

EuP Preparatory Study Lot 15: Solid Fuel Small Combustion Installations

Minutes of the First Stakeholder Meeting

Place: European Commission
Berlaymont building, Brussels.

Date / Time: 3rd of March 2008
10h-16h.

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Agenda:

10:00 – 10:30 Introduction and study context – BIO

10:30 – 11:00 Study outline: approach and methodology – BIO

11:00 – 12:15 Task 1: Product and scope definition – AEAT

12:15 – 13:00 Task 1: Test standards, legislation, voluntary agreements – ITT & BIO

Lunch

14:00 – 14:45 Task 2: Economic and market analysis – BIO

14:45 – 15:30 Task 3: Consumer behaviour and local infrastructure – BIO

15:30 – 16:00 Next steps and guideline on stakeholder cooperation – BIO

AOB

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Content

1. INTRODUCTION	4
2. STUDY OUTLINE: APPROACH AND METHODOLOGY	4
2.1 Questions related to implementing measures	4
2.2 Questions about the methodology and scope	4
2.3 Questions on the fuel issue	6
2.4 Other remarks.....	7
3. TASK 1.1: PRODUCT CATEGORY AND PERFORMANCE ASSESSMENT	8
4. TASK 1.2: TEST STANDARDS.....	12
5. TASK 1.3: EXISTING LEGISLATION	13
6. TASK 2: ECONOMIC AND MARKET ANALYSIS.....	13
7. TASK 3: CONSUMER BEHAVIOUR AND LOCAL INFRASTRUCTURE.....	14
8. NEXT STEPS, FUTURE COOPERATION WITH STAKEHOLDER, CLOSING.....	15

1. INTRODUCTION

Shailendra Mudgal (SM) welcomed the participants to the meeting and presented the context of the Lot 15 study: scope and objectives of the Energy-using Product Directive, as well as current European programs related to air pollution and policy on renewable energy sources. The presentation was followed by a “tour de table”.

Throughout the meeting, the participants were encouraged to comment on different aspects of the study. Main comments and resulting discussions are summarised below.

2. STUDY OUTLINE: APPROACH AND METHODOLOGY

Lea Turunen (LT) presented the Methodology for Eco-design of Energy-using Products (MEEuP), the different steps of the study, and the stakeholder involvement in the different stages of the study.

2.1 QUESTIONS RELATED TO IMPLEMENTING MEASURES

- Felix Van Eyken (FVE) asked about the tentative schedule for adoption of the potential implementing measures on Lot 15 products.

Ismo Grönroos-Saikkala (IGS) explained that usually the preparatory study is followed by the drafting of implementing measures and an impact assessment. The next step is the Consultation Forum, followed by an inter-service consultation at the Commission and eventually by the vote in the Regulatory Committee. In general, the steps following the preparatory study could take about a year.

- Mark Crowther (MC): Did I understand correctly, that the preparatory study may not necessarily lead to implementing measures?

LT: Indeed, an EuP preparatory study does not necessarily mean that there will be implementing measures (IM). Many factors are to be considered, including for example the improvement potential of the products, which will be analysed in Task 7 of the study. In considering the IM, the Commission also takes into account the existence of any voluntary measures that are effectively moving the market towards better performing products. Furthermore, the content of the eventual IM is still unknown (e.g. whether there would be efficiency limits...). This preparatory study provides a technical assessment; the policy development is a separate process that will follow the preparatory study.

2.2 QUESTIONS ABOUT THE METHODOLOGY AND SCOPE

- Anja Behnke (AB): Is the study going to be carried out in the similar way to Lot 1 and 2, i.e. looking at the boiler as part of a system (considering also connecting components such as controls mechanisms, pumps, valves, etc.)?

LT: Lot 1 and Lot 2 deal with similar appliances as Lot 15 and we obviously look closely at the assessment and results of these studies. We plan to focus at the product level, while identifying relevant system aspects. For many of the appliances

within the Lot 15 scope, i.e. for independent products like fireplaces, the system aspect is less relevant.

- It was inquired if the study was going to consider only new products or also already installed products, and whether the latter would be affected by the study/implementing measures.

LT explained that the EuP Directive applies to the new products placed on the EU market and implementing measures will affect only the products that enter the market after their adoption. Hence, the preparatory studies aim at analysing the products currently on the market and the improvement options applicable to them. . The installed stock of appliances indeed consists partly of (very) old appliances with potentially high emissions and there may be a need to encourage accelerated replacement of such appliances with more efficient products. However, the EuP Directive is not the appropriate instrument for influencing already installed products although the study may propose some measures as generic ecodesign requirements, if appropriate.

- Walter Haslinger (WH): Reducing the system boundaries to a product level is problematic, as for products such as central heating boilers the heat distribution is a key parameter. If you exclude this parameter, the efficiency only describes the combustion efficiency which may have little correlation with the overall efficiency of the system¹.

SM invited the stakeholders to have an in-depth look at the MEEuP methodology, which defines very clearly the product and system relationship. Task 1 identifies products which may fall in the scope of the preparatory study. In Task 4, the products are then put into the system context. In the present study, products are to be studied in the context of the EuP Directive.

- William G Kaye (WK): The Energy Performance of Buildings Directive includes installation standards (new standards). You have to take this into consideration in the Lot 15 study, in particular when dealing with boilers and related systems.

LT reiterated that the study Consortium is well aware of the many factors affecting the overall efficiency of the heating systems, but that the focus in the EuP preparatory study should be on products. Although, the overall efficiency of a system is largely affected by all that is built around the boiler, it also makes sense to assess the performance of the boiler itself.

WH: The system is the right approach from the customer point of view as for the final customer it can be less efficient to only focus on product technology. Results of different heating appliances based on a product approach will probably be more difficult to compare.

LT: We take a note of your comments and they will be given due consideration while adopting the final approach.

¹ Note to the minutes by the Lot 15 Consortium: This is not really correct – the standards assess ‘appliance efficiency’ by assessing energy output and combustion efficiency (although only in terms of stack CO measurements).

- Stakeholders asked whether the study would look at all the three different areas: individual room heating, central heating for houses, and district heating. The use of renewable energy sources is forecasted to increase in the future, and the use of especially central and district heating appliances is expected to grow.

LT: The renewable energy trend is an important motivation to our study, as the new biomass appliances that will enter the market should be efficient, in order to guarantee the sustainability of the renewable energy policies. The study will look at both the direct and indirect heating appliances, split into different categories in terms of functionality and output. The domestic appliances are certainly within the scope; the upper capacity limit is still to be defined and will be discussed later in the meeting. The choice of the upper capacity limit may rule out the (large) district heating appliances. The aim in Task 1 is to define the appliances and sub-types; later in Task 3, we will identify the typical environment in which these appliances are installed, in order to construct a typical load pattern / use scenario.

2.3 QUESTIONS ON THE FUEL ISSUE

- Stakeholders questioned whether the fuel used in the appliances is to be considered in the study.

LT admitted that the fuel is indeed an important parameter related to solid fuel SCI. Fuel related issues will be brought up in the study, yet the study should focus on the products rather than on fuels. In order to be able to compare the products and demonstrate the technical improvement potential, the analysis needs to be based on standard fuels.

- MC: How are you going to handle the fuel quality? Often the quality that the consumer gets is far different compared to the standard fuel quality. Secondly, how will you judge what is better, to burn wood logs or to leave them to the forest? Thirdly, how you are going to determine the volume of fuel consumed (taking into account only fuel traded on the market or total fuel consumption)? Large share of fuel wood does not go through the conventional market.

LT: The aspects related to the fuel quality will be looked at in Task 3, which deals with the real life conditions. As already explained, the fuel is an issue linked to the products of the study, but the study cannot do an extensive comparison between the fuels of different quality. The EuP implementing measures will be set on products; fuel quality issues might have to be dealt with on another forum.

Regarding the choice of the fuel, the aim of the study is not to make judgement on the fuel choice or related policy issues (whether for example wood fuels should be promoted or not). The study will take into account the actual situation (what are the appliances types, the fuels used, and their respective performance) and estimate how the performance of products can be improved.

When it comes to the fuel consumption, the study should rather consider the actual total consumption, since this determines the environmental impact of the appliance stock. It is acknowledged that a part of the fuel is not traded through conventional markets, and this should also be taken into account when estimating

the fuel prices. For example, in Finland half of the wood used in small solid fuel combustion installations is derived directly from users' own forest, so half of the consumed fuel is obtained for free.

- WK: One appliance is designed to work with coal, one with wood logs, and this is yet different from an appliance designed to work with pellets. You should take such variations into account.

LT: Of course wood and coal will be studied separately, and further differentiation will be made between e.g. wood logs and pellets (as the form of the fuel is also linked to the technology used). However, as was said previously, the study cannot consider the whole range of quality variations within the solid fuel categories (e.g. the different wood species, or parameters such as the fuel moisture content). The fuel, although a very important and a very complex issue, is not the main focus of this study.

SM confirmed that for the product analysis it is necessary to make some assumptions concerning the fuel type and quality. However, the influence of the fuel quality on the product performance will certainly be the object of sensitivity analysis in Task 8.

- WH: Technologies and also products differ depending on the fuel. Many products are designed for a certain fuel. So, even if you only look at products you cannot ignore the fuel. It is a crucial parameter.

LT clarified that indeed, within a category of appliances, it is possible to consider sub-base cases based on the fuel type. For example, for household size boilers, it can be envisaged to look wood, pellet and coal appliances separately. What is not feasible, is to make further separate base cases e.g. for a pellet boiler using pellets of different quality.

- Ursula Ley (UL): Are you going to compare biomass products with, for example, gas and oil products?

LT: Comparison of solid fuel appliances with gas and oil products is not the objective of this study.

- AB: Are you going to consider biomass fuels other than wood, like crops or straw?

LT replied that these types of fuels are included in the current fuel list in Task 1. However, the market share of such fuels and dedicated appliances needs to be investigated in order to see if it is pertinent to cover them in detail. The effort needs to be focused on appliances and fuels with a significant market share.

SM added that the three key criteria of the EuP Directive for the IM have to be kept in mind: the market share (200,000 units per year), "significant environmental impacts", and "significant improvement potential".

2.4 OTHER REMARKS

- WK sought clarification if the "published report" on Task 1 is a draft one.

LT assured that the document is a "published draft report". Until the end of the study (end of 2009), none of the task reports are definitive versions. Working

documents are published regularly so that stakeholders can follow the study and comment on it. All the tasks can be improved throughout the study. However, we request your comments as early as you can. Late arriving comment might be difficult to take into account: e.g. it will be very difficult to revise the scope defined in Task 1 when the study approaches its end, because this could require re-conducting all the tasks.

- FVE: For your information, at the Consultation Forum of Lot 1 on the 29th of February, a question was posed regarding the exclusion of solid fuel boilers of Lot 1 scope and whether there was an intention to do something on the solid fuel boilers. The Commission replied that these appliances would be dealt with within the Lot 15 study, using a similar methodology as used in the Lot 1. Also, the labelling of such products could follow the Lot 1 scheme. Therefore, it is important to keep in mind the Lot 1 study when defining the scope and limits for individual, central, or district heating in Lot 15.

LT assured that the Lot 15 study will of course consider the other related studies, but also make an independent judgement of what is feasible in the scope of this study.

[After the stakeholder meeting, the Commission clarified that the Commission's reply at the Consultation Forum referred to applying the eventual labelling scale for Lot 1 and 2 appliances (proposal in the Working Document), and the logic within, also to solid fuel boilers (appliances with similar function) given that it makes sense. Lot 15 uses the same MEEuP methodology as all the other preparatory studies under the Ecodesign Directive.]

3. TASK 1.1: PRODUCT CATEGORY AND PERFORMANCE ASSESSMENT

Mike Woodfield (MW) presented the product categories and scope definition as proposed in the Task 1 draft report.

- Stakeholders made the remark that there are two different boiler types with different standardisation committees: CEN/TC 295 on Residential solid fuel burning appliances (applying to what stakeholders called "British boilers") and CEN/TC 57 on Central heating boilers (applying to "Central European boilers").
- Gianni Santarossa (GS): There is a need to distinguish between appliances for renewable and non-renewable fuels.
- WH: It is recommended to distinguish between automatically and manually fed systems, and concentrate on the most probable combination with the types of fuel. Regarding the upper capacity, try to set the upper (soft) limit to around 300-400 kW; under this limit you have product certifications but going beyond we address installations and not products.
- FVE: Studying the central heating market is a good idea to start from. There is a Commission report giving figures on central heating appliances and also on the individual heating appliances. These are probably the most accurate figures available at the moment. Regarding the scope, from the point of view of industry, it is desirable to make a clear distinction between individual heating and central heating. For the latter, the Lot 1 approach could be followed, and the same capacity

ranges adopted: 70 kW for household boilers and up to about 400 kW for district heating boilers (Lot 1 did not explicitly specify the upper limit in term of capacity).

Regarding the categorisation of products, LT reminded that according to the methodology, the main categorisation in Task 1 is to be based on the functionality and the technical distinctions (e.g. manually vs. automatically fed) will be treated more closely in Task 4.

- GS pointed out that all the domestic range appliances are covered by the existing standards.
- WK: You do not have to restrict the scope to exactly 300 kW, which is currently the upper limit of the standard 303-5. The standard is being reviewed and extending the scope to deal with 400 kW appliances, for example, can be assessed. Above this level, there are boiler construction standards (applying to installations rather than products).
- MW added that we have to observe and anticipate the market. He inquired if, among the participants, there were manufacturers of appliances with >400 kW capacity.

There were no such manufacturers in the room, but associations that were present do have such members.

MC: We also test such larger products. Their market is quite modest but continuous. The large products (or in fact plants) are, or should be, fuel specific and the whole system is designed for a particular fuel. These larger plants have often great difficulty in sourcing the fuel of the right quality. There is a need for enforceable contracts concerning the fuel quality, even by civil law if not by other regulation.

- FVE: I would recommend leaving plants/products that are commissioned out of the scope of this study. In practice, it is difficult to cope with such customised installations. I would propose the following definition of categories based on output limits for the scope of the study:
 - individual direct heating appliances, output < 20 kW
 - indirect central heating appliances: domestic (output < 70 kW), and commercial (output 70 - 400kW); keeping in mind that these appliances are linked to the Lot 1 products.

Larger appliances could be considered out of scope.

LT explained that the word “installations” in the title of the study, instead of “appliances”, first drove the consortium to consider also the larger capacity ranges. But she agreed that dealing with the larger installations, with their specific characteristics is difficult (also from the point of view of verification and market surveillance). On the other hand, even if the stock and sales of the 300 - 500 kW boilers is still modest, in the coming years their numbers are expected to increase due to renewable energy policy. Thus, they may play an important role when (or soon after) the implementing measures will come into force. It is useful to consider this in defining the study scope.

- GS and some other stakeholders disagreed with the 20 kW limit for individual direct heating appliances: this might be typical for Germany, but for example in Italy, the limit would rather be 35 kW.

WK highlighted that the standards for these appliances cover appliances up to a limit of 50 kW.

LT underlined that even if the individual direct heating appliances in Task 1 are defined as a one category up to 50 kW, is it possible to define more than one base cases for this category later in the study (Task 4 and 5). For example, if justified, a base-case for the category < 20 kW, and another for the category 20 - 50 kW can be considered.

- Stakeholders inquired whether water heaters would be included in the scope of the study and how will they be studied?

LT: Dedicated water heaters working with solid fuels hardly exist. A central heating boiler may provide heat transfer into a hot water system, e.g. a hot water tank. However, in case of solid fuel boilers, this normally implies a separate heat exchanger. Such a heat exchanger and other separate parts (e.g. hot water tank) are system aspects and will be considered at that level in the study.

- Lennart Gustavsson (LG): How will you deal with boilers using both biomass and oil which are quite common at least in Sweden?

LT agreed that such systems also exist in Finland and inquired whether this was an issue limited to Scandinavia or were such products common elsewhere in Europe. KW told that they exist in Denmark as well.

- What about the Combined Heat and Power (CHP) appliances? In Germany, these appliances have been available for 10-20 years with a capacity range from 20 kW upwards, although their market share is relatively small.

LT referred to practical limitations of the study. A CHP type specific product category with a small market share would tend to be considered out of the scope of the study.

- FVE: It would be best to leave the cooking appliances out of the Lot 15 study. Their inclusion leads to a discussion about various combi-appliances, which are difficult to handle. Or, cooking appliances should be defined as a separate product category.

MW: We have to be careful not to create perverse incentives with our scope definition. If excluded from the scope, there could be a market shift towards the cooking appliances (that also provide direct heat), instead of better designed, more efficient and environmentally better performing direct heating appliances covered by the eventual implementing measures.

FVE: Combined heating-cooking appliances tend to be in the higher price range, so such a market shift is not very likely.

Some other stakeholders pointed out that these appliances are often used not only to cook but to heat the house and they are also covered by the EN standard, so there is no need to exclude them. On the other hand many of these appliances are used only very occasionally.

LT added that from technical point of view, these appliances are rather similar to direct heating stoves and it will be useful to analyse them in Task 4 (technical analysis) to what extent they actually differ. Further, the market analysis in Task 2 will help to see how much attention should be paid to these appliances.

IGS confirmed that the decision to exclude or include products from the scope should be done according to the methodology, based on data rather than preferences or opinions. A product should be excluded only when there is a valid reason (criteria defined in the EuP Directive: number of appliances, significant environmental impact and significant improvement potential).

- WH: Are the tiled (ceramic) stoves, which are common in Central Europe, in the scope?

Krystyna Kubica (KK) clarified that this can actually refer to two types of appliances: “slow heat release room heaters”, which can be bought in the market, and stoves which are built in as part of the house. “Slow heat release” appliances are covered by a standard and can be included in our study, while the latter could be excluded from the scope.

WK agreed that a stove that is designed by the manufacturer and sold as a kit is a product that can be defined and tested, but this does not apply to a tiled stove made by a local builder on demand.

LT: We intend to adopt the following approach: When there is a packet, a product kit, we can know the characteristics of the product and it can be tested against established standards. Thus it can be considered within the scope of the lot 15 study. The situation is different for appliances that are a built-in part of a house. We would tend to consider such fireplaces/stoves out of the scope of lot 15 based on the methodology.

WH: A construction and design guidelines for tiled stoves exist, specifying maximum emissions and minimum efficiency which each tiled stove fitter has to ensure and guarantee. At least in some part of Europe, there is a big market these stoves (e.g. in Austria there are 400 000 – 500 000 such tiled stoves installed).

LT added that an important aspect to consider for the built-in stoves/fireplaces is how frequently they are used ('environmental impact'). Even if in some countries lots of such appliances exist, they may be used only very occasionally to create an atmosphere; the situation is quite different from stoves or boilers that heat a building continuously during the cold season.

WH replied that such tile stoves are still frequently used at least in the Austrian countryside and often still serve as a main heat source, and have a significant environmental impact.

LT: There may be a need to do something at the level of stove installers and the proposal on the EU renewable fuel strategy actually contains an article on the certification of installers of “small heating systems”. Tiled stoves may fall in that category. So things are going into this direction, but EuP is probably not the right forum to address this kind of “products”.

[Lunch break]

4. TASK 1.2: TEST STANDARDS

KK presented the subtask 1.2 related to the test standards. Comments and discussion concerning the standards are summarised below:

- Several stakeholders pointed at the mistakes in the Task 1 draft task report published in January 2008, especially regarding EN 15270 and EN 12809 standards.
- WK: It is regrettable that most of the standards presented in Task 1.2 are based on the pre-2004 versions, and thus the analysis presented is erroneous. It would be useful to correct this information in the future versions of the Task 1 document.

LT acknowledged the many written comments on part 1.2 that were already provided, and which will of course be taken into account in the revision of the Task 1. A new corrected and up-dated version of the Task 1 draft report will be published as soon as possible.

Given the limited time for the meeting, stakeholders were asked not to repeat the comments they already submitted in written form. MW also invited the stakeholders to provide the most up-to date versions of known standards and also a list of on-going standardisation work to the Consortium.

SM underlined that the goal of Task 1.2 is to identify, early in the study, any need for new test standards in order for the Commission to be able to launch a process for a new standard or an updating of existing standards if required.

- MC: You call for a greater accuracy regarding the specifications of the test fuels, as, and quite rightly, the characteristics of the fuel greatly affect the test results. But, in reality, the bigger problem is that there is very little resemblance between the test fuels and fuels supplied to the market. The effort to test and measure very precisely makes no sense if the test results do not at all reflect the emissions that really come out of the chimney. This highlights the need for an action on fuel quality issues.

KK: Greater accuracy regarding the specifications of the test fuels (size, moisture contents, ash, net calorific value, volatile matter contents, hydrogen and carbon) as well as testing parameters are the main prerequisites to obtain comparable results from different laboratories assessing performance of solid fuel appliances (key performance parameters being heat output; efficiency; emissions of CO, dust and OGC). In the opinion of the consortium, in comparison to gas and oil appliances, these parameters are currently not adequately defined in the test standards for solid fuel appliances.

Standards (e.g. EN 12809 and EN 15250) give detailed information on peat briquettes and wood logs to be used for testing (moisture, volatile matter, hydrogen and carbon contents), whereas for coal fuels this information is less detailed, especially regarding the content of volatile matter, hydrogen and moisture, or is set optionally.

- MC: Requirements related to fuel quality parameters such as sulphur contents should be introduced for fuels on the market.

KK replied that indeed there is a need to specify the ash and sulphur content as these parameters are directly connected to the heavy metal emissions. This should not be included only in test standards of solid fuel appliances but rather as

requirements defining solid fuel quality (on the market), coal in particular, as the two parameters can vary largely between different types of coal. These requirements should be set and implemented with reference to air quality improvement strategy CAFE.

MW pointed out that Lot 15 is the first EuP study confronted with such issues. One can argue that the technology offers only limited improvement potential and fuel standards may play a major role in achieving further improvements.

LT reassured that the fuel issue will be brought up in the study. It will be particularly dealt with in Task 3, when test conditions will be compared with real life conditions. Stakeholders are invited to provide input regarding these aspects.

5. TASK 1.3: EXISTING LEGISLATION

A presentation on Task 1.3 was foreseen in the agenda, but it was finally skipped due to time constraints, as this sub-task was not as critical as the previous two. The written comments that have already been received will be taken into account. Stakeholders are still welcome to provide further comments and information, in particular concerning the legislation at Member State level, and preferably in English language.

6. TASK 2: ECONOMIC AND MARKET ANALYSIS

Nathalie Roy (NR) presented the preliminary results of the economic and market analysis, and highlighted the further data needs for Task 2. Stakeholders were invited to provide available data on these issues.

- Stakeholders inquired about the meaning of terms “new housing” and “first time installations” in the segmentation of the sales of solid fuel central heating boilers according to end-use (slide 11).

NR replied that “new housing” means a new housing construction, whereas “first time installation” refers to installing a boiler in a dwelling not previously equipped with central heating. The term “non housing” indicates a non-domestic central heating system (e.g. small commercial installations).

- It was pointed out that the 2006 figure for pellet boiler sales in Germany for 2006 is incorrect (slide 16).

NR: The 2006 figure for Germany is indeed only an estimate. Please, provide more accurate data if you have it.

- WK: What is the meaning of the “-4” in the fuel prices table (minimum price for wood wastes, slide 22)?

NR: The negative price means that it was possible to get money in exchange of using this waste based fuel.

- What does the term “refined wood fuels” cover (slides 22 and 23)?

NR: It covers for example pellets and fuels that are made of compacted sawdust.

In relation to slides 22 and 23, LT underlined the fact that the fuel prices can vary significantly from one country to another. Furthermore, prices are likely to

fluctuate during the study. However, it is necessary to decide on the average fuel price data for the purpose of the study.

- FVE: Gathering market data on Lot 15 products is very difficult, because the availability of the statistics in this sector is very limited.

IGS agreed and added that for this reason, stakeholders' cooperation is particularly important. He also thanked stakeholders for their already helpful collaboration and comments.

7. TASK 3: CONSUMER BEHAVIOUR AND LOCAL INFRASTRUCTURE

LT presented an overview of Task 3 about consumer behaviour and local infrastructure, explaining the data needs for this task.

- Stakeholders commented on the slide #8, noting that the most successful biomass boiler installations have a small biomass boiler side-by-side with a large (in terms of output) gas or oil boiler. The biomass boiler works for longer durations, but it is not designed for the peak loads which are handled with the additional gas/oil boiler. The gas/oil boiler also assures the heat product in case the biomass boiler stops. Thus it is wrong to assume that the biomass boiler provides all the heat demand of a dwelling.

LT: We are aware of such installations and the issue. We will assess what is the common configuration (base case) and in order to analyse the environmental impacts of this base case, we need to consider a typical use pattern/load profile.

In general, it can be assumed that boilers are mostly run continuously whereas the situation is very different for fireplaces, stoves, etc. which tend to be used very infrequently. For the latter case, the use/load pattern is even more difficult to estimate. An issue linked to this is the share of primary vs. secondary heat sources: there may be many fireplaces, but if they are hardly ever used, their impacts remain limited.

LT invited stakeholders to provide available information on these aspects.

- WH: The real life behaviour and performance of SCI depends on the heat demand and distribution of a house. For example, a wood log boiler linked directly to the heat distribution system can have poor performance, but this same boiler combined with a heat storage system (very common configuration at least in Central Europe) can achieve efficiencies that are close to the performance of automatic combustion appliances like pellet boilers.

WH also asked to include technology combinations in the market research, especially the solar thermal combi-systems. He also repeated the need to consider the systems solutions as was done in the Lot 1 and 2 studies, in order to demonstrate that such combined solutions are amongst the leading technology combinations that are available.

LT replied that such combi-"products" seem to be a combination of two products: solid fuel boiler and thermal water heater installed as part of one system. The Lot 15 study will assess the boiler while the overall energy performance of buildings is a

subject of another Directive. Such combinations can be considered in the study when the systems aspects are discussed.

IGS insisted on the word “products”, considered as things that can be bought in shops; if 'combination products' are available in shops like the 'non-combined' ones, they should be included, provided that the Art. 15 of the Directive applies.

WH made a further comment that in some countries the test standards for log wood boilers include testing in combination with the heat storage tank. So, the data available for this widely spread technology is already linked to a systems solution.

LT assured that these remarks will be taken into account as best as possible.

8. NEXT STEPS, FUTURE COOPERATION WITH STAKEHOLDER, CLOSING

LT presented the next steps and the indicative planning of the study, as well as the possible aspects of the future cooperation between the lot 15 Consortium and the stakeholders.

- By when should the stakeholders provide additional comments or data regarding the issues discussed in the meeting?

It was agreed that the participants would send further comments within 3 weeks, or at least notify the Consortium within this time that they are preparing such comments (to be submitted later within reasonable delay). Presentations and minutes of the meeting will be published at the project website a.s.a.p. Participants were invited to correct any possible misinterpretations in the minutes.

Stakeholders were thanked for their time and cooperation.