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Review study of Ecodesign for local space heaters
Commission Regulation (EU) No 2015/1188

Organization:	Name:	Date:
ECOS with the support of the EEB, the Coolproducts campaign and Inforse Europe	**Mélissa Zill**	**28 February 2019**

Number	Task	Page #	Topic	Comment	Proposed change
1	1	8 1	1.5.2 Scope recommendation for electric local space heaters	Towel rails of 150W and above should be included in the scope of the regulation as fixed room heaters. For small bathrooms in new, well-insulated buildings, a towel rail of 150W could cover the heating requirements. Consumers should be informed that a towel heater of 150W also controls the room temperature, thus avoiding overheating or energy waste (e.g. if the heat is ventilated away).	Include towel rails of 150W and above in the scope and regulate them as fixed room heaters.
2	1	8 5	1.5.2 Scope recommendation for electric local space heaters	We support the inclusion of slave heaters in the scope. For the declaration of efficiency, we propose to consider the efficiency of the heater combined with the simplest external control that the supplier of the slave heater offers or recommends. We also support the requirement to include information in the user manual to inform consumers on the recommended controls. There are two basic types of heaters without controls: - Heaters that would need a control in the power supply to regulate electricity flow to the heater, and - Heaters regulated with a signal and that can turn power up and down depending on the signal (e.g. slave heaters). The efficiency of the first type of heaters equipped with a plug or with a simple control (e.g. on-off switch) should be declared without further controls.	We propose a new bullet point for requirements for heaters sold separately from the control: • Heaters that cannot be regulated with an external signal and that can be directly connected to the grid (e.g. are equipped with a plug) should declare the efficiency of the heater without any external controls.

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3	1	9 1	1.5.3. Scope recommendations for gas and liquid local space heaters	The proposed new definitions for closed-fronted heaters do not consider the important distinction between heaters with control of combustion air intake (closed-fronted with air intake from room or from outside) and those without control of combustion air (open-fronted and closed-fronted, where the cover does not seal the combustion chamber from the room). The main difference in efficiency between open-fronted and closed-fronted heaters originates from the control of the flow of combustion air. To clarify this, we recommend introducing the definition of closed-fronted heaters as type B11 (combustion air from room) and type C11 (combustion air from outside), as it used in EN613 (referenced in the text).	Add, above the line "balanced flue /closed combustion" Closed-fronted/sealed from combustion air from room (type B11 according to EN613): • Combustion chamber is closed by a glass or metal pane • Combustion is sealed from room, but primary air supply is from room through inlet openings with valves/dampers • Requires a flue system Replace the line "Balanced flue/closed combustion" with "Closed-fronted/combustion air from outside (type C11 according to EN613) Add "balanced flue" to the second bullet point, as follows: • Combustion chamber is closed by a glass or metal pane • Combustion is sealed from room (primary air supply from outside the room, balanced flue) • Requires a flue system
4	1	9 7	1.5.4 Third party assessment	Since gas and liquid fuelled heaters are already tested by third parties (notified bodies) for conformity with the Construction Products Regulation, and since it is common practice that results from these tests are used for ecodesign and energy labelling, we propose to make this practice a requirement.	Replace last sentence on page 97 with "A proposal is to require that results from third party conformity assessment tests for CPR for gas and liquid-fuelled heaters are used for determining ecodesign conformity and to set energy label levels".
5	2	1 0 2	2.1.1 Sales split and market share Table 19	The assessment of the market for liquid fuel heaters needs refining. The difference between Prodcom sales data of 1,8 million units sold in 2010 (Prodcom 27521250) and the report estimation of 49,000 units sold in 2010 is very large. Prodcom data includes braziers, but this is not enough to explain the large difference.	Review sales data and clarify why there is such a large difference between the report estimation and the PRODCOM data.
6	2	1 0 2	2.1.1 Sales split and market share	The report should include sales data for mixed heaters, or sales of radiators or heating elements used for mixed heaters if data for mixed heaters is not available. National data can also be used as an indication of sales if no data at European level exist.	Review sales data to include sales of mixed heaters.

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7	2	1 0 3	2.1.1 Sales split and market share	The report should include sales data (or at least estimates) divided in the different label classes, and this at least for the most popular heaters with labels (gas-fuelled heaters). As sales data might not be available, a simple count of labelling of products from some national markets could be included as an indication of how market is split between classes. The EPREL database could also be used as a source of information.	Include at least estimates of sales per label classes or a count of models per label class.
8	2	1 0 2	2.1.1 Sales split and market share	The study team decided not to include outdoor heaters in the study scope despite our recommendations. We firmly believe that the study team should at least give an assessment of the energy saving potential of this subgroup, and, therefore, include sales data for outdoor heaters in the task 2 report.	Include sales data for outdoor heaters, adding a paragraph and a table considering both electric and gas- and liquid-fuelled outdoor heaters.
9	2	1 1 4	2.4.1 Interest and inflation rates	The change of the energy price forecast from MEErP methodology (4% increase/year) to 0.8% increase/year (2015-2030), without change of discount rate, reduces the weight of future energy prices and therefore reduces the value of energy efficiency in LCC calculations. A change in price forecasts should be followed by an automatic re-evaluation of the discount rate.	As this is a horizontal issue, we propose the European Commission re-evaluates discount rates horizontally or return to MEErP methodology assumptions.
1 0	3	1 3 1	3.3.3 Towel rails	As described in Comment 1, towel rails at 150 W and above should be included in the scope of the regulation as fixed room heaters.	Add the following paragraph: The heat demand of bathrooms in new houses is often as low as 150 W (e.g. for a 5 m^2 bathroom). Towel rails above this size will effectively work as primary heating of the bathroom, and towel rails above 150 W should be regulated in the same way as fixed local heaters.
1 1	3	1 3 4	3.3.4 Flueless heaters	Flueless heaters emit pollutants and particles. To give consumers certainty that with a given ventilation rate they will avoid harmful concentrations of pollutants, we propose to set emission limits for NOx, CO and OGC for flueless heaters.	Add the following paragraph: Setting emission limits for CO, NOx and OGC must be considered, to enable consumers to ensure minimum ventilation levels to avoid harmful concentrations of pollutants in the room.
1 2	4	1 6 2	4.5.4 Open-fronted and closed-fronted local space heaters	Combustion & Outlook: The possibilities for reaching the BAT for NOx are not described. As there is no market analysis easily available, add a technical	Describe the technical options as well as the costs and any related change in energy efficiency for reaching BAT for NOx.

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				analysis instead.	
13	4	162	4.5.4 Open-fronted and closed-fronted local space heaters	Controls & Outlook: The use of mechanical controls for temperature regulation is not mentioned, nor is any analysis of the potential measures to improve the mechanical temperature controls.	Add a paragraph on mechanical temperature controls analysing the opportunities and costs of improved non-electric temperature controls/thermostats.
14	4	162	4.5.4 Open-fronted and closed-fronted local space heaters	It is possible to increase the requirements for efficiency levels of gas and oil heaters (e.g. for gas heaters up to 88%). The study should analyse the cost of achieving this higher level of efficiency.	Add an analysis of the cost of increasing the efficiency to the BAT level or near the BAT level.
15	4	163	4.5.5. Commercial local space heaters	There is no analysis of the opportunity and the costs of achieving BAT level for NOx emissions. As there is no market analysis easily available, add a technical analysis instead.	Add a technical analysis of the solutions for and costs of achieving BAT or near BAT for NOx emissions. Any related change in energy efficiency should also be included.
16	4	169	4.7.3 Bill of materials for local space heaters	The bill of materials is not precise enough: parts and components containing hazardous substances that need to be removed at end of life (requirement for WEEE Directive Annex VII) should be listed, per type of heater.	List the components and parts included in WEEE Directive Annex VII for each type of heater.
17	6	190	6.2 Control accuracy	The text does not discuss the accuracy of mechanical temperature controls for respectively gas-/oil-fired heaters and electric heaters. One should consider the improvement that can be achieved from moving to higher-precision mechanical temperature controls or electronic controls, including the costs for these changes.	Add an analysis of the options to improve the accuracy of the controls, moving from standard to higher precision mechanical temperature controls for gas/liquid heaters and to electronic controls for electric heaters. The analysis should discuss costs for these changes.
18	6	192	6.3 Improved useful efficiency	No analysis of the costs of moving from mechanical controls to higher-precision mechanical or electronic controls for the equipment itself (not including the eventual cost of an electric connection to a non-electric heater) is presented in the report.	Include an analysis of the equipment costs of moving from mechanical controls to higher-precision mechanical or electronic controls.
19	6	193	6.4 Resource efficiency options	The options for resource efficiency are too focused on repairability. The options linked to, in particular, upgradeability and recyclability should also be explored.	Investigate further: -Upgradability: for instance, with an option of replacing controls with more advanced controls. -Recyclability: especially regarding the parts that need to be removed during the depollution stage.
20	7	196	7.1 Policy analysis, policy options and scenario analysis	A policy option to require the upgradability of controls should be introduced. Upgradability in this context should enable consumers to easily replace controls, thanks to	Add the proposed policy option linked to upgradability.

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				simple, standardised interfaces for electric heaters and other heaters that are equipped with electronic controls.	
21	7	196	7.1 Policy analysis, policy options and scenario analysis	A policy option to require a minimum level of temperature control accuracy for electronic controls of portable heaters should be introduced. Given the possibility to increase accuracy from above 4°C to around 0.5°C, this could be a LLCC option. We propose to insert it in the regulation by setting the same F(2) correction factors for portable electric heaters as for fixed ones.	Add policy option requiring higher control accuracy for electronic controls of portable heaters, including LLCC calculations.
22	7	196	7.1 Policy analysis, policy options and scenario analysis	A policy option to set air emission limits for CO, OGC, and NOx per kWh together with user information on ventilation requirements for flueless heaters should be introduced.	Add a policy option setting air emissions limits for CO, OGC and NOx per kWh.
23	7	196	7.1 Policy analysis, policy options and scenario analysis	A policy option to set higher energy efficiency requirements for gas and oil open-fronted heaters should be introduced. If actual assessments show that this is LLCC, information on costs of higher-precision mechanical temperature controls should be included.	Add a policy option setting higher energy efficiency requirements for gas and oil open-fronted heater, and related LLCC calculations.
24	7	196	7.1 Policy analysis, policy options and scenario analysis	A policy option to extend labelling requirements for electric heaters should be introduced. Labelling is an essential tool to inform consumers of the energy performance of electric heaters compared with other local space heaters.	Add a policy option to extend labelling requirements for electric heaters.
25	7		7.1 Policy analysis, policy options and scenario analysis	Given the uncertainty of the use of the standby consumption, we propose to change the calculation of auxiliary energy in the F(4) correction factor. This factor should include electricity demand in idle-state (when thermostat has stopped heating while equipment is on), in standby and off-mode options, irrespective of the fulfilment of requirements of the Ecodesign Regulations for standby modes.	Add a policy option to change the calculation of auxiliary energy in the F(4) correction factor. Proposal for new formula for F(4): $F(4) = CC*(t_{idle}*P_{idle} + t_{stb}*P_{stb}+t_{off}*P_{off})/P_{nom}$ Where: t_{idle} is the fraction of the year where the heater is on, but idle, and where auxiliary heating does not contribute to maintain thermal comfort because heating is not needed. This can be estimated to be half of the use hours (according to table 34) divided

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					by the number hours in a year. If the heater has a standby mode, the t_{idle} can be estimated to 25% of the use hours according to table 34 divided by the number of hours in a year. P_{idle} is the power in idle mode. t_{stb} is the fraction of the year where the heater is in standby mode. If the heater does not have standby mode it is 0. Otherwise it is estimated to 0.2. P_{stb} is the power in standby mode. t_{off} is the fraction of the year where the heater is in off-mode. This is estimated to 0.45 equal to the period outside the heating season. P_{off} is the power in off-mode P_{nom} is the power at nominal loads. [the values for t_{idle}, t_{stb} are first estimates and shall be reviewed]