

Comments and opinions from SBBA on Task Reports 5, 6 and 7 for EUP Lot 15, “Solid Fuel Small Combustion Installations”

SBBA is the Swedish organisation for manufacturers of boilers and burners for solid biofuels, as well as for oil, gas and electrical boilers. SBBA herewith wants to express some important comments and opinions on the Working documents for Tasks 5, 6 and 7 within EUP Lot 15, “Solid Fuel Small Combustion Installations”.

First of all, SBBA acknowledge the important work being made within this preparatory study, and basically finds the results being important and relevant. The comments given below are intended to inform about opinions and experiences from the Swedish market comprising a great number of wood fired boilers.

In general, the study concentrates quite much on **existing products and technical solutions**, and less on general functional requirements and characteristics. We agree that this is an important basis for the elaboration of possible Implementing Measures; however this involves a risk of limiting the discussion and eventually hampering the technical development. We feel it would be beneficial to also include more of a discussion of which goals, basically in terms of energy efficiency and emissions, that should be obtained irrespective of given technology options.

The study has defined eight Base Cases, roughly corresponding to product types. As described in the study, the most feasible solid biogenic fuel from an efficiency and environmental point of view is wood pellets. This is also verified by the very rapid growth of pellet use during the last decade within Europe, which is also anticipated to continue. The main product which has made this expansion possible, in at least the Nordic countries, is the **pellet burner** used for retrofitting e.g. oil burners in existing boilers. In Sweden, there are about 100 000 such burners installed, which according to the Pellets Roadmap constitutes a significant share of the total number of pellet installations in Europe. We therefore feel it absolutely necessary to include “separate” pellet burners as a Base Case. This is also especially valid for slightly larger installations, 100 – 500 kW, where this is a very feasible and cost-efficient way of replacing fossil fuels by biomass fuels.

The **scope** of the preparatory study is defined as products with a heat output <500 kW. However, most of the study deals with products for the domestic market, i.e. products with a heat output below a few tenths of kW. Only one Base Case, BC8, deals with larger products. Since the energy use in the market segment 50 – 500 kW is quite large, and since a significant transfer from fossil fuels to biogenic fuels is likely to come in such plants in the near future, it is important to deal also with these products. Other reasons for this are also that the economic space for advanced technological options is larger for these plants, and that they normally are operated by professional and more trained personnel, which render different conditions than for domestic products.

In describing the characteristics of the Base Cases and BAT products, we are of the opinion that the figures for energy efficiency generally are very high, and that the figures for emissions in contrast are very low. This was also expressed by us and also others at the intermediate Stakeholder meeting in December 2008. The reason for this is most probably that different interpretations of the test standards concerning allowable adjustments in control loops, equipment and operating conditions as well as routines for data evaluation are made at different laboratories which end up in differing results for the same product. It also ends up in

a risk that products are tested in a shape that will not function in practice, and that the user therefore makes changes in the boiler (which may be evident) which render the test results irrelevant. The facts described above are based on the experience of SBBA members, and we feel it necessary to take them into consideration. This situation calls for new, more stringent test standards, adapted to practical use of the products. Also, stringent requirements on energy efficiency as well as regarding emissions, poses high requirements on measurement accuracy. SBBA therefore welcomes the initiative of the Commission to issue a mandate to CEN to elaborate the necessary standards to make coming implementing measures serviceable.

Some specific technical comments:

- very stringent energy efficiency requirements will increase the risk for condensation in the chimney. This leads to severe damages, if the chimney is not either reconstructed or replaced by a flue gas channel resisting the condensate. In any case, significant additional costs will occur. An alternative scenario, experienced by SBBA members, is that the user removes turbulators etc to overcome this problem.
- very little is said about the positive impact of an accumulator tank in a boiler system for wood logs. The increase in energy efficiency is reported to 1- 5 % which may be the case depending on the insulation losses and how they could be recovered. According to our experience, this is however a too low figure. But the main benefit of the accumulator tank is that the boiler will more or less always work at the designed power output, which leads to significantly lower emissions than without a storage tank. Also, the comfort for the user increases very much.
- equipment for particle separation, such as ESP's, fabric filters or cyclones are reported as technical options which are "ready to use" for the applications in question. In our view, this is not the case today or in the near future, at least for domestic use. For example, small-scale ESP's for stoves and small boilers are under development and evaluation today, but give rise to a number of questions concerning separation efficiency, high voltage safety, maintenance requirements, chimney sweeping as well as handling and disposal of the separated ashes. For larger products within the scope, some of these questions may be solved in a more convenient way, but we consider this option very hard to imagine for domestic products.
- particulate emissions are today being measured in a number of ways at laboratories within Europe. The methods give rise to figures which can differ by at least a factor five, and the results are therefore not comparable between methods. This makes it very difficult both to describe the status of today's products and also to elaborate possible Implementing Measures concerning particle emissions.

The comments given above may not be exhaustive, but are presented as input to the Final Stakeholder's meeting. Further comments and opinions will be forwarded after the Stakeholder's meeting. We look forward to a continued dialogue during the process to Implementing Measures!

SBBA – Swedish Heating Boilers and Burners Association

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