by the present act will need to have at least a 90% recyclability score for metal and plastics.

[3] The Medium Plant Directive, (EU) 2015/2193 sets the limit for NOx emissions for engines above 1 MW fuelled with gaseous and liquid fuels to 190 mg(m3, which is equal to 163 mg/kWh. This is except gas engines fired with natural gas, where the limit is only 95 mg/m3.
4 https://openrepair.org/open-data/insights/mobiles/

Requirements related to spare parts

We support the required availability of spare-parts, but given the lifetime of the heaters, we find that spare-parts should be available for the lifetime of the product, **17 years for heaters** according to the review study, instead of 10 years.

For maximum delivery time of spare parts, we consider that 15 working days to deliver spare parts is too long for heating appliances as consumers cannot be expected to live without a functioning appliance for over 3 weeks during the coldest season. Following what has been proposed for mobile phones, smartphones, cordless phones and tablets, we suggest having it as short as **5 working days** for delivery to the repairer in charge or to the end user.
We suggest that products are assembled with standard seals and connection means. If not the case, the suitable tools to disassemble the proprietary seals and connection means should at least be bundled with the product at the time of sale.

5. Requirements related to self-monitoring

We support the current requirement of self-monitoring of heaters, which will allow users and service personnel to keep monitoring the performance of the heater throughout its lifetime. The information shall be retrievable by the end-user in a common data format (csv, excel, dif) for data processing by the end-user and his advisers.

We also propose that relevant information is collected on failures, durability, and lifetime of appliances. The collection of such data will enable a better evaluation of the durability and the lifespan of appliances. Manufacturers should also keep a registry of the most common failures, and failures causing the end of the life of the appliance.

6. Requirements related to refrigerants and information requirements

We propose that heat pumps with GWP refrigerants higher than 5 should have a sign on them that it contains a refrigerant that is harmful to the climate, if not collected during dismantling.
The efficiency of a HT heat pump should be shown on the product information fiche, in addition to the label, and this is currently not in case in the proposal.

Annex III – Measurements and calculations

Requirements about the calculation methods

We support the **introduction of the compensation method** for heat pumps. The building simulation that BAM intends to introduce gives a lot of resistance in development of the standard within CEN/TC113/WG8, however it is an excellent way to replace the various test conditions in EN 14825 (for LT an MT applications)[5].

5 A comprehensive list of obstacles in the standards development of heat pumps, and its solutions to overcome those, are compiled in this document: https://ecostandard.org/wp-content/uploads/2022/11/ECOS-position-on-standard-issues_MGR-For-general-audience.pdf.

The air volume allowed for ventilation air for heat pumps is 100 m^3/kW. However, we propose to reduce to 50 m^3/kW with the rest of the ambient heat should be taken from outdoor air.

We propose that heat pumps can be declared as HT for design forward temperature of 65°C, in addition to MT for design forward temperature of 55°C. If they are declared as HT, their performance needs to be tested in design ($P_{designh}$) condition, with 100% capacity. HT conditions shall be included as an extra option in Annex III, Table 4.

We do not support the proposed change of the brine temperature for ground source heat pumps from 0°C in the current regulation to +5°C in the proposal. Ground source heat pumps are used in different installations where the two most common ones are with vertical drillings and with horizontal tubes 0.6-1.5 m below ground:

- A vertical drilling supplying to one well-insulated dwelling is often able to deliver a temperature of 5°C in average climate during the heating season.
- Horizontal tubes below ground are often designed for heat pump inlet temperatures around 0°C (colder mid-winter, warmer rest of heating season)[6].

Rather than setting different inlet temperatures for different brine systems, we propose that the brine inlet temperature is set at 2°C as an average, the brine temperature set then being 2°C / -1°C.

For the combination heaters made of a space heater and a hot water tank, it is important to specify in the text the heater and tank losses (P_{stby}, S) and how they are calculated as well as their units.

For **water heaters**, we propose the following provisions:

- 3(a): An obligation could be indicated for verification of the load profile with the largest reference energy. Currently in the standard development within TC 59X at CENELEC, this is the case for electric water heaters.
- 3(c): Measurements should be allowed to deviate from 24-hour measurement to allow more reliable results and to avoid circumvention, as also confirmed by Annex IV. Within CEN, TC113/WG10 works on an improved method to avoid circumvention and alignment should be envisaged. As an additional requirement, all water heaters need to fulfil the temperature range, as required by the load profile, even during the next day of operation.
- 3(d): Indoor air used for the rating conditions should be introduced as a penalty on the energy supplied by the source. A heat pump should be considered as renewable as the source energy (input in the efficiency formula) only if it is free of any fossil fuel heating, and this may not be the case for indoor air. There should be a new factor to introduce this deviation as energy source input in the efficiency calculation, dependent on the climate zone.
- 3(e): “air heat source can used and declared” should be edited as “air heat source shall be used and declared”. In addition, in case of indoor air quality measurement controlling ventilation, the heat pump control shall introduce outdoor air, in case additional air is required for hot water heating.
- 4(b): The water heating efficiency shall be lowered by 5 percentage points. Since the T_{peak} is reduced from 55°C to 52°C, the appliances that reach 55°C should be granted a bonus of 5% indeed, alongside the back-up heater must be included in the test.

[6] See graph on page 80, Den Lille Blå om Varmepumper, 2019, https://elforsk.dk/udgivelser/lille-bla-om-varmepumper-2-udgave

For **space heaters**, we propose the following provisions:

- 4(d): If the electrical back up heaters is needed to fulfill the load below T_{biv}., the backup heater must be included in the test to verify the capacities and efficiency. If the unit is delivered with an existing back up heater, the minimum requirements for this back up heaters must be disclosed in the manual for installers to verify and inform the user about potential difference, as this could also be part of information request.
- 6(a): A verification procedure should be introduced to establish to check the declared maximum load profile.
- 6(c): Measurements should be allowed to deviate from 24-hour measurement to allow more reliable results and to avoid circumvention, as also confirmed by Annex IV. Within CEN, TC113/WG10 works on an improved method to avoid circumvention and alignment should be envisaged. As an additional requirement, all water heaters need to fulfil the temperature range, even during the next day of operation.
- 6(f): Indoor air used for the rating conditions should be introduced as a penalty on the energy supplied by the source. A heat pump should be considered as renewable as the source energy (input in the efficiency formula) only if it is free of any fossil fuel heating, and this may not be the case for indoor air. There should be a new factor to introduce this deviation as energy source input in the efficiency calculation, dependent on the climate zone.
- 6(l): The value for V40 measurement is based when the heater is turned off, giving the consumers a wrong indication/comparison, as high-capacity products will deliver more low-capacity ones, this needs to be changed.
- Water heating calculation methods (b): The water heating efficiency shall be lowered by 10 percentage points. Since the T_{peak} is reduced from 55°C to 50°C, the back-up heater must be always included in the test.
- 12: A max frequency test should also be verified and checked, for example the frequency during noise test against the max frequency test during CVP.

ENERGY LABELLING REGULATION

General remarks

For both space and water heaters, we propose that a smart energy-related icon is added to the label, in case the heater can be integrated in a smart energy system, where heat production can be increased or reduced based on a combination of external signals and user settings.

Space heating

Regarding space heating labels, we firmly support the proposal, where A class is empty and fuel boilers are in the class F and G. We think that the F class threshold should be slightly higher, moving it from 90% to 92%, allowing only very efficient fuel boilers to belong to the F class.
Currently the E class spans from 115% to 145% and we believe a minor modification to the upper limit, up to 150%, will spur energy efficiency for heat pumps.
Similar as for ecodesign requirements, we support that **efficiencies are derived from tests** with the compensation method.

For labelling purpose, we find that the proposed brine temperatures of 5'C/2'C are too high compared to many winter situations and **we propose to reduce it to 2'C/-1'C** (an increase with 2'C compared to the proposals provisions).

We do not support that energy labels based on water-water heating would be tested with higher temperatures than brine temperature, thus we propose that all water-water heat pumps are tested with the abovementioned brine temperature. The difference between the higher temperatures with water-water and the lower temperature with brine-water for testing gives a misleading information to consumers, as it is essentially the same technology. All heat pumps with this technology should be compared on equal terms and for this we propose the temperature set of 2'C/-1'C.

If a heat pump can only operate with 10'C/7'C on the cold side, higher than the brine temperature set up, it should have **a penalty in the calculation** A reasonable penalty seems to be 20-25%[7], but this should be set with a more in-depth study. Moreover, if it is uncapable to work at such temperature, the minimum working temperature should be indicated on the label.

If a heat pump supplier wants to market a heat pump for use with higher cold-side brine temperatures, the information sheet should include such parameter, and not the label.

Water heating

There is a substantial difference between energy class limits for water heating of combi-heaters and water heaters. We propose to have the same level for all for each efficiency class for all water heaters as we find that it will give the best information. Moreover, we would like to keep having one scale for each size of water heaters.

Generally, we support the current energy classes thresholds for combi-heaters as we believe that heat pumps and solar energy should be ranging in the highest classes.

Lastly, for sake of coherence, for M-size dedicated water heaters, we propose to increase the E-class current limit from 80% to 105%, aligning it with Ecodesign threshold for heat pump water heaters, and edit the lower limits of the C- and D-class accordingly.

We do not support that labels can be made based on water-water heating tests with higher temperatures than brine temperatures, so we propose that all water-water heat pumps, water heating included, are tested with brine temperatures for labelling purpose, **at 2°C**, higher temperature for water-water heat pumps gives a misleading information to consumers, as it is essentially the same technology as ground source heat pumps and all heat pumps with this technology should be compared on equal terms.

[7] In topten,.eu, there are efficiencies for some heat pumps tested both with water and brine at the cold side. For instance, a Hoval Ultrasource T comfort(13) heat pump, the efficiency in MT with brine is 162% and with water 217%, a difference of 25%. If the test temperatures for brine is changed to 2'C/-1'C, the efficiency difference from testing with water with 10'C/7'C will be around 20% for this model.

Annex I – Definitions

The comments on Annex I of the Ecodesign regulations are also valid for draft regulations of the energy label, except for definition no. 136.

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