AEGPL position paper on Commission working documents for Ecodesign lots 22 and 23

As a follow-up to the consultation forum meeting which took place on April, 18th AEGPL, the European LPG Association, would like to raise a number of both general and specific points based on its preliminary assessment of the proposed working document. The present position paper is a consolidated and expanded version of the preliminary document shared with the European Commission services before the Consultation forum meeting.

I. Ecodesign requirements for ovens

- **Primary Energy**
  We welcome the fact that the Energy Efficiency Index is expressed in primary energy, which is the only mean to compare the energy efficiency of different products in a fair manner.

- **Compensation factor**
  General comment about methodology: we want to stress that the **very principle of introducing a compensation factor** has not been discussed in the context of the elaboration of the preliminary studies, and it does not seem acceptable to present to the stakeholders at this advanced stage of the process.

- **About the 25% compensation factor**
  25%, an approximate value:
  The explanation provided to support the introduction of a penalizing compensation factor (+25%) for gas appliances appears arbitrary and questionable: the 25 % extra energy consumption, as said in the working document circulated, is an approximate value. At this stage of the process it does not seem acceptable to us to introduce approximate values whose scientific justification is so questionable.

  Justification given in the working document for the assumed 25% additional energy consumption:

> *"Gas ovens produce on average higher losses in homes. The input energy is transformed to thermal energy. The net energy heats up the wet load (food) and evaporates water. The rest of the energy is heat stored in materials, and impact on the surroundings due to exhaust gas, radiation and thermal conduction.* ***The net energy is identical for gas and electric ovens****, therefore direct comparison of input energy at the system border is allowed. Gas ovens stress the home environment more than electric ovens:*
> ***- additional thermal losses,***
> ***- additional humidity,***
> ***- flue gas****."*

- ***The net energy is identical for gas and electric ovens***
  We totally agree with the statement above but would like to highlight that heat energy stored in materials, radiation and thermal conduction are also identical for gas and electric ovens. The logic for applying a related penalty only to gas appliances is not directly apparent, and therefore absolutely inappropriate.

- ***Additional thermal losses and gas flue extraction:***
  Thermal losses due to ventilation of cooking area happen when cooking with both gas ovens and electric ovens. Indeed cooking can generate humidity, odors, smoke, CO_2, etc. which have to be evacuated regardless of the type of energy fuelling the oven, in order to ensure indoor air quality. To this end, most EU countries regulations impose requirements on minimum housing air flow – independently from gas exhaust evacuation – which are sufficient to evacuate exhaust gas. Using gas ovens does therefore not require extra ventilation due to gas flue ventilation compared to electricity and then does not generate additional thermal losses either.

- ***Additional humidity:***
  Humidity related to gas combustion is negligible and rapidly extracted. In most European countries, minimum air flows are sufficient to evacuate rapidly extra humidity (~ 192 gH_2O per cycle[1]) related gas combustion in ovens. For example, in France air renewal for kitchen is set at 105 m^3/hour. The average kitchen volume being around 25 to 50 m^3, air contained in the kitchen is renewed every 15 to 30 minutes i.e. at least one to two times per cycle (30min).

- **About the 0.346 kWh primary energy compensation factor:**
  The calculation suggested in the working document is based on CO_2 evacuation, which is far from real use of ventilation. Usually extra ventilation, when manually activated, is linked to humidity, odors or smoke, and rarely to CO_2 release. When automatic, ventilation activation is linked to humidity content in the air. Moreover, most EU countries regulations impose minimum housing air flow independently from gas exhaust evacuation, so there is no sufficient ground for the proposed introduction of a penalizing compensation factor on gas ovens.

- **Ecodesign requirements on commercial gas ovens vs commercial electric ovens**
  In table 3 and table 4 of the draft proposal, the minimum energy efficiency performance requirements for commercial gas ovens are twice as high as for electric ovens, both one year after entry into force and 6 years after entry into force. Such a gap in requirements between commercial gas and electric ovens is very striking. It is therefore regrettable that no further explanation is provided on the possible reasons for this gap. This difference in treatment between commercial gas and electric ovens is all the more questionable that in table 1, there is no such gap between requirements on domestic gas and electric ovens. Unless this is simply an editing mistake in the draft document, proper technical explanation for such an important element of the proposal can legitimately be expected by the stakeholders.

[1] The oven needs on average 1.56 kWh in one cycle, produced by 0.124 kg of butane.
Considering butane (which is the most commonly LPG gas used for cooking) combustion equation:
$C_4H_{10} + 6.5\ O_2 \rightarrow 4\ CO_2 + 5\ H_2O$, combustion of 1 kg of butane generates 1.55 kg H_2O
→ 0.124*1.55 = 0.192 kg H_2O by cycle is produced

II. Ecodesign requirements for hobs

- **Standard for calculation method**:
  Size pots and amount of water to measure hobs efficiencies do not match the protocol being currently elaborated by the CENTC49WG2. It should be noted that CEN and CENELEC have been working for the last two years on the harmonization of standards for the measurement of energy efficiency of gas and electric hobs. These gas and electric standards consist of measuring the energy consumption of hobs in the conditions of a cooking cycle during which the hob first reaches a given temperature and is then held at the same temperature for 20 minutes. Furthermore, the calculation method to measure electric and gas hobs efficiencies is not developed in the working document and impact of minimum efficiency levels set in this document is impossible to assess at the moment.

- **Final energy:**
  Contrary to the method adopted for ecodesign requirements on ovens, we understand the eco-design requirements proposed for hobs in the present working document are expressing efficiency in final energy. Use of final energy is inconsistent with the well to wheel approach adopted in preliminary studies. Primary energy is appropriate in order to reflect real gas and electric appliances efficiencies, and therefore allows comparison between them on a fair base. Fixing requirements in final energy on hobs would obviously be inconsistent with the requirement in primary energy proposed for ovens. It would also be inconsistent with other lots (lot1, lot2, etc.) which express minimum efficiency requirements in primary energy.

III. Labelling requirements for ovens

- **Single labelling**:
  We welcome the Commission's proposal for a single labelling scale, which will enable consumers to be informed in a consistent and technology-neutral manner about the most energy efficient products, in primary energy.

- **Redistribution of electric ovens across the labelling scale**
  AEGPL would like to comment on some of the reactions raised during the consultation meeting, regarding the potential changes in the current distribution of electric ovens in the various energy efficiency classes. Based on some of the statistics presented on April 18th, the fact that about 80% of the domestic electric ovens on the market are labelled as class A can arguably be seen as a sub-optimal outcome of the current labelling regulation. We believe the lever effect in favour of more efficient appliances would be larger if ovens were more evenly distributed across various energy classes.

IV. Labelling requirements for hobs

- **No labelling proposal**:
  AEGPL regrets the absence in the working document of a labelling proposal for cooking hobs. Task 8 of the preliminary study performed by Bio-IS (see page 10) concluded for example that differences in energy consumption of up to 15% were existing within the range of electric cooking hobs – without taking into account gas hobs which would result in an even wider spread of energy performance - available on the market (covering induction, radiant or solid plates). We believe this is arguably significant enough to justify the need for a specific energy scale. We therefore would like this possibility to be reconsidered by the Commission.

V. Other comments

- Regarding the **exemption granted to micro-wave ovens**, we would like to stress that grill and conventional oven functions, which are more and more commonly integrated in those appliances, should be subject to the same ecodesign and labelling requirements as conventional grills and ovens.

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