Follow-up of the review studies for Ecodesign and Energy Label Regulations for space and water heaters:
EHI replies to the questions of the Discussion Document - 1st meeting of Working Group 1 ‘Special Issues’ - 13 February 2020

Please find below the EHI replies to the questions asked in the VHK Discussion Document circulated ahead of the Working Group 1 meeting of 13 January 2020. These replies are based on and complement the EHI positions presented at the meeting.

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<th>Topic number</th>
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<td>1</td>
<td>Ecodesign and energy labelling requirements in support of the decarbonisation of the gas-grid</td>
<td>1. Based on today’s technical, economic and environmental knowledge, do we recommend to keep – as a precautionary measure – the policy option to support a 100% hydrogen gas-grid on the table or not? On what grounds?</td>
<td>The future greening of energy carriers, including gases, via hydrogen, biomethane (as defined in EN 16723-1 and EN 16726) and synthetic methane is a crucial development towards the decarbonisation of buildings and of the EU economy. There are different national / regional approaches to decarbonising gases. The future use of 100% hydrogen is one of them, and so are the use of hydrogen in blends, the use of biomethane, synthetic methane etc. Some of the presentations shown at the 13 February meeting highlighted that there will be different approaches.</td>
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2. What would an alternative policy option for decarbonising the gas grid? On what grounds?

As mentioned in the reply to the previous question, there are different national / regional approaches to decarbonising gases. Moreover, the future greening of energy carriers (including gases, via hydrogen, biomethane and synthetic methane) is going to be an endeavour broader than what can be tackled by focusing only on product policy. It should be promoted also by other EU level policies e.g. Strategy for smart sector integration.

3. Based on today's knowledge, do we recommend policy makers to include the ‘hydrogen-ready’ feature or any other feature to support a decarbonised gas grid in any form or the other in new Energy Label and/or – possibly at a later stage—mandatory Ecodesign regulations for space- and water heaters. On what grounds? What information, which is out there, is possibly missing and should be retrieved by the study team before a decision can be made?

The European Heating Industry is active to develop technical solutions based on green gases. There are also other policy options than the VHK proposal of hydrogen-ready to support the decarbonisation of gases and EHI is investigating them. Moreover, there are several areas where missing information is to be retrieved by the study team / additional thinking needed:

- Lot 1 and 2 review are an important part of the policy framework to decarbonise gases. This part is important, but it is not the only one (see reply to question 2).
- How to reconcile the internal market scope of Ecodesign and Energy Label (one EU market) with the national / regional differences of development of green gases (see reply to question 1)?
- There will be different national / regional approaches to decarbonise gases by 2030 and 2050. Gas supply, transmission and distribution industry should be involved in this discussion. Therefore, it was a welcome initiative that some representatives of this industry were invited to the latest Working Group 1 meeting.
- What is going to be the impact on the behaviour of consumers and on installers’ choices of proposals affecting Ecodesign and Energy Label? If the impact negative, then the proposed measure is not right. E.g.: VHK proposal entailed a downgrade of condensing technology. What would be the impact on the modernisation of the installed stock of heaters?
4. If the answer to both questions above is positive, how should the 'hydrogen ready' feature and/or feature to support a decarbonised gas grid be shaped in the measures, i.e. exact criteria and boundary conditions, mandatory or voluntary, possible energy label factor, possible icon on the energy label, timing, etc.?

- Use of green gases: probably there will not be only one generation of heating appliances between today and 2050. The condensing boilers now placed on the market can work already with biomethane and with some blends of hydrogen.

Gas boilers already work with up to 100% biomethane and some condensing boilers placed on the market today can accommodate a variable share of hydrogen (H2) up to 20%. Best available technologies can burn blends fuelled with up to 30% H2.

However consumers are not aware of it. How promote their awareness and this type of appliances? EHI Members are evaluating different policy options, e.g.: indication in the product fiche, pictogram on Energy Label, bonus linked to CO2 savings on energy label scale, Ecodesign requirements.

5. Should the boiler be more than 'just' ready for conversion from natural gas to 100% hydrogen (after a minor installer intervention) or should it be ready or able to cover also the intermediate stages between 30% (probably possible without adjustments to a standard gas boiler) or 100% hydrogen. The latter could be relevant if utilities want to have staged hydrogen implementation in the 30-100% range and will of course come at a considerably higher extra price for the boiler. Is that economically and technically feasible?

- Should the answer to both questions above is positive, how should the 'hydrogen ready' feature and/or feature to support a decarbonised gas grid be shaped in the measures, i.e. exact criteria and boundary conditions, mandatory or voluntary, possible energy label factor, possible icon on the energy label, timing, etc.?

Work is ongoing in the following fields:

- EHI is Advisory partner of the EU-funded project THyGA, to investigate the effects on appliances of applying hydrogen blends higher than 30%.

- As we understand, utilities are not looking at a staged injection of hydrogen in the 30-100% range; there rather seems to be a leap between 20 and 100%, due to the adaptation work needed to the gas infrastructure.

- Tests are ongoing for the use of 100% hydrogen boilers in local grids (different products from the ones using blends = different components).
| 2 | **Primary energy factor, impact on limits**  
**Discussion document section 1.4** | 1. In principle, and not to suggest that this will be the last word on limits (also because WG2 and 3 will have input), is the suggested PEF-correction of the Ecodesign limits correct or should is there another way to use the new PEF and not downgrade the current limits? |
|   | The EHI supported the revision of the Primary Energy Factor (PEF) in the Energy Efficiency Directive. Regarding the application of the new Conversion Coefficient (CC) in Ecodesign and Energy Label, the EHI recommends: |
|   | • A thorough assessment, before introducing a new Conversion Coefficient in Ecodesign and Energy Label; |
|   | • Keep promoting on the Energy Label appliances bringing energy efficiency to the homes of Europeans. This reasoning should apply also to non-electrically-driven appliances, which are indirectly affected by changes in the Conversion Coefficient. Inefficient appliances should not be upgraded. |
|   | • Respect the timing set in the framework Energy Label Regulation: heaters should not be downgraded on the energy label scale before the 2026 review, in line with the need to promote the adoption of energy efficient appliances in Europe’s buildings. |
|   | For more details, please see Part I, section 1 of the EHI position paper from 28 May 2019, already sent to the study team and enclosed. |
|   | 2. Given that it seems the prime argument against change of labelling class limits, how important—in view of realising policy goals—is it to keep condensing fossil-fuel boilers in the ‘A´ class (and not lower)? |
|   | It is crucial that condensing technology remains in the A class. Why? To achieve the following goals: |
|   | - Promote the modernisation of old and inefficient heaters: as recognised in the Energy Label framework Regulation (2017/1369 EU, recital 17) the current setting of the energy label scale for heaters helps the uptake of energy efficient appliances. Indeed, the Energy Label increases the efficiency awareness of consumers. And this is much needed, because currently over 55% of all the heaters installed in buildings in Europe are old and inefficient, but uptake of new and efficient products is slow. The replacement rate is below 4% /year. |
|   | - Condensing is a European technology. Many jobs in the manufacturing sector (heating and components) and in wholesale and installation are linked to it. Moreover, condensing boilers made by European companies are sold in several markets outside Europe. This is important for the EU industrial strategy. |
|   | - Condensing technology paves the way for decarbonisation, as these appliances can be used with several types of green gases (see replies to questions in section 1.3, above). |
|   | - Some countries have introduced an energy label for the installed stock of heaters, as a measure to accelerate the replacement rate of old and inefficient appliances. But this measure would be hampered, if efficient technologies were rated with a C or D energy label, because consumers would not be able to see the difference in energy efficiency between the old and the new appliance. |
### 3. Micro-cogeneration metrics

#### Discussion document section 1.5

1. Can parties agree with the proposal? If not, apart from the proposals already known to be diverging, what proposals are made to solve the issue?

The EHI made specific comments to develop the assessment of micro-CHP appliances calculation methods, as part of the position paper from 28 May 2019, part II, section 11. They include:

- Include the Specific Energy Consumption (SEC) from EN 50465 Annex K in the assessment of mCHP calculation methods;
- Base the comparison on the CHP module incl. supplementary heater;
- Fixing the conversion coefficient will not reflect mCHP potential savings;

In addition, please consider that micro-cogeneration covers different technologies (internal and external combustion engines, fuel cells); Ecodesign and Energy Label policies should be designed with all of them in mind and not discriminate efficient technologies (e.g. fuel cells).

### 4. Shared chimney problem B1, C4 and C8

#### Discussion document section 1.6

1. Do critical Member States want to make the effort and spend the money to realize the saving through condensing boilers?

2. If so, how can the expertise from installers in other countries that already went through the chimney renovation be used to help minimize the costs in Eastern European countries?

3. If so, how could additional European funds help to realize the chimney renovation?

4. If Member States asking for the exception do not want to make the effort and spend the

The EHI recommends (position paper from 28 May 2019, part II, section 12):

- To develop solutions to building renovation to allow the move to efficient alternatives;
- Until then, the B1 exception will be needed up to 30kW;
- Accompany the policy with by reinforced measures: sticker, clearer statement in instruction manuals, national installation rules, etc.
- There is no need to extend the exception to C4 and C8.

Moreover, funding options and best practices can further limit the use of B1:

- Other efficient and renewable-based technologies exist. But the choice of what appliance to install should be left to consumers.
- Examples of best practices (not exhaustive list): national installation rules support switch to more efficient heating technologies (e.g. chimneys on façade in Spain);
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<th>money, are the other Member States prepared to accept the lower savings from the loophole that is created. Do the other Member States have alternative options to meet their policy goals—in the context of effort sharing—rather than the switch to condensing boilers?</th>
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<td>installation practices of chimney renovation; ease decision-making in multifamily blocks.</td>
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<td>• Examples of funding schemes at EU level (not exhaustive list): cohesion funds and upcoming Renovation Wave for Buildings.</td>
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