

Company/Institute	Task	Version	Date of commented version	Sub-section	Page	Comment	Answer / Action
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.2	6-7	Table 1-1: Because anthracite is a naturally smokeless fuel whilst bituminous coal is a potentially smoke producing fuel it would be better to separate these two mineral fuels.	Anthracite is cleaner than bituminous coal but it is not emission-free. No need to separate these two types of fuel at this stage: no change in the corresponding table.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.2	8	Paragraph 2: There are International Classifications for mineral fuels! EN303-5 currently under revision, does not define fuels well nor the firing systems used for fuelling the boiler. However, the suite of harmonised ENs produced by CEN TC 295 carries Tables covering the analyses of the fuels generally found in the market and a narrower analytical specification for the Test Fuels to be used to represent these commercially available fuels. Further, if the fuel recommended by the manufacturer lies outside the Table's specification a test is included for the assessment of the fuel as suitable for the class of appliance.	Accepted. Text modified in the paragraph related to the fuels. Description of EN standards in 1.2 (including EN 303-5), has been improved.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.2	8	Paragraphs 3/4: Reactive Cokes which are "smokeless" can be burned in open fires and closed appliances. Multifuel closed appliances are widespread in the UK which can burn both cokes, natural and manufactured smokeless fuels and wood logs. Automatic boilers in the UK are produced to burn anthracites.	Accepted. Text modified in order to include multifuel appliances.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.3	9	Figure 1-2: Cookers, Open Fires and Inserts and Slow Heat Release appliances are also available and used in the Residential market. CEN TC 295 has produced harmonised ENs covering these appliances-all of which can contain boilers.	The role of the figure is to give an overview of the range of sizes / capacities of solid fuel combustion installations, rather than describe all types of appliances. No change in the figure, but these appliances are mentioned further in the report and covered by the study.
UBA, German Federal Environment Agency	1	v1	31/01/2008	1.1.3	9-10	Size: Although small combustion installations usually have the capacities shown in Figure 1-2, stoves with a capacity of less than five kW should not be excluded from the scope of the study and from implementation measures. The upper threshold of the scope should be harmonized with that of lot 1 and lot 2. Anyway, it seems reasonable to propose different implementing measures for smaller and for larger installations.	Figure modified. The new upper threshold is in line with the Lot 1 and 2 studies.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.4.2	11	Paragraph 4. Bullet point 3 cooking: Cookers are available which, as well as cooking, also provide roomheating and contain boilers that provide space heating and hot water.	Indeed, point clarified in the report.
UBA, German Federal Environment Agency	1	v1	31/01/2008	1.1.4.1	11	Installation: The definition of an installation doesn't seem to be in line with that defined in lot 1 and 2 where installations and components sold in packages are assessed together.	Paragraph about the definition of an installation used within the Lot 15 study has been added in the report. The adopted product approach is developed in the report as well (see section related to the scope definition).
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.4.2	12	Bullet points. Direct Heating etc: Additionally CEN Technical Committee 295 has also produced harmonised ENs covering cookers and independent boilers with space heating, Slow Heat Release appliances and wood pellet fired appliances (boilers and roomheaters). As we understand it, the harmonised EN produced by CEN TC 295 covers all relevant "aspects" of cooker performance including cooking, heat output to space and boiler, efficiency etc.	Harmonised standards are dealt with in the Section 1.2 of the report. The bullet points in the Section 1.1.4.2 aim to give an overview of the main function of the appliances: the purpose at this stage is not to describe in detail all the possible functions of an appliance. Nevertheless a footnote has been added. Section 1.2 has been improved (and details provided in Annex).
Interfocos	1	v1	31/01/2008	1.1.4.3	13-15	Small domestic systems are defined in the report as having a thermal output of < 50 kW. A more realistic approach would be to define domestic appliances with a thermal output of < 20 kW. Roomheaters, cookers, insets etc. being used for domestic purposes in the EU have a typical thermal output of 4 – 20 kW. To broaden the range to 50 kW is not realistic, since this will also include small industrial installations, that quite often use combustion techniques that differ from domestic appliances. The mentioned typical output for open fires of < 20 kW also applies to enclosed fireplaces, cookers and stoves or roomheaters.	This is a common theme in several comments. The CEN TC 295 Standards cover residential solid fuel appliances and have an upper size threshold of 50 kW. Some Member States have defined a different size threshold for residential appliances. A threshold of 20-35 kW for direct heating appliances can be suggested, but whether at 20-35 or 50 kW, the technology will be similar (whether 'industrial' or residential). The initial categorisation has been maintained, but may be refined later.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.4.3	13-15	Small (domestic) systems < 50kW output: The commentary over emphasises the "bad" performance of open fires. Fuels (cokes and briquettes) which meet stringent clean air requirements (in the UK especially) can be burned without excess smoke in open fires and it is also possible to design appliances that burn naturally "smoky" fuels with acceptable emission levels in an open fire. An EN covering Sauna Stoves has been completed by CEN TC 295. The use of the term "raw coal" is inexpert. Anthracite (with less than 10 % volatile matter) burned in a gravity feed boiler or roomheater is a very good smokeless fuel; bituminous coal with 35% volatile matter can be burned in small underfeed stoker fired boilers with a high degree of smoke reduction. These appliances may have automatic ignition systems.	The paragraph about small (domestic) systems < 50 kW output have been modified in order to take into account the possible use of smokeless fuels in open fires, and their resulting not "bad" performances. EN concerning sauna stoves is presented in the section 1.2. The term "raw coal" has been deleted.
UBA, German Federal Environment Agency	1	v1	31/01/2008	1.1.4.3	13-17	Combustion technologies: Closed fireplaces with water heat exchanger should be mentioned and considered in the ongoing analysis. As it may be reasonable to fix different requirements for boilers and fireplaces it must be clearly defined which installation belongs to which group.	The closed fireplaces with water heat exchanger would presumably fall under indirect heating for the purposes of the study. No change in the "presentation of the products" part in Task 1 report. The installations groups with detailed possible functions / additional components for each appliance will be looked at in Task 4 (technical analysis).
Supra	1	v1	31/01/2008	1.1.4.3	14	2nd §: recent technological improvements concern pellet stoves and inserts, but not wood logs appliances. As for the use of oxygen probe (lambda probe), it seems that it concerns only boilers for now.	The recent technological improvements are also related to automatic appliances fuelled with coal. Text regarding lambda probes for fireplaces/stoves has been removed.
Palazzetti	1	v1	31/01/2008	1.1.4.3	14	It's necessary to define a new class of appliances that are pellet stoves. There is a picture of a pellet stove that is the left in figure 1-6. The advantage of pellet stove are: 1. automatic fuel load; 2. automatic control of combustion air; 3. high efficiency; 4. low fine dust emissions.	The section has been modified to better differentiate between the manually and automatically fed and controlled appliances.

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Dovre	1	v1	31/01/2008	1.1.4.3	14	You make it sound that manually loaded and controlled appliances give inferior performances. Nevertheless huge improvements in combustion technology have been made recently in this kind of units (secondary combustion of the flue gases, etc.). The advantage is that that no sophisticated additional devices are needed. This makes a unit pricewise accessible to a larger public and also more reliable in using it. I doubt whether things like flue gas oxygen sensors will be commonly used in this industry; We only know the use of it in some pellet stoves.	Text has been amended to tone down implication of inferior performance. Text regarding flue gas oxygen sensors has been removed.
Chinvest / Chazelles	1	v1	31/01/2008	1.1.4.3	14	I am not sure that improvements, that you name, refer to inserts and wood log stoves but rather to pellet stoves.	Text has been modified and use of oxygen sensors in the fireplace and general stoves category has been removed.
Supra	1	v1	31/01/2008	1.1.4.3	15	last line: the use of a catalytic oxidation filter on domestic wood log stoves was effective a few years ago in Canada and USA, but progressively abandoned because on one hand it became clogged quickly (and so care problem), used quickly and was expensive in after sales service, and because it represents an important loading loss for the evacuation of smoke when operating at natural draft.	Reference to catalytic oxidation has been removed.
Interfocos	1	v1	31/01/2008	1.1.4.3	15	Catalytic oxidation technology is mainly used in the USA and is a very unreliable way for controlling the flue gas emission. Catalytic systems can easily be "poisoned" by trace elements in the flue gas, which leads to malfunctioning of the catalyst. The end-user of an appliance is not able to see whether the catalyst is in a good condition.	Reference to catalytic oxidation has been removed.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.4.3	16	Small (non domestic) boilers: Anthracite a naturally "smokeless" fuel should be added to the list of fuels given.	Anthracite already mentioned in table 1-1. Solid fuel type. No change in this part of the report.
Interfocos	1	v1	31/01/2008	1.1.5.2	20-21	The European product standards are valid for appliances with an output < 50 kW. However, one should keep in mind that the main goal of these standards was to define a uniform test procedure for the appliances as mentioned in the European standards and less to define limit values for CO and efficiency. Member states can differentiate in CO and efficiency levels as long as that limit is within the limits as mentioned in the European standard. So, it is possible to differentiate in limits between for example 4-20 kW and 20-50 kW. But both are being tested according to the same test procedure as defined in the European standards.	The initial categorisation has been maintained, but may be refined later.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.5.2	20-21	European product standards: All the CEN TC 295 ENs include testing and also cover direct spaceheating performance and output to any HW or CH boiler. They all deal with firing and heat exchange systems in a single unit and are specific to domestic use.	Accepted. The description of testing according to standards applying to Lot 15 products has been improved in section 1.2 and further details presented in the Annex of the new version of the report.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.1.5.2	20-21	Table 1-4: This is a "hotch potch" table giving no indication of boiler size and in some cases of the fuel to be burned. In some cases even standards are listed applicable only to gas and oil e.g. EN 303-1:1999/A1:2003 and the quoting of EN 303-1 1999 which it will have replaced. Further, as it does not deal with the Scopes of the Standards it can be misleading. For example EN 15270 is a non-harmonised standard covering only the burner performance where it is to be fired into a non-integral boiler and is not for use with appliances sold as a unit covering an appliance with integrated boiler/burner sold as a unit. This latter is covered by EN14785 for outputs < 50kW.	Accepted. Table of EN standards has been modified: in particular "duplicate" and non-relevant standards have been removed.
Dovre	1	v1	31/01/2008	1,2	22	In §4 you say that emissions particularly come from appliances that are hand fuelled. I think that is not a fair way to put it. A term like batch fuelled would be more appropriate.	Comment no more relevant in the revised report since major changes have been introduced to section 1.2.
Supra	1	v1	31/01/2008	1,2	24	EN 15250 has been published, and he also not a project any more.	Accepted. "prEN 15250" removed, an EN 15250 added to the list of described EN standards (section 1.2)
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1,2	24	EN 15250 "Slow heat release appliances fired by solid fuel –Requirements and test methods" is a published Standard and not a prEN.	Accepted. "prEN 15250" removed, an EN 15250 added to the list of described EN standards (section 1.2)
Supra	1	v1	31/01/2008	1,2	24	"Member State specific standards": for France, it must be precised that NF 009 is the reference of NF mark for the considered appliances. The reference standards are harmonised European standards. The NF mark guarantees the performances and the production quality of products in the course of time thank to control audits. NFD 35 376 is not applicable any more because it has been replaced by EN 13 229 and 13 240. France established a voluntary agreement for the improvement of combustion performances for the appliances covered by EN 13 229, 13 240, 12 809 and 12 815 through Flamme Verte label. The majority of French manufacturers and lots of foreign manufacturers adhere to this label whose aim is to make the yield better and decrease CO2 emissions (see http://www.flammeverte.org)	Accepted and report amended: NF mark and "Flamme Verte" label are presented in the section 1.3.
Chinvest / Chazelles	1	v1	31/01/2008	1,2	24	NF 009 mark is not a standard but a reference which guarantees quality performances. French standard NFD 35-376 is not used any more because she has been replaced by an harmonized standard.	Accepted and report amended accordingly.
Dovre	1	v1	31/01/2008	1,2	24	A lot of the member states standards do not exist anymore. They are replaced by EN standards. Why do we keep them in this text?	Major changes introduced to section 1.2.
HKI	1	v1	31/01/2008	1,2	24	The title of DIN 4759-1 is wrong. The correct title is: Process heat installations for more than one kind of energy; one boiler for solid fuel and one for oil or gas and only one chimney; safety requirements and tests.	Accepted. Major changes introduced to section 1.2.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1,2	24-26	Member States Specific Standards: These should all be checked again as for example the German list is incorrect in some entries; as should the listings of Third Country Standards: DIN 4759-1 is incorrectly titled and should have the title of "Process heat installations for more than one kind of energy; one boiler for solid fuel and one for oil and gas and only one chimney; safety requirements and tests". DIN 18892 is in the process of withdrawal as the Kachelofen/Putzoefen has been included in the TC 295 suite of harmonised ENs. DIN 18894 is to be reviewed for withdrawal when the published EN 14785 is listed in the Official Journal. Similarly, the two British Standards for the UK, BS 3250-1 and BS 3250-2 are to be withdrawn following publication of the TC 295 suite of harmonised ENs.	Major changes introduced to section 1.2.

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HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.1	26-33	EN303-5 standard is not covered by a mandate and is thus not a harmonised EN. It is currently under review. In my view it does not deal adequately with the standardisation of firing systems used in the residential market. It needs to be upgraded before it is completely satisfactory for the measurement of emissions. Currently EN303-5 states "Emissions in the form of dust and nitrogen oxides are determined at nominal heat output only". Many countries require measurements at low output to be made and some require intermediate output measurements. Further, no method of measurement of particulates is specified - all that is given is an Informative Annex B with a number of rudimentary diagrams of some Countries' test rigs. EN 303-5's Scope states that "The standard does not apply to - central heating boilers and other heating appliances which do not have minimum heat loss within the requirements of the standard and which are also designed for the direct heating of the place of installation - cooking appliances - the design and construction of automatic stoking devices.	Description of standards applying to Lot 15 products has been improved (test methods described in part 1.2 and further details presented in the Annex).
Palazzetti	1	v1	31/01/2008	1.2.1	32	last §: The measure of TSP (and PM) is possible with different methods. The results are different in case of different system of measure.	Yes there are different technical methods i.e. gravimetric and optical, but we still miss standards defining them in case of SCIs. Description of test methods has been improved in section 1.2.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.1	32	The Draft Report states that the "Apparent advantage of the standard is that it takes into account allowable emission factors of CO, PM and OSC." This is of absolutely no use if the measurement methods are not clearly specified and correct as is the case in this standard. Further, for the full range of solid mineral fuels and biofuels in the European Market the method of firing, the type of fuel and method of emission measurement have all a major influence on the results obtained.	General discussion - no direct suggestions to the report. No specific changes in the report. Major changes introduced to section 1.2.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.1	33	In their comment in regard to "Unification of flue gas reference conditions" the authors appear to be using the un-harmonised versions of the CEN TC 295 suite of standards which were published in 2001 rather than the harmonised versions published in 2004 and since. Unification took place 4 years ago!	Unification relates to the percentage values of oxygen (10% and 13%). Description of test methods has been improved in section 1.2.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.2	33-38	Residential Independent Boilers Fired by Solid Fuel: Again it appears that the authors are using the un-harmonised version of EN 12809 as a basis for their comments and not the amended version harmonised under Mandate 129 and the Construction Products Directive dated 2004 nor the corrected versions dated 2006. The Scope of EN 12809 also states that "in addition (the appliances) also provide space heating to the place of installation". The EN measures hot water output direct and as well as total output hence allowing the space heating output also to be measured. It can therefore be used to give boiler efficiency and output alone as well as total efficiency and output. It has been limited in output to a maximum of 50kW as this limit is believed to be a practical limit for domestic premises. It is not believed that one standard is suitable, as attributed to EN303-5, for outputs from zero to 300kW.	EN 12809 seems to give a better description of some referred issues than EN 303-5, hence it was suggested that under foreseen revision of the latter, it would be good to use some relevant parts of EN 12809. Some parts of 12809 are of poorer quality than the EN303-5 corresponding ones (e.g. pollutants emission issues), therefore we simply stated that it would be good to revise them both (e.g. according to suggestions of some testing laboratories). Description of standards applying to Lot 15 products have been improved in the new version of the report (test methods described in part 1.2 and further details presented in the Annex).
Interfocos	1	v1	31/01/2008	1.2.2	36	Table 1-19: The carbon monoxide emission classes are amended in EN 12809-A2:2004. The classes have been deleted and replaced by a general CO emission limit of 1 vol% at 13% O ₂ . Marking is amended in EN 12809-A2:2004 and differs from the original requirement in EN 12809:2001.	Accepted. Table 1.19 removed and the relevant values given in the appropriate section.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.2	36	Table 1-19: There are no classes in the harmonised EN 12809. The authors are again erroneously using the 2001 non-harmonised version. It is the view of CEN TC 295 that the standards they have produced are primarily construction and test standards. Very varying national regulation sets performance standards and the ENs permit testing by a common European method. As far as emissions are concerned the EN measures CO and a TS covering the measurement of NO _x and OGCs has been completed and a TS covering particulates and condensables is at a final draft stage. A maximum value of 1% has been set for CO for any appliance to meet the EN.	Accepted. Table 1.19 removed and the relevant information provided in the appropriate sections.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.2	38	The many and varied national regulations apply to efficiency and emissions which will be different for the various fuels that are burned. It is therefore not the task of these standards to set quantified levels but to provide a common test method that can be used to measure these levels. We do not understand the comments exhorting revision in order to put requirements within the standard covering the moisture and volatile content of the fuel as these are already given in Normative Annex B. Unification of flue gas reference conditions is already in place as referred to above. Limits to be placed on NO _x are inappropriate as all the NO _x comes from fuel nitrogen and none from "thermal" nitrogen and anyway this is a prerogative of National Governments acting alone or in concert.	Major changes introduced to Section 1.2.
Dovre	1	v1	31/01/2008	1.2.3	38-41	The standard does not cover the slow heat appliances. There is a separate standard for these units. The title of tableau 1.21 is obviously wrong. The text mixes up the terminology roomheaters and boilers in pages 40 and 41. The 13240 standard applies to the roomheater and not to the boiler. Classes 1 and 2 do not exist anymore in the final version of the standard. Every member country has the right to put up limit values when harmonizing the standard with their national legislation. Could you be more explicit about the conflict between EN 13240 and the German law?	The standard refers also to slow heat appliances with some exceptions. Other comments accepted and report modified accordingly. No conflict with German law since the amendment EN 13240-A2:2004.
Chinvest / Chazelles	1	v1	31/01/2008	1.2.3	38-41	Suppress the table of CO values classes. Rename the table 1.21 "steel - nominal minimum wall thickness"	Accepted and report modified accordingly.
Supra	1	v1	31/01/2008	1.2.3	39	The title of the table 1-21 does not correspond to the table. Replace it by "minimum nominal wall thicknesses".	Accepted and report modified accordingly.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.3	39	Table 1-21 is titled Minimum Refuelling Intervals at Nominal Heat Output when it clearly refers to the wall thicknesses of various types of construction.	Accepted and report modified accordingly.
Interfocos	1	v1	31/01/2008	1.2.3	38-41	In this section the word "boiler" is often used where it should be "roomheater". For example "Boiler performance requirements" should be changed to "roomheater performance requirements".	Accepted. Terminology corrected.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.3	38-41	Roomheaters Fired by Solid Fuel: Again a very out of date EN is used as reference. Thus there is no use of "classes" anymore nor is there still to my knowledge a conflict with German law as this was considered in an amendment. The authors refer to the appliances covered as "boilers" and thus lead themselves into error when comparing this roomheater standard to the boiler standard EN 303-5. The same criticism of the authors' Remarks section applies to this EN as they do to the others coming from CEN TC 295.	Accepted. Information up-dated and terminology corrected.
Supra	1	v1	31/01/2008	1.2.3	40	EN 13 240 has an amendment A2 2004 in which the table of CO emission classes 1303 disappeared. The maximal demand is from now one of 1% CO.	Accepted. Information up-dated.
Palazzetti	1	v1	31/01/2008	1.2.3	40	table 1-24: The carbon monoxide emission classes were deleted in the last version of the standard (A2:2004)	Accepted. Information up-dated.
Interfocos	1	v1	31/01/2008	1.2.3	40	Table 1-24: The carbon monoxide emission classes are amended in EN 13240-A2:2004. The classes have been deleted and replaced by a general CO emission limit of 1 vol% at 13% O ₂ .	Accepted. Information up-dated.

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Interfocos	1	v1	31/01/2008	1.2.3	41	The A-Deviation as mentioned in Annex C of the standard (conflict with German law) has been amended and deleted in EN 13240-A2:2001.	Accepted. Information up-dated.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.4	41-43	Pellet Burners for Small Heating Boilers: The authors do not make it clear that this is only a burner standard. Its Scope clearly states that is not a standard for an integrated burner/boiler unit which is covered by EN 14785. It is for burners intended to be fitted to existing boilers as has been the fashion in Sweden and elsewhere. The emissions quoted are for the burner performance only. When the burner is fitted to a suitable boiler then the EN 303-5 emission levels should be applied.	Accepted. Issue clarified in the report.
Interfocos	1	v1	31/01/2008	1.2.5	43-46	Class emissions of CO have been amended and deleted in EN 13229-A2:2004 and replaced by a general CO emission limit of 1 vol% at 13% O ₂ . Table 1-28: The efficiency classes are amended in EN 13229-A2:2004. The classes have been deleted and replaced by a general efficiency limit of 30%. The efficiency limit of 75% for stoves built on-site (actually "Kacheloven" or "Putzoven") is only mentioned in amendment EN 13229-A2:2004. Therefore it is very curious that all the other elements in this amendment is not included in the draft report. The A-Deviation as mentioned in Annex C of the standard (conflict with German law) has been amended and deleted in EN 13229-A2:2001.	Accepted. Information up-dated. The section 1.2 has been improved.
Palazzetti	1	v1	31/01/2008	1.2.5	45	table 1-28: The efficiency class at nominal heat output was delete in the last version of the standard	Accepted. Information up-dated.
Dovre	1	v1	31/01/2008	1.2.5	45	There are no classes anymore in the final version of this standard. It is up to the member states to define their own minimum requirements when harmonizing the standard with the national legislation.	Accepted. Information up-dated.
Chinvest / Chazelles	1	v1	31/01/2008	1.2.5	45	Suppress the table of output classes ? Where can the table 1.2-13 of CO be found ?	Accepted and information up-dated. The reference to table 1.2-13 was a mistake and it has been removed.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.5	45	Table 1-28. This is no longer present in the 2004 harmonised version of EN 13229 for reasons given earlier.	Accepted. Information up-dated.
HKI Industrieverband	1	v1	31/01/2008		45	The table "efficiency class at nominal heat output" has been deleted in Amendment 2 of the EN 13229:2001/A2:2004	Accepted. Information up-dated.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.5	46	The comment at the top of Page 46 refers to EN 13240 and not to EN13229. Any conflict should have already been removed by amendment.	Accepted. The mistake has been removed.
HKI Industrieverband	1	v1	31/01/2008		46	As far as we know, there is no conflict with EN 13240 and German law. Could you clarify this matter?	Since amendment, there is no conflict between the standard and German law any more (this referred to EN 13240). Mistake removed.
Interfocos	1	v1	31/01/2008	1.2.6	46-48	Table 1-29: Class emissions of CO have been amended and deleted in EN 12815-A2:2004 and replaced by a general CO emission limit of 1 vol% at 13% O ₂ . Table 1-30: The efficiency classes are amended in EN 12815-A2:2004. The classes have been deleted and replaced by a general efficiency limit of 60%. Marking is amended in EN 12815-A2:2004 and differs from the original requirement in EN 12815:2001. The A-Deviation as mentioned in Annex C of the standard (conflict with German law) has been amended and deleted in EN 12815-A2:2001.	Accepted. Amendments have been taken into account: wrong tables have been removed, and relevant values given in the relevant section.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.6	47	Tables 1-29 and Table 1-30 give "classes" for CO and efficiency that are not present in the harmonised EN 12815.	Accepted. Amendments have been taken into account: wrong tables have been removed, and values given in the relevant section.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.9	49-50	We point out the weakness of EN 303-5 in this area and believe that the suite of harmonised ENs produced by CEN TC 295 and discussed earlier in the Draft are also important documents for this exercise and should be included in the listing.	General remark. Major changes introduces to Section 1.2.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.10	50-52	EN 15250. It is noted that the authors now correctly give this standard the status of a full EN and not a PrEN as stated earlier in the Draft.	We are aware that EN 15250 has been published and is also not a project standard any more.
Interfocos	1	v1	31/01/2008	1.2.11	52-61	One should be aware that solutions to provide for high efficiencies and low emissions that work for industrial installations are mostly not applicable for domestic appliances and vice versa. A very clear distinction should be made between these two type of combustion installations with respect to measures that can be done to increase efficiency and minimize emissions. For instance automatic and electronic control of a combustion process is more applicable to industrial processes whereas the use of new materials that improve combustion and minimize emission is more suitable for domestic appliances. Also the main difference between industrial and domestic appliances is that the latter is predominantly used continuously whereas domestic appliances are mainly used batch wise. This difference leads to two complete different approaches regarding to efficiency and emission.	BAT and improvement options will be studied in detail in tasks 6 and 7. No specific action at this stage. Distinction between industrial and domestic installations is made with regards to the capacity of the appliances. In the scope of Lot 15 study, all appliances except medium-sized boilers are considered to be domestic appliances (while some e.g. direct heating appliances may be used in the commercial sector, the market share for these appliances is considered negligible). We agree that, except for automatically-fuelled SCIs, small combustion installations are often used non continuously (for domestic purposes). The characteristics of use are detailed in Task 3.
Dovre	1	v1	31/01/2008	1.2.11	53	In §2 the same kind of language appears as in page 14. We feel this puts certain products like woodstoves, unnecessary in a category of old fashioned and inferior products. It is not only the automation of the combustion process that is a solution to improve combustion technology.	Text of the "summary of test standard review" part has been completely revised.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	53	Paragraph 2: It is the duty of the appliance manufacturer to state the recommended fuel that can achieve the performance and clean air requirements of his appliance. The already available harmonised ENs assist in this by specifying the analyses of commercial grades for the various types of appliance. There are also a series of TS currently being converted to ENs by CEN TC 335 that cover the analyses of biofuels. Specification of detailed ash analyses etc is not thought to be practical for appliances below 50kW to be installed in domestic size dwellings which are generally single household properties. This is a very different market place from that served by boilers up to 300kW and should be treated separately.	General discussion. Text of the "summary of test standard review" part has been changed. Work of TC 335 is mentioned in the revised report.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	53	Paragraph 5: The higher efficiency of appliances such as automatic pellet burning boilers is, in general, very dependant on their being supplied with high quality fuels. This can be a problem in the domestic market.	Accepted. No specific action.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	53-54	Paragraph 6: For stoves and other appliances fitted with a boiler the boiler output is measured directly in the TC 295 suite of ENs. This is also the case for independent boilers.	Accepted. No specific action.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	54	Paragraphs 4/5. The comment regarding "use of scale" giving significant error because of tar deposition is not true of the test methods for the < 50kW appliances covered by CEN TC 295. Further, the reference methods and precision determination have already been covered in the CEN TC 295 suite of ENs.	The paragraph modified.

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HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	54	Last paragraph: Boilers and other closed appliances of output less than 50kW normally operate at 13% O2 whilst the operation of larger boilers covered by 303-5 can be lower at around 10%.	General remark. No specific action.
Supra	1	v1	31/01/2008	1.2.11	55	Measurement of solid particles is subject of discussion within TC 295 WG5. It can be pointed out that the method by dilution is not inevitably the most appropriate and optical methods or counting methods are a possible alternative to the usual gravimetric methods. In any case the situation is currently blocked within the TC 295 as for fixing a measurement method.	Report amended and improved on this issue.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	55	Paragraph 2: The comment relating to dust capture only being possible using a dilution tunnel is not correct. The UK ESP method captures some 95 to 98 % of particles as it is a full flow system.	Accepted. The description of the test methods has been improved.
Supra	1	v1	31/01/2008	1.2.11	56	last §: I don't understand the link between EN 14 785 and EN 15 250. I suppose you made a mistake between EN 14 785 and EN 15 270 "pellet burner..."	This was an editorial error. Paragraph amended - mistake corrected
Palazzetti	1	v1	31/01/2008	1.2.11	56	last §: The prEN15250 is not a supplement of EN 14785, they are two completely different standards.	This was an editorial error. Paragraph amended - mistake corrected
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	56	Last paragraph. The putting together of EN 14785 with PrEN (again should be EN) 15250 makes no sense.	This was an editorial error. Paragraph amended - mistake corrected
Chinvest / Chazelles	1	v1	31/01/2008	1.2.11	56	Replace PR EN 15 250 by EN 15 250.	Accepted. Mistake corrected.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	57	The two BSs, BS 3250-1 and BS 3250 are subject to withdrawal as the UK now test these appliances to an appropriate harmonised EN from the CEN TC 295 suite.	Accepted. Major changes introduced to section 1.2.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	57	Second last Paragraph. CEN standards National bodies have discussed and voted to accept most of the ENs and are therefore obliged to implement them. In many cases the Commission has listed them in its Journal as harmonised ENs.	OK. No specific action. Major changes introduced to section 1.2.
Palazzetti	1	v1	31/01/2008	1.2.11	58	table 1-31: there is not the EN 14785	EN 14785 added.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	58	Table 1-31 Efficiency Classes at Nominal Heat Output. Again no efficiency classes appear in the harmonised versions of the CEN TC 295 suite of ENs for the reasons discussed above. EN 12809 measures both heat to water directly and heat to space by difference using a flue loss method. EN 14785 – Residential Space Heating Appliances Fired by Wood Pellets –Requirements and Test Methods is missing from this Table. It covers integral pellet fired boilers and stoves up to 50kW thermal output without restriction on pressure.	Accepted. Major changes introduced to section 1.2. EN 14785 taken into account.
Interfocos	1	v1	31/01/2008	1.2.11	58-59	Table 1-31: A technical standard (TS) for the measurement of CO, NOx and OGC has been prepared by TC 295 "residential solid fuel burning appliances" and is now in CEN stage 32 (internal enquiry). This TS includes also an informative annex with various methods for measuring particle concentration.	Major changes introduced to section 1.2. and discussion given in the new version of the draft report.
Interfocos	1	v1	31/01/2008	1.2.11	60	The mistake in the calculation of Cpmd (page 60, draft report) has been amended and corrected in EN 13240-A2:2004. The same applies for EN 13329, EN 12815 and EN 12809	Accepted. Report modified accordingly.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	60-61	Description: [2] A correction to these formulae has already been published. [4] The O2 standardisation has already been done, where appropriate, and has been referred to. [7] Heating wall thickness is by manufacturer's declaration and submission of drawings to the Notified Type Test Laboratory. [11] As no thermal NOx is produced in these small appliances the only way of controlling NOx emissions is by controlling the nitrogen content of the fuel fired. [12] A proper reading of the TC 295 ENs will show that weighed batches are in fact used with the scales being used to indicate when the fuel is burned to the minimum fire-bed level. The accuracy of this method has been determined and has been shown to be as good, if not better, than other methods used for boilers. There is a potential problem with hopper fed pellet fired appliances that needs addressing.	Remarks taken into account. Major changes introduced to section 1.2.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.2.11	61	No case has been made that EN 12809 should be withdrawn. The authors of this Draft have not used current standards in their investigation nor have they noted the different Scopes of these two standards. Their recommendation is therefore ill based. EN 303-5 requires a complete revision before it can be put forward as a candidate harmonised Standard. The UK is supporting this work.	Remarks taken into account. Major changes introduced to section 1.2.
Palazzetti	1	v1	31/01/2008	1.3.1.1	62	There is not EN 14785. In all this standard there are the directive to obtain the CE Mark	EN 14 785 added to the harmonized standards list related to the Construction Product Directive.
Supra	1	v1	31/01/2008	1.3.1.5	63	The Pressure Equipment Directive apply under pressure condition, but also under volume and temperature condition. De facto its implementation is not systematic for domestic appliances given the low volumes concerned.	Accepted. Text modified accordingly.
Interfocos	1	v1	31/01/2008	1.3.3.1	64-66	Austria: "Vereinbarung gemäss Art. 15a B-VG über Schutzmassnahmen betreffend Kleinfeuerungen" should be included, which also gives requirements for SCI's of less than 50 kW output.	Section on Austrian legislation has been amended.
Danish EPA	1	v1	31/01/2008	1.3.3.1	66-67	Denmark: For your information I attach an english translation of the new Danish statutory order on solid fuel appliances, which seems not to have made to chapter 1.3 of the first draft report. Please also note that the limits for emissions from biomass fired plants referred to on page 66 seems to be outdated. Please refer to the Danish Air Emissions Guidelines http://www2.mst.dk/common/Udgivramme/Frame.asp?pg=http://www2.mst.dk/Udgiv/publications/2002/87-7972-035-8/html/helepubl_eng.htm , chapter 6.6-6.9 instead. Please note also, that the Danish building regulation also require EN 303-5 class 3 for efficiency for newly installed wood burning boilers	Information on Danish legislation has been amended.
Supra	1	v1	31/01/2008	1.3.3	70	For France, mention Flamme Verte label as voluntary agreement of manufacturers to improve the performances.	"Flamme Verte" was already been mentioned in the first version of the report. The paragraph has been improved and located in the voluntary agreements / national schemes section.
Chinvest / Chazelles	1	v1	31/01/2008	1.3.3	70	Replace DTU 24.2 by NF DTU 24.2. Modify the text in order for inserts and other open fire appliances to be included in the scope of NF DTU 24.2. Suppress the D35-376.	Ok for NF DTU 250. The D35-376 has indeed been replaced by an harmonised standard. Text modified and mistakes corrected.
HKI Industrieverband	1	v1	31/01/2008		70	The German "Erste Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes" (1.BImSchV) is currently under revision. It is planned, to install a limiting value in two steps in the official consultant regulation document. The first step will start directly after the regulation enters into force, the second step with stricter limiting values will start in 2015. A transitional arrangement in four steps for older, already installed appliances, which produce 2/3 of the emission of solid fuel fireplaces, is intended to support an uncomplicated change of appliances. Please take into consideration, that this is just a working document and no official German ordinance.	The information on German legislation has been amended.

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Interfocos	1	v1	31/01/2008	1.3.3.1	70-72	Germany: A revision of 1.BimschV is foreseen for 2008. Table 1-44 gives requirements for SCI's but with exclusion of "Einzelraumfeuerungsanlagen" (Roomheaters). These appliances are mainly intended for domestic use. Therefore one may notice that 1.BimschV distinguishes between SCI's for industrial applications and SCI's for domestic use. The requirements for "Einzelraumfeuerstätten" as mentioned in the revised 1.BimschV are listed in the table below (see "German requirements" sheet).	The information on German legislation has been amended.
UBA, German Federal Environment Agency	1	v1	31/01/2008	1.3.3.1	70-72	The legal requirements as mentioned in this paragraph for Germany are not complete: The draft amendment to the ordinance on small and medium size combustion installations contains limit values for stoves heating single rooms in annex 4 as well as additional requirements for installations fired with straw or crop. These requirements refer to type tests while those for boilers that are mentioned in the study refer to measurements in practice. For larger installations (with wood or coal products from 1MW upwards, for straw from 100 kW upwards) the requirements of the "technical instruction on air quality" (TA Luft) apply. These installations are subject to licensing. The TA Luft contains limit values for ambient air and for emissions into the air.	The information on German legislation has been amended.
Dovre	1	v1	31/01/2008	1.3.3.1	72	The dust values in the latest update of this proposal are 0.04 g/Nm ³ and not 0.02g/Nm ³ .	Accepted. Report modified accordingly.
Chinvest / Chazelles	1	v1	31/01/2008	1.3.3	72	In the table Step2, isn't there a mistake about the 20mg/m3 value ?	Accepted. Report modified accordingly.
Saey home and garden NV	1	v1	31/01/2008	1.3.3	72	The dust values in the latest update is 0.04g/Nm ³ and not 0.02g/Nm ³ .	Accepted. Report modified accordingly.
Interfocos	1	v1	31/01/2008	1.3.3.1	73	Netherlands: Type approval was abolished in 2004 in the Netherlands. Nowadays only CE marking in accordance with the European standards for residential solid fuel burning appliances applies, without additional requirements.	Accepted. Report modified accordingly.
Interfocos	1	v1	31/01/2008	1.3.3.1	74-75	United Kingdom: The remark about Sweden is not relevant in this context.	Accepted, there was indeed a mistake. Sentence deleted in the report.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1.3.3	75	Table 1-47: This table has been adopted by the UK government under Building Regulations ADL which requires all appliances which are installed in dwellings to meet minimum efficiencies appropriate to their design and type. All efficiencies Gross efficiencies and the Table should make this clear. The Table, which has recently been up-dated, appears in the Second Tier Document the Domestic Heating Compliance Guide – the up to date version of which should be obtained from DCLG.	The UK legislation part amended.
HKI Industrieverband	1	v1	31/01/2008		76	The EN for Energy efficiency for wood-pellet stoves is the EN 14785.	Mistake corrected.
UBA, German Federal Environment Agency	1	v1	31/01/2008	1,4	82-84	Scope: When fixing the scope of the study, not only the share of appliances should be considered, but also the possibility that possible requirements are circumvented. It should, for example not be possible to put an installation out of the scope of an implementing measure by declaring that it is meant for straw or crop. When defining BAT installations with secondary emission control equipment (especially dust precipitators) should be considered.	Comment about the scope accepted and this is an issue to be considered throughout the study. BAT will be looked at in Task 6.
Dovre	1	v1	31/01/2008	1.4.1.2	83	We think it would be wise to split up the category <50 kW in 2 categories. A category of <25 kW and a category 25 to 50 kW. If you leave 1 category only, you will find so many different kinds of appliances that it will become impossible to make sensible recommendations. Combustion technology, performance, degree of sophistication, price, etc. are very different in a unit of 10 kW or a unit of 40 kW. It is very hard to compare them.	The scope is limited to appliances which have an upper capacity of 50 kW (for direct heating), since it is the upper capacity limit of the 2 relevant standards (EN12809 and EN14785). However in Task 4 and Task 5, we will specify the relevant output ranges considered for these appliances, based on what is on average currently used and sold in the European market. In practice, this means that the direct heating appliances considered in the later stages of the study will have a capacity <20kW.
Chinvest / Chazelles	1	v1	31/01/2008	1.4.1.2	83	Wouldn't it be better to divide in 4 groups instead of 3, in order to incorporate a group < 25kW that is very often used today.	Same comment as above
Saey home and garden NV	1	v1	31/01/2008	1.4.1.2	83	I strongly advise you to divide the individual heating appliance into categories of power. In now way the results of an appliance of 10 kW can be compared whit an appliance of 50kW. Domestic heating appliances for solid fuel work of low power operate mainly whit atmospheric combustion. This means without the use of electricity. I think a good limit is everything below 20kW. Heating appliance of for example 40 kW are industrial appliances and have a completely different approach.	Same comment as above
Interfocos	1	v1	31/01/2008	1.4.1.2 1.4.2.1	83-84	Capacity and end-use / Products included in the scope: Regarding appliances for direct indoor heating, it is absolutely necessary to distinguish between domestic appliances up to a capacity of 20 kW and appliances with a capacity of 20 – 50 kW. This distinction reflects the current situation for domestic appliances in Europe. Appliances with a capacity of > 20 kW are mostly used in an industrial environment and require other facilities to minimize emission and maximize efficiency than appliances which are used in households and that mostly have a capacity of less than 20 kW. To illustrate this in 1.1.4.3. of the draft report a couple of examples of domestic appliances (without boiler, so direct heating) is given. All the appliances shown on page 13 and page 14 are stoves with a thermal output of most likely < 20 kW.	Same comment as above
Poujoulat	1	v1	31/01/2008	1,1		Concerning the definition of 'small' solid fuel combustion installations : we believe that they should only cover the residential and commercial areas as defined in your point 1.1.3 and even not be bigger than a capacity of 1 to 2 MW.	Upper threshold of the considered products has been brought down to 500 kW.
Dovre	1	v1	31/01/2008	1,1		An issue that might be important is whether an appliance can work independently or whether it needs electrical power to be able to make it functioning.	Electricity prices will be taken into consideration in Task 3, and electrical consumption in Tasks 4 and onwards.
Dovre	1	v1	31/01/2008	1,1		We would like to state that heating with untreated wood is a very energy efficient way of heating. Wood is capturing solar energy and when you heat with is you do it directly on the spot where the energy is needed. There are some very interesting and sometimes surprising studies published, treating the energy efficiency of different fuels.	Interesting remark, but the focus of this study is about products rather than fuels. No specific changes to the report.
Technical Research Centre of Finland	1	v1	31/01/2008	1,1		[Comment provided via personal communication]: The report does not mention the heat-retaining fireplaces (in Finnish: varaavat tulisijat) which are a special category and very common for example in Finland.	True. Text modified to mention such appliances explicitly.
SP Technical Research Institute of Sweden & Swedish Heating Boilers and Burners Association	1	v1	31/01/2008	1,1		The report is a reasonable first draft with a good structure. The text should be completed, there are some repeated issues and some errors.	Agreed. Text has been revised to address relevant issues.
SP Technical Research Institute of Sweden & Swedish Heating Boilers and Burners Association	1	v1	31/01/2008	1,1		The study and the scope should be limited to equipment up to maximum 50kW.	The upper limit has been brought down but will rather be 500 kW to capture the medium size boilers (indirect heating).
SP Technical Research Institute of Sweden & Swedish Heating Boilers and Burners Association	1	v1	31/01/2008	1,1		Pellet burners are only mentioned briefly.	Yes, indeed. They are dealt with in particular in the EN 15270 part of the new version of the report.

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Interfocos	1	v1	31/01/2008	1.1 and 1.4		<p>Scope of the study: The categorization should give a good reflection of the current situation in Europe. The current categorization of domestic appliances does not reflect the different type of usages. A more realistic approach would be to define domestic appliances with a thermal output of < 20 kW. Roomheaters, cookers, insets etc. being used for domestic purposes in the EU have a typical thermal output of 4 – 20 kW. To broaden the range to 50 kW is not realistic, since this will also include small industrial installations, that quite often use combustion techniques that differ from domestic appliances.</p> <p>The following categorization should be made for individual direct heating up to 20 kW thermal output:</p> <ol style="list-style-type: none"> 1. Manually fed appliances 2. Automatic fed appliances <p>Within these two types one should make a distinction between the type of fuels being used i.e.:</p> <ol style="list-style-type: none"> 1. Wood log burner 2. Pellet burners 3. Coal burners <p>A major factor that influences the combustion quality of domestic appliances is the quality of the fuel being used. Emission to the air and thermal efficiency are predominantly dependent on the quality of the design of the appliance, the consumers behaviour, and fuel quality.</p> <p>I am very much aware that it is impossible to make a base case for every possible fuel specification, but some cases should be made based on typical fuel specifications.</p> <p>In the European standards of solid fuel combustion installations (i.e. EN 13240) requirements are listed for commercial available fuels and test fuels. In the annex to this note I have attached the two tables that lists the fuel requirements.</p> <p>The type of fuels listed as well as the requirements for these fuels as listed in these tables can serve as a starting point to define base cases for different kind of domestic heating appliances fired with various fuels with various specifications. For instance one could make a base case with wood logs with a moisture content of 12 % and a base case with wood logs with a moisture content of 25 %. For wood logs the factors that influence combustion quality the most is moisture content and calorific value. The same can be done with other fuels.</p>	See response to comment 99. At this stage (Task 1) we adhere to the 50 kW limit, based on the relevant EN standards. In practice, for later tasks, the market shares of appliances of different capacities (Task 2) will be accounted for, thereby direct heating appliances will effectively be considered to be exclusively domestic ones, with a capacity range <20kW. A finer categorisation of appliances, accounting for instance on fuel-feeding technologies and combustion technologies be used in Task 4. Fuel quality and its impacts will be discussed in Task 3, but this issue is not the main focus of the study and it will only be taken into account in the technical analysis to a limited extent.
SP Technical Research Institute of Sweden & Swedish Heating Boilers and Burners Association	1	v1	31/01/2008	1.1 and 1.4		The study should more precisely define and describe the various types of burners and boilers that exist and are included in the scope.	A more precise technical description of boilers and burners will be performed in Task 4. In this task, the aim is simply to give a general overview of the different types of products falling within the scope of the study.
EHI - association of the European Heating Industry	1	v1	31/01/2008	1.1.4.3		Regarding paragraph 1.1.4.3 we were astonished that the fuel "pellet" is not mentioned. Therefore we have added some information's for various appliances and pictures.	Pellets are of course taken into consideration in the study. Text modified to mention explicitly pellet stoves. Pellets also mentioned in the context of boilers.
Technical Research Centre of Finland	1	v1	31/01/2008	1,2		I am working as a convener for CEN/TC 335 and we are developing EN-standards for solid biofuels including e.g. pellets, briquettes, wood logs. We have already finished the prestandards (=Technical specifications). Fuel specification and classes (CEN/TS 14961) and quality assurance (CEN/TS 15234) is now under upgrading to EN-standards. I hope you could add information about these standards too, because the national standards will be withdrawn after we have finalised them. I send you article about the technical specification [article provided in Finnish]. There will be changed for threshold values described in the article, but this is important for you to know.	OK. Information introduced in the report.
Interfocos	1	v1	31/01/2008	1,2		<p>Test Standards</p> <p><u>European standards:</u></p> <p>EN 12809:2001 has been amended and harmonized with EN 12809-A2:2004 EN 12815:2001 has been amended and harmonized with EN 12815-A2:2004 EN 13240:2001 has been amended and harmonized with EN 13240-A2:2004 EN 13229:2001 has been amended and harmonized with EN 13229-A2:2004</p> <p>The amendments of the standards mentioned above contain many essential corrections, which doesn't seem to be considered in this draft report. prEN 15250 is harmonized and is now EN 15250:2007</p> <p><u>Member states specific standards:</u></p> <p>Austria: The main standard that gives a test method and requirements for small scale combustion installations is "Vereinbarung gemäss Art. 15a B-VG über Schutzmassnahmen betreffend Kleinf Feuerungen". This standard applies for installations up to 400 kW and is valid for installations fired with solid, fluid or gas fuel. In the case of solid fuels a differentiation between biomass and fossil fuels and between manually fed and automatically installations is made.</p> <p>The mentioned ÖNORM M5861-1 only describes a method to measure particle concentrations in general and doesn't give specific requirements for small scale biomass combustion installations.</p>	The report has been modified to take into account the latest versions of the standards.
SP Technical Research Institute of Sweden & Swedish Heating Boilers and Burners Association	1	v1	31/01/2008	1,2		It is good that standards from CEN TC 228 "heating systems in buildings" and its connection to product standards are included.	Ok. No specific action.
HETAS Ltd, CEN/TC 295	1	v1	31/01/2008	1,2		<p>The CEN TC 295 suite of standards covers the measurement of CO as the bellwether of good combustion. The TC has also completed a TS covering the measurement of NOx and VOCs which additionally quotes particulate measuring techniques in a number of countries. EN 303-5 from TC 57 includes "A" Deviations from a number of countries covering inter alia particulate measurements and it is not a harmonised EN under any Directive.</p> <p>Because it is known that very different results (5 or 8:1) can be achieved using the different national methods, CEN TC 295 is also working on a European TS to unify the measurement of particulates and condensable liquids. A draft has been produced which uses a dilution tunnel together with isokinetic sampling to measure particulates and condensable droplets. This requires confirmation as an acceptable method to adopt for the measurements of emissions from appliances of nominal outputs of 50kW and below. A "round robin" exercise would be most useful.</p> <p>The harmonised ENs covering such appliances specify test fuels that represent commercial fuel analyses which must be adhered to in the market for the appliances to be confirmed as "clean". The analytical range of such commercial fuels is also specified. It is important that the quality of the fuel required to match output, efficiency and clean air performance is quoted by the manufacturer in his appliance operating instructions.</p>	Thank you for the information. Changes introduced to section 1.2.

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UBA, German Federal Environment Agency	1	v1	31/01/2008	1.2		Apart from standards for small combustion installations that include requirements for measurements, certain measurement standards should be mentioned. An example is EN 13284 – 1. In this standard a dust measurement method is described. In Germany dust measurements are usually performed according to the requirements of the DINplus quality label as standardised procedures are not yet available. So this label should be mentioned as well.	Major changes introduced to section 1.2.
Palazzetti	1	v1	31/01/2008	1.2.11		CEN/TC295 WG5 has produced a European Technical Specification (TS) dealing with methods for the measurements of NOx, and OGC/total hydrocarbons emissions and particulate and dust produced by the heating and cooking appliances. For the nitrogen oxides this European Technical Specification describes the Chemoluminescence method' and the 'Non-dispersive infrared (NDIR) method'. Besides these two techniques, there are also the 'Non-dispersive ultraviolet (NDUV) method' and the 'Non-extractive (in situ) method' which are described in detail in ISO 10849. For the total hydrocarbon contents, the method is described but the TS does not give any information regarding separate constituents due to the measurements being expressed as equivalents of a reference substance. In this method the measurement is continuous. Finally, for the measurements of particulate and dust, this European Technical Specification reports, in the Annex, three official methods that coincide respectively with the combined Austrian and German method, the Norwegian method and the UK method currently in force in these countries.	Indeed, there are technical specifications and methods, but the standards are still missing referring to SCIs. The issue is discussed in the report.
Palazzetti	1	v1	31/01/2008	1.2.12		New paragraph: Full title: EN 14785, Residential space heating appliances fired by wood pellets – Requirements and test methods Summary: This European Standard specifies requirements regarding design, manufacture, construction, safety and performance (efficiency and emission) instructions and marking together with associated test methods and test fuels for type-testing residential space heaters fired by wood pellets, and mechanically fed up to 50 kW nominal heat output.	EN 14785 has been added and described in a separate paragraph in section 1.2. (further precisions in Annex).
European Chimney Association	1	v1	31/01/2008	1.2 and 1.3		Comparing different requirements regarding emissions in EU-member states is a difficult task, mainly for 2 reasons: * The values are based on different testing-conditions. This mainly refers to the O2-content of the flue gas, which ranges from 10% O2 (e.g. Denmark) to 13% O2 (e.g. Germany, Austria). Unfortunately, this has a big influence on whether the limit is reached by the appliance or not. * Different values are used. For example, when it comes to fine particles emissions, countries use either mg/MJ, mg/kW, g/kg (of fuel). Again, without re-calculation these figures cannot be compared. * Different test-methods: Again for fine particles, countries use different testmethods as a basis for their limit values. These methods differ very much, so that appliances may pass with one test and fail with the other. Even on EU-level, no reference to one test-methods exists currently. However, this issue is currently being tackled by CEN with the aim to develop on single, European test method for fine particles. A good overview can be found at http://www.verenum.ch/Publikationen/IEARreportPM10Jan08.pdf	True. The discussion on test methods has been improved in Task 1.2.
Interfocos	1	v1	31/01/2008	1,3		Legislation: Most of the comments regarding legislation have been written by me in my previous comment paper of February 15, 2008. To summarize it: The European and national standards and requirements mentioned in the Task 1 draft report are not factual or out of date. Inclusion of the harmonized amendments of the European standard is necessary i.e:EN 13240-A2:2004, EN 13229-A2:2004, EN 12809-A2:2004 and EN 12815-A2:2004. Furthermore the requirements of the revised 1.Bimsch(Germany) and the requirements of "Vereinbarung gemäss Art. 15a B-VG über Schutzmassnahmenbetreffend Kleinfeuerungen"(Austria) must be included in the study. These documents deal with small scale combustion installations including domestic appliances for direct heating.	The report has been modified to take into account the latest versions of the standards. Information on the German and Austrian legislation has been amended.
SP Technical Research Institute of Sweden & Swedish Heating Boilers and Burners Association	1	v1	31/01/2008	1,3		There is a lack of description od Swedish legislation, standards, labelling systems etc. Sweden is a frontrunner when it comes to bio-fuel and has a lot of experience to share.	Information concerning Swedish legislation has been added.
INFORSE-Europe, supported by ECOS	1	v1	31/01/2008	1,3		There is a need to focus on the most demanding standards for air pollution, such as the Austrian standard that is explained in the report and the German "Blaue Engel". These and similar must standards must be compared with the best available technology for the most important types of installations (such as manually and automatically fired ovens and boilers for residential use and for institutions), to establish a basis to evaluate the scope for improvements of the technology.	Task 1 presents an overview of the existing standards. The current performance of the appliances will be looked at in Task 4 and best available technologies are the topic of Task 6 later in the study.
INFORSE-Europe, supported by ECOS	1	v1	31/01/2008	1,3		The descriptions on some of the standards lack important information about the environmental demands that the standards set (emissions, efficiency). This is e.g. the case with the description of the Norwegian standards, where the strong air emission requirements of these standards are not explained.	Information about standards have been complemented. If you find that some relevant information are still missing, please provide precise documents or links which could help us to improve the content of the description.
INFORSE-Europe, supported by ECOS	1	v1	31/01/2008	1,3		The overview of the efficiency classes clearly show that there is no existing signal to the consumers to choose the best installations that are considerably more efficient than the limit to enter the highest efficiency classes (highest efficiency class such as class 1 according to EN303-5).	Efficiency classes in relation to consumer information will be looked at in Task 8 of the project.
European Chimney Association	1	v1	31/01/2008	1,3		Include the additional legal requirements (even if still under development) and national voluntary labels: * Legislative requirements Austria: Include §15a-agreement in study * Legislative requirement Germany: Include draft of revision of 1. BimSchV in study * Additional Ecolabel-requirements: EFA (Europe), DINplus (Germany), Umweltzeichen 37 (Austria), Holzenergie Schweiz (Switzerland)	Further information on these legal requirements and voluntary labels has been added to the report.
Austrian Bioenergy Centre	1	v1	31/01/2008	1,3		The following Austrian standards related to biomass fuels are missing in the draft report: - ÖNORM M 7137: Requirements for pellets storage at final customer - prÖNORM M 7139 Energy crops - prNORM ÖNORM C 4000 Miscanthuspellets	The CEN TC 335 is preparing the EN standard on solid biomass fuels, which are to replace the national standards. Therefore, national fuel standards have been omitted from the report.
Austrian Bioenergy Centre	1	v1	31/01/2008	1,3		Following combustion technology should be added: Heat storing (tiled) stoves. This is a traditional heating system, especially in the Alpine region. Approx. 400.000 – 500.000 tiled stoves only in Austria (estimated). For the use with log wood, wood and bark briquettes and/or pellets. For the use as room heater or as central heating system (with integrated boiler).	These appliances can be included in "slow heat release appliances" category.
Austrian Bioenergy Centre	1	v1	31/01/2008	1,3		Following combustion technology should be added: Condensing boilers for pellets Flue gas condensation technology exists for pellet boilers as well, example: http://www.oekofen.co.uk/sitex/index.php/page.89/	The technical analysis of the products will be looked at in Task 4. No specific changes to the report.
Interfocos	1	v1	31/01/2008	1.3.3.1		<u>Belgium</u> (to be added): A directive is expected in 2008 for residential solid fuel appliances as defined by the relevant European standards (see "Belgian requirements" sheet).	Additional information added to the report.

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Concept & Forme SA - Stöv	1	v1	31/01/2008			<p>I would suggest to make a clear distinction between the direct and indirect systems for the domestic heating. Those systems largely differ in terms of functionality and capacity :</p> <p>The direct systems are mainly used as secondary heating systems while the indirect systems are commonly used as primary heating systems. This will have a large impact on the number of hours they are used and on the capacity ranges of the systems. As a consequence, the energy consumption and the pollution generated by the installations will largely differ. Moreover, in indirect systems the efficiency of the heat distribution system has to be taken into account in an overall energy efficiency evaluation. The lines below summarize the main differences between the direct and indirect systems.</p> <p>*Direct Systems :</p> <ul style="list-style-type: none"> -Mainly secondary heating systems -Used hundreds hours per year -Nominal capacity lower than 30kW (As the study considers installation as "single combustion appliance" there is no sense to consider individual heating systems with outputs higher than 20-30kw.) -No heat distribution system to be taken into account in an overall energy efficiency evaluation <p>* Indirect Systems:</p> <ul style="list-style-type: none"> -Mainly primary heating systems -Used thousands hours per year -Nominal capacity up to 50kW -Heat distribution system to be taken into account in an overall energy efficiency evaluation 	Agreed, this distinction is made. However, how the distinction between direct and indirect heating relates to fuel consumption will be dealt with in Task 3. For indirect heating systems, however, a product approach is maintained for the purpose of this study, although we are aware of the importance of the system. A section on product vs. system approach has been added.
Concept & Forme SA - Stöv	1	v1	31/01/2008			The level of emissions, efficiency, capacity ... largely depends on the measurement protocol used for the test of the installations. In some case comparisons between measurements have no sense if they are not done following the same measurement protocol. This implies that the emission, efficiency, ... thresholds to be defined as guidelines in future overall energy efficiency improvement directives have to be adapted in function of the measurement protocols of the installations. Unfortunately, the idea of expressing the level of emission in function of the GJ of useful heat output of the installations is good but is not possible with the present norms.	Accepted. The measurement method/protocol is indeed very important. Section 1.2 has been modified. This will also be taken into consideration in the further tasks of the study.
INFORSE-Europe, supported by ECOS	1	v1	31/01/2008			For the future work of lot15, it is important to focus on the added value of better performing solid fuel installations. One important aspect is the reduction of air emissions, where the focus must be to combine better air quality with increased use of biomass. This requires better combustion installations. It also requires special demands for installations in areas with high density of pollutants and in areas with little air movement (such as valleys). This is the only way to stop the trend of switching away from biomass heating in such areas. The results could be a set of standards for different local conditions, and with the ambition of meeting the EU expectations of improved European air quality with less particles and less organic compounds in the air. The other important aspect is that the energy efficiency has to increase with the increasing prices and less excess of biomass materials for energy.	Improvement will be looked at from Task 6 onwards and policy options in Task 8.
INFORSE-Europe, supported by ECOS	1	v1	31/01/2008			In the future work of lot15 it must be considered to use the methodology and some of proposals for oil and gas boilers developed in lot 1 and 2. A harmonised approach to consumer information regarding energy efficiency will give the consumers the best tool to choose efficient boilers. With the increased use of biomass boilers this can lead to a development where the differences in efficiency are narrowed between oil/gas boilers and solid fuel boilers. The technologies exist to reach high efficiency and low emissions with solid fuel boilers.	Interdependencies between Lot 1 and Lot 15 are considered where relevant. However, a product approach is maintained since future implementing measures in the Eco-design Directive will be based on the analysis of products. A section on product vs. system approach has been added.
INFORSE-Europe, supported by ECOS	1	v1	31/01/2008			The scope for lot15 should not be limited to smaller boilers than those covered by lot 1 and 2 that covers boilers up to at least 400 kW.	Agreed. Lot 15 scope will cover appliances up to a scope of 500 kW.
European Chimney Association	1	v1	31/01/2008			Underline the contribution of small biomass appliances to EU-goal of CO2-savings and climate change protection.	A broader policy concept (e.g. 20-20-20 goal) is presented as a preamble to Task 1, paragraph "Wider context of Lot15".
Austrian Bioenergy Centre	1	v1	31/01/2008			It remains unclear how you finally think to make the product categories.	The primary product categories have been clarified in the report. The categories will be further refined based on technical and market parameters in Tasks 2- 4.
Austrian Bioenergy Centre	1	v1	31/01/2008			It is not always clear whether you consider product standards, testing standards or measurement standards. Things are mixed up and are therefore sometimes quite confusing.	Agreed. Report has been improved on this aspect.
Austrian Bioenergy Centre	1	v1	31/01/2008			Some arguments you state seem to be more type of opinion, than actually justified by reliable sources / references (find some comments on this under Specific comments). Except for EC papers, standards and legal regulations qualified references are missing. Also the figures using pictures from companies are not referenced.	Proper referencing of sources have been verified.
Austrian Bioenergy Centre	1	v1	31/01/2008			Fuel categorization: It is not really clear whether you intend to do a broad differentiation amongst the fuels from your draft report. Biomass fuels and their design (e.g. chips or pellets) have significant impact on combustion technologies, on emissions, on energy consumption for fuel feeding, on materials for combustion chamber and heat exchangers (and on lifetime of these materials),... With respect to combustion technologies for wood biomass a differentiation between natural (chemically untreated) and waste wood (chemically treated), bark, wood chips, wood briquettes, wood pellets and log wood should be made. Chemically treated / waste wood resources should not be burnt in small-scale combustion systems.	Section added on the fuel categorisation, including fuel types and quality. Text has been clarified regarding the consideration of appliance type-type of fuel combinations, and a new chart has been added to clarify the scope, including the fuels considered. Fuel quality is also observed in Task 3.
Austrian Bioenergy Centre	1	v1	31/01/2008			<p>With respect to the impact of fuel characteristics on emissions the following categorization might be useful:</p> <ul style="list-style-type: none"> - Low ash / ash-rich >> eventual impact on level of TSP - Low nitrogen / nitrogen-rich >> NOx emissions - Low sulphur / sulphur-rich >> SO2 emissions - Low alkaline / high alkaline >> anorganic fine dust emissions - Low chlorine / high chlorine >> eventual impact on formation of dioxins <p>With respect to materials and lifetime of components a differentiation of low chlorine / high chlorine, eventually also low sulphur / high sulphur would be necessary.</p>	Agreed that these categorisations may be relevant at first sight. However, as explained in the stakeholder meeting, the categorisation proposed by this comment is not suitable for the detailed technical analysis. Impact on fuel characteristics on emissions will be further discussed in the later stages of the study (e.g. Task 3).

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UBA, German Federal Environment Agency	1	v1	31/01/2008			<p>Special attention should be given to the scope of potential ecodesign measures. In this context interdependencies with the following EU directives should be considered:</p> <ul style="list-style-type: none"> • Council Directive 1999/30/EC of 22 April 1999 relating to limit values for sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead in ambient air • DIRECTIVE 2000/69/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 November 2000 relating to limit values for benzene and carbon monoxide in ambient air; this directive fixes limit values in ambient air; • DIRECTIVE 2002/3/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 February 2002 relating to ozone in ambient air • DIRECTIVE 2004/107/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air • DIRECTIVE 2001/81/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 October 2001 on national emission ceilings for certain atmospheric pollutants <p>The first four Directives fix limit values for certain pollutants in ambient air that are emitted or precursors of which are emitted by solid fuel small combustion installations. The fourth directive sets limits for total national emissions, e.g. of NMVOC and NOx. According to the mentioned directives acceptable emissions may vary on a national and on a local level.</p> <p>In order to fulfil the requirements of these directives member states must keep their legal power to set stricter limit values than those of a possible implementing measure at EU level. These directives should therefore be mentioned in Task 1 of the preparatory study and considered when proposing Eco-design Requirements for solid fuel small combustion installations.</p>	These Directives about air quality have been added in the report (in section 1.3).
UBA, German Federal Environment Agency	1	v1	31/01/2008			<p>Interdependencies between lots 1 and 2 and lot 15 should be considered: Lot 1 and 2 (central heating boilers and water heaters):</p> <p>The commission has published a working document on ecodesign requirements for boilers and water heaters in February. According to this draft ecodesign requirements will be based on a system approach: The boiler is assessed together with components of the heating system like circulators, controls and valves. As there is a strong relationship between these lots and lot 15, a similar approach should be considered in these lots.</p>	Interdependencies between Lot 1 and Lot 15 are considered where relevant. However, product approach is maintained. A section on product vs. system approach has been added.
EHI - association of the European Heating Industry	1	v1	31/01/2008			As a general comment we have to point out that any evaluation of appliances within the scope should be resolved preferably via the primary energy approach.	OK. No specific change in the report.
EHI - association of the European Heating Industry	1	v1	31/01/2008			According to our market knowledge the discussed maximum output range of about 5 MW seems too high to interpret this size as having real market relevance. May be 1 MW will be seen as upper limit but this will be -according to the draft report - fixed after the finalisation of Task 2 and 3. We agree on that proceeding.	Ok. Upper threshold of capacity of the products included in the scope of the study has been brought down.
EHI - association of the European Heating Industry	1	v1	31/01/2008			Small and medium size district heating systems should be taken into account.	The scope is limited to space heating appliances with an upper capacity of 500 kW. District heating systems are often above 500 kW and are also out of the scope.
EHI - association of the European Heating Industry	1	v1	31/01/2008			We support the idea that central heating appliances should be included in the scope and not only single room heating appliances.	Agreed. It was already the case in the first version of the report.
EHI - association of the European Heating Industry	1	v1	31/01/2008			Appliances to be installed in the living space having a connection to a hydronic central heating system should be seen as a central heating appliance.	Agreed. Scope has been clarified.
EHI - association of the European Heating Industry	1	v1	31/01/2008			In any case the implementing measure of Lot 1 of the EuP-studies should be taken into account.	Interdependencies between Lot 1 and Lot 15 are considered where relevant. No change in the report.
EHI - association of the European Heating Industry	1	v1	31/01/2008			The evaluation of the appliances should be carried out by a type approval only.	OK. No change in the report.
EHI - association of the European Heating Industry	1	v1	31/01/2008			Comparable test methods should be given for all appliances.	Comparison of test methods and identification of the needs are presented in the new 1.2 section.
EHI - association of the European Heating Industry	1	v1	31/01/2008			A differentiation of the appliances can be done by the combustion system : controlled and uncontrolled.	Accepted. As mentioned in Task 1, a more refined categorisation of appliances, based in part on the combustion system will be performed in Task 4.
EHI - association of the European Heating Industry	1	v1	31/01/2008			A measurement on site should not be taken into account as too many parameters will affect the measurement accuracy and no comparability will be given.	OK. The measurement on site is related to the system approach, that is indeed not appropriate for the study. A section on product vs. system approach has been added.
EHI - association of the European Heating Industry	1	v1	31/01/2008			As parameters for the evaluation we propose the efficiency, the emissions of Nox, CO and dust.	Parameters to be observed within the context of a regulation are not determined by the Lot15 consortium. OGC emissions are also looked at. No specific changes in the report.
EHI - association of the European Heating Industry	1	v1	31/01/2008			There should be a differentiation of the used fuels; e.g. wood logs, pellets or coal are not comparable in the emission requirements.	Accepted. The role of the different fuel types is clarified.
EHI - association of the European Heating Industry	1	v1	31/01/2008			Labelling of central heating appliance should not be introduced.	This is an issue to be considered at the end of the study in Task 8. No changes in the report.
EHI - association of the European Heating Industry	1	v1	31/01/2008			Regarding the revision EN 303-5 it has to be said that a first proposal has been worked out; the discussion on CEN-level will start in spring this year.	Information added to the report.
HKI Industrieverband	1	v1	31/01/2008			We would like you to know, that there is a German official publication called "Bauregelliste", which is a list of all standards and technical regulations for construction products, including combustion installations for burning solid fuels. If you want to introduce a test for these appliances, it is mandatory, that this test is listed in the Bauregelliste, otherwise it has no official acceptance/authorisation. To list a test in this document, you have to make a proposal at the DIBt, the Institution that is responsible for the Bauregelliste. This procedure takes time and makes the authorisation of new standards exceedingly intricate, as Germany is the only European Member state, where such a regulation exists.	Thank you for the information. No changes to the report.

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Concept & Forme S.A. - stův	1	v1	31/01/2008			If the goal of the future directive on combustion systems is to promote the reduction of energy used to heat buildings, only an approach considering the complete heating installation is valid (see EPD directive). Only working on the combustion installation would be like trying to reduce the energy consumption in the transport sector by acting on engine efficiency only and not on the cars. A global approach is also the only way to compare the various heating solutions. So if the present study focuses on products only, it must be clearly stated that this study must be completed or coupled with a more global one to allow an objective evaluation of the various heating solutions and to promote those that will lead to the best solutions in terms of global energy efficiency.	We acknowledge this comment, however the Lot 15 study is about the products rather than the systems, since the EUP Directive is focused on products. There are other instruments focusing on the systems level, notably the EPB Directive. Discussion about the product vs. systems approach is added to the report.
Concept & Forme S.A. - stův	1	v1	31/01/2008			The global efficiency $\eta(\text{global})$ can be written as the multiplication of the fuel preparation efficiency $\eta(\text{fuel})$ (extraction, preparation, transport, ...), the combustion efficiency $\eta(\text{combustion})$, the heat distribution efficiency $\eta(\text{distribution})$ (storage, distribution, ...). $\eta(\text{global}) = \eta(\text{fuel}) * \eta(\text{combustion}) * \eta(\text{distribution})$ For Solid Fuel Combustion Installations the combustion efficiency $\eta(\text{combustion})$ of the product itself is a critical point because it will largely depend on the way the product is used (quality of the fuel, ...) and on its integration in the global heating system (output temperature of the boilers, heat storage, heat distribution, ...). So $\eta(\text{combustion}) = f(\text{fuel characteristics, output temperature, ...})$ As the present study focuses on the products (solid fuel small combustion installation), it is very important to evaluate de sensitivity of the product efficiency to the way it is used, the way it is integrated in the global system... For the products covered by a norm, the parameters that have an influence on $\eta(\text{combustion})$ are fixed. Those parameters are not necessarily representative of the real life. So to evaluate $\eta(\text{combustion})$ of the products like they are used in the "real life" it necessary to: 1. Clearly identify the parameters that will impact $\eta(\text{combustion})$ 2. Characterize the sensitivity of $\eta(\text{combustion})$ to those various parameters 3. Define the value of the parameters in the "real life" (bases cases). Task 1 of the EUP preparatory study should focus on point 1 of the actions mentioned above. Task 2 and Task 3 should fix the point 3. So there is a lack in the study to evaluate point 3. Without this evaluation it will not be possible to evaluate the efficiency of the products as used in the real life. It will also not be possible to evaluate the efficiency and the environmental effect of global heating systems which is the only way to compare and optimize those systems and lead to a reduction of the energy consumption.	Accepted, these issues will be addressed in Task 3. No specific changes to the report. These remarks will be taken into consideration particularly in the upcoming tasks of the study, when efficiency of the products is assessed and compared.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.3	9	Fig 1-1 Diagram: Cookers, Open Fires and Inserts and Slow Heat Release appliances are also available and used in the Residential market. CEN TC 295 has produced harmonised ENs covering these appliances-all of which can contain boilers. This should also be reflected in the Figure 1-24 on page 90	The role of the figure is to give an overview of the range of sizes / capacities of solid fuel combustion installations, rather than describe all types of appliances. No change in the figure, but these appliances are mentioned further in the report and covered by the study.
INFORSE-Europe, supported by ECOS	1	v2	20/05/2008	1.1.4.1	11	Gasification is also an emerging technology for biomass, mainly for use in CHP plant, including CHP below 500 kW (not only a technology for fossil fuel and waste).	Agreed. Paragraph has been modified in the report.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.4.1	12	Bullet points Direct Heating etc. Additionally CEN Technical Committee 295 has also produced harmonised ENs covering cookers and independent boilers with space heating, Slow Heat Release appliances and wood pellet fired appliances (boilers and roomheaters). As we understand it the harmonised EN produced by CEN TC 295 covers all relevant "aspects" of cooker performance including cooking, heat output to space and boiler, efficiency etc.	Harmonised standards are dealt with in the Section 1.2 of the report. The bullet points in the Section 1.1.4.2 aim to give an overview of the main function of the appliances; the purpose at this stage is not to describe in detail all the possible functions of an appliance. Nevertheless a footnote has been added. Section 1.2 has been improved (and details provided in Annex).
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.4.2	13	Combustion Technologies Small domestic systems are defined in the report as having a thermal output of < 50 kW. A more realistic approach would be to define categories for domestic appliances with a range of thermal output (see Tab. above). Roomheaters, cookers, insets etc. being used for domestic purposes in the EU have a typical thermal output in the above mentioned ranges. To maintain a single range up to 50 kW is not realistic, since this will also include small industrial installations, which quite often use combustion techniques that differ from domestic appliances.	This is a common theme in several comments. The CEN TC 295 Standards cover residential solid fuel appliances and have an upper size threshold of 50 kW. Some Member States have defined a different size threshold for residential appliances. A threshold of 20-35 kW for direct heating appliances can be suggested, but whether at 20-35 or 50 kW, the technology will be similar (whether 'industrial' or residential). The initial categorisation has been maintained, but may be refined later.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.4.2	13-14-15	Small (domestic) systems < 50kW output The commentary over emphasises the "bad" performance of open fires. Fuels (cokes and briquettes) which meet stringent clean air requirements (in the UK especially) can be burned without excess smoke in open fires and it is also possible to design appliances that burn naturally "smoky" fuels with acceptable emission levels in an open fire. An EN covering Sauna Stoves has been completed by CEN TC 295. The use of the term "raw coal" is inexact. Anthracite (with less than 10 % volatile matter) burned in a gravity feed boiler or roomheater is a very good smokeless fuel; bituminous coal with 35% volatile matter can be burned in small underfeed stoker fired boilers with a high degree of smoke reduction. These appliances may have automatic ignition systems.	The paragraph about small (domestic) systems < 50 kW output have been modified in order to take into account the possible use of smokeless fuels in open fires, and their resulting not "bad" performances. EN concerning sauna stoves is presented in the section 1.2. The term "raw coal" has been deleted.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.4.2	17	Small (non domestic) boilers Anthracite a naturally "smokeless" fuel should be added to the list of fuels given.	Anthracite mentioned in table 1-2. Solid fuel types. No change in this part of the report.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.5	18	Table 1-2: Because anthracite is a naturally smokeless fuel whilst bituminous coal is a potentially smoke producing fuel, it would be better to separate these two mineral fuels.	Anthracite is cleaner than bituminous coal but it is not emission-free. No need to separate these two types of fuel at this stage: no change in the corresponding table.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.5	18 and the following	There are International Classifications for mineral fuels! As commented, EN303-5 currently under revision, does not define fuels well nor the firing systems used for fuelling the boiler. However, the suite of harmonised ENs produced by CEN TC 295 carries Tables covering the analyses of the fuels generally found in the market and a narrower analytical specification for the Test Fuels to be used to represent these commercially available fuels. Further, if the fuel recommended by the manufacturer lies outside the Table's specification a test is included for the assessment of the fuel as suitable for the class of appliance.	Accepted. Text modified in the paragraph related to the fuels. Description of EN standards in 1.2 (including EN 303-5), has been improved.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.5	18 and the following	Reactive Cokes which are "smokeless" can be burned in open fires and closed appliances. Multifuel closed appliances are widespread in the UK which can burn both cokes, natural and manufactured smokeless fuels and wood logs. Automatic boilers in the UK are produced to burn anthracites.	Accepted. Text modified in order to include multifuel appliances.

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INFORSE-Europe, supported by ECOS	1	v2	20/05/2008	1.1.5	19	A range of detailed de-facto standards for wood pellets exist in a number of countries including Germany (DIN +) and Denmark. Wood chips standards are applied, mainly voluntarily, in some countries, including Denmark (OBS EN14961:2005)	A sentence has been added to acknowledge the national standards, but as said in a footnote (paragraph dealing with fuel within the "criteria for defining the scope" part), these standards are not elaborated in the report.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.5	19	The reference to EMEP is not relevant for single household appliances.	The guidebook is taken as one reference for the definition of solid fuels. It does contain a chapter on SCL, including residential appliances (stoves, fireplaces, small boilers). No changes to the report.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.6.2	22	European product standards The European product standards are valid for appliances with an output < 50 kW. However, one should keep in mind that the main goal of these standards was to define an uniform test procedure for the appliances as mentioned in the European standards and less to define limit values for CO and efficiency. Member states can differentiate in CO and efficiency levels as long as that limit is within the limits as mentioned in the European standard. So, it is necessary to differentiate categories as given in the Table of page 1 of this comment.	The initial categorisation has been maintained, but may be refined later.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.6.2	22	All the CEN TC 295 ENs include testing and also cover direct space heating performance and output to any HW or CH boiler. They all deal with firing and heat exchange systems in a single unit and are specific to domestic use.	Accepted. The description of testing according to standards applying to Lot 15 products has been improved (section 1.2) and further details presented in the Annex of the new version of the report.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.1.6.2	22	Table 1-3: It is necessary to differentiate between harmonised (mandatory) and non-harmonised (voluntary) standards.	Table 1-3 illustrates the existing product categorisation (topic of the section 1.1.6.) according to the EN standards where the status of the standard is not the key issue. No changes to this table, however, when relevant, the fact that EN 303-5 is not harmonised has been mentioned.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.2.3	51	Summary of test standard review One should be aware that solutions to provide for high efficiencies and low emissions that work for industrial installations are not necessarily applicable for domestic appliances and vice versa. A very clear distinction should be made between these two types of combustion installations with respect to measures that can be done to increase efficiency and minimize emissions. For instance automatic and electronic control of a combustion process is more applicable to industrial processes whereas the use of new materials that improve combustion and minimize emission is more suitable for domestic appliances. Also the main difference between industrial and domestic appliances is that the former is predominantly used continuously whereas domestic appliances are mainly fueled batch wise and used intermittently. This difference leads to two complete different approaches regarding to efficiency and emission.	BAT and improvement options will be studied in detail in tasks 6 and 7. No specific action at this stage. Distinction between industrial and domestic installations is made with regards to the capacity of the appliances. In the scope of Lot 15 study, all appliances except medium-sized boilers are considered to be domestic appliances (while some e.g. direct heating appliances may be used in the commercial sector, the market share for these appliances is considered negligible). We agree that, except for automatically-fuelled SCLs, small combustion installations are often used non continuously (for domestic purposes). The characteristics of use are detailed in Task 3.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.3.1	52	2nd paragraph. The TC 295-Standards refer to 13% O2. Any reference to 10 % should be deleted in the report.	Agreed regarding TC 295 standards. The incorrect references have been corrected.
CEN TC 295 HETAS	1	v2	20/05/2008		55	Table 1-5 needs amending in that EN 12815 covers solid fuel fired "cookers with or without heat to water" not "hand fired appliances" and EN 12809 covers "residential independent solid fuel fired boilers with heat direct to living space" not "appliances for water central heating systems" and EN 13240 covers "roomheaters with or without heat to water" not "appliances". EN 303-5 covers "boilers for water central heating without space heating output". EN 14785 covers "residential space heating appliances fired by wood pellets with and without heat to water".	Cited amendments have been made.
INFORSE-Europe, supported by ECOS	1	v2	20/05/2008	1.3	57 and following	There is a need to add an overview of the different European and national standards and voluntary agreements for each of the parameters that will be included: efficiency at different load levels, emissions of CO, Nox, organic compounds, particles, small particles. The descriptions on some of the standards lack important information about the environmental demands that the standards set (emissions, efficiency).	The comparison between the different regulatory and voluntary requirements represent a big work whose results are not provided in the report yet. The comment on the description of the standards is very general. No changes to the report.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.3.4	59	Table 1-6: The table is not complete.	Too general a comment which does not help to complete the table. Nevertheless the table has been slightly modified.
INFORSE-Europe, supported by ECOS	1	v2	20/05/2008	1.3.2.1	60	Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe, the Thematic Strategy on air pollution [COM(2005) 446], and the Clean Air for Europe (CAFE) Programme should also be mentioned as important legislation and strategies on a European level.	The Directive has been added in the list of Directives dealing with air quality. CAFE was already mentioned in the Introduction (Section 0.2) and Thematic strategy has been added there.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.3.4	61	Legislation on Member State Level The CEN TC 295 suite of standards covers the measurement of CO as the bellwether of good combustion. The TC has also completed a TS covering the measurement of NOx and VOCs which additionally quotes particulate measuring techniques in a number of countries. EN 303-5 from TC 57 includes "A" Deviations from a number of countries covering inter alia particulate measurements and it is not a harmonised EN under any Directive. Because it is known that very different results (5 or 8:1) can be achieved using the different national methods CEN TC 295 is also working on a European TS to unify the measurement of particulates and condensable liquids. A draft has been produced which uses a dilution tunnel together with isokinetic sampling to measure particulates and condensable droplets. This requires confirmation as an acceptable method to adopt for the measurements of emissions from appliances of nominal outputs of 50kW and below. A "round robin" exercise would be most useful. The harmonised ENs covering such appliances specify test fuels that represent commercial fuel analyses which must be adhered to in the market for the appliances to be confirmed as "clean". The analytical range of such commercial fuels is also specified. It is important that the quality of the fuel required to match output, efficiency and clean air performance is quoted by the manufacturer in his appliance operating instructions.	Thank you for the information. Text has been complemented concerning these points.
CEN TC 295 HETAS	1	v2	20/05/2008		71-72	It should be made clear in the report that the minimum efficiency values for the UK referred to in bullet point 2 on page 71 and also specified in Table 1-22 are given on a Gross CV basis. Minimum efficiency requirements for each type of appliance are given in the report in Table 1.22 for the UK are under UK law given on a Gross Efficiency basis. This should be made clear in the heading. This Table has been superseded by the attached version given in a corrigenda to UK Building Regulations ADL's Domestic Heating Compliance Guide (attached).	Precision has been added regarding efficiency and table has been updated according to the corrigenda.
INFORSE-Europe, supported by ECOS	1	v2	20/05/2008	1.3.6	81	Norwegian standards are missing. They are trend-setting and therefore important to include (just as Norwegian emission test methods are referenced in 1.2.2.3)	Information about the Norwegian standards/legislation can be added to the report if information is available in English.

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INFORSE-Europe, supported by ECOS	1	v2	20/05/2008	1.4.1.3	86	Black coal briquettes should be included as a fuel. Charcoal is often made from wood and should then (also) be categorised as biomass.	List of fuels has been modified. Term 'anthracite' is used rather than 'black coal'. Charcoal is indeed a biomass fuel, and has also been deleted.
INFORSE-Europe, supported by ECOS	1	v2	20/05/2008	1,4	86	Scope: Combustion equipment, in particular boilers, are part of systems and have influence on the overall efficiency in other ways than their own efficiency. These other factors are in particular: - Part load efficiency down to 25% of full load or less. - Temperature cycling of boiler and limited temperature regulation capacity that increases system losses compared with optimal temperature regulation of outlet water. - Regulation of water outlet temperature according to heating demand and/or outside temperature. These aspects should be included in the scope of the study, in 1.4.1.4: Product vs. system approach. Then this lot work will follow more closely on gas and oil boilers regarding methodology.	Factors having an influence on the efficiency at system level are studied in Task 4. Lot 15 focuses on products, as it is explained in the "Products vs system approach" paragraph. No change in the report.
CEN TC 295 HETAS	1	v2	20/05/2008	1.4.2.1	87	Products included in the scope separate direct and indirect indoor heating appliances when in general there is no such distinction in practice for appliances up to 50kW in total output. A direct space heating appliance can have hot water output whilst a "boiler" can have a significant space heating component.	The categorisation in Task 1 separates direct from indirect heating appliances. It is acknowledged that direct heating appliances can also be fitted to a boiler. A footnote has been added in the "product category" paragraph.
INFORSE-Europe, supported by ECOS	1	v2	20/05/2008	1.4.2.2	87	We do not agree with the proposed exclusions in 1.4.2.2. - We propose that outdoor heating appliances with closed combustion chambers and all cooking appliances (indoor and outdoor) with closed combustion chambers are included in the scope regarding air pollution. This is in particular important as adherence to ecodesign requirements in the future could be used as a requirement for use of outdoor fire in areas with air pollution problems (e.g. densely populated areas, narrow valleys). - We propose that boilers sold in packaged heating systems are included. We also propose that garden waste incinerators are included in the scope regarding air pollution. If they cannot meet air pollution requirements they should not be allowed. By reducing air pollution from small installation, the Ecodesign process can have an important role in implementing the Thematic Strategy on Air Pollution. This is the reason behind these proposals to include outside combustion installations.	It is necessary to limit the scope of the study to a workable scope. Exclusion of the outdoor appliances has been agreed with the Commission based on the different functionality. However, outdoor appliances can eventually be covered by a separate study. The description regarding packaged systems has been modified to clarify that boilers themselves are indeed within the scope.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008	1.5.4.2	107	Remark. Limits to be placed on NOx are inappropriate as all the NOx comes from fuel nitrogen and none from "thermal nitrogen".	Paragraph has been changed according to the comment, but a footnote has been added to explain that emission of NOx can increase in case of new solid fuel combustion techniques, mainly automatic ones (this was what we considered when we mentioned the need to put NOx emission limits).
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008			There is confusion between the Scopes of various ENs for example EN 12809 and EN 303-5 which leads to unacceptable conclusions being presented. The difference between indirect and direct heating appliances has to be clarified throughout the text (e.g. on fig. page 90).	The comment remains very general - some clarifications have been included regarding the scope of the EN standards. Explanations about direct and indirect heating appliances are given in paragraph "functionality". Figure of page 90 has been modified.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008			Single household dwelling type of appliances need to be dealt with separately. This is done for single dwelling appliances via the ENs and TSs of CEN TC 295 and only covers appliances less than 50 kW.	Disagreed - there is no need to deal with single household appliances separately: the appliance types vary according to their capacity (regardless of the building type) rather than according to the type of building (for a given capacity). No change to the report.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008			The type and quality of fuels used is very important for the efficiency of the appliance. It should be already clarified in Task 1 and not in a later Task. For the full range of solid mineral fuels and biofuels in the European Market the method of firing, the type of fuel and method of emission measurement have all a major influence on the results obtained.	The role of fuel quality is mentioned under section dealing with fuel, in the presentation of the criteria taken into consideration to define the scope. The issue will be dealt with in more detail in Task 3. No changes to the report.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008			Central heating systems without direct heating functionality should be left out of this study (scope of EN 303-5).	There is no reason to exclude boilers without a direct heating functionality, since they represent a non-negligible proportion of the SCIs. However, each appliance category will be looked at separately.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008			As there is no uniform measuring method to measure particles in Europe, data from different member states can't be compared with each other. It is important to settle on one measuring method all over Europe.	Agreed.
SCAN, VHR, CIV, Interfocos, CEFACD, HKI, Flam, Jotul, Leenders, Olsberg, Wamsler	1	v2	20/05/2008			We propose the following categorisation (see <i>proposed categorisation</i> sheet).	The aim of Task 1 is to give an overview of the studied products and the categorisation has to be easily understandable, even by non-technical people. Hence the proposed alternative categorisation is not adopted here. Task 4 will focus more on technical aspects.
Gastec	1	v2	20/05/2008			The revised document is clearly now factually correct and does reflect up to date EN standards.	Thank you.
Gastec	1	v2	20/05/2008			There are no comments upon harmonization of limits for particulate (PM10 / PM2.5), sulphur and VOC emissions. Is this good idea or not? I suggest that local regulation may be preferable in view of local atmospheric conditions.	Harmonisation of limits in standards or national legislation is not the objective of this study as such. The Lot 15 study is to consider how and if ecodesign could improve the performance of SCI. Emission limits may be a policy option to be considered at the end of the preparatory study. No change to the report.
Gastec	1	v2	20/05/2008			There are no comments upon the relative importance of the reduction/increase in CO2 emissions from biomass, and fossil fuels against their emission of harmful pollutants. There appears to be NO attempt to offer a detailed methodology on whether the EU should be recommending/promoting biomass combustion. This is a large scale but vital question in view of the current attitude by some UK local government. We can envisage this dichotomy occurring across other parts of Europe.	These aspects are covered in later tasks. Biomass promotion is mentioned in Tasks 2 and 3, among the regulations that can have an effect on sales/use of SCIs. The environmental impact assessment of SCIs will be performed in Task 5 and recommendations for improvements in Task 8.
Gastec	1	v2	20/05/2008			Might solid fuel biomass make the same mistakes as bio-oils? Hopefully not, but this should be investigated. Thus, there are no comments about different fuels eg logs Vs pellets Vs chip - let alone the complex issues regarding plans to burn maize and other foodstuffs? Should the EU be permitting the import of biomass from tropical areas? Should the combustion of 'food' be permitted?	Questions about biomass import or food burning are indeed interesting but they do not properly enter in the frame of the EUP study were focus is on ecodesign. No changes to the report.
Gastec	1	v2	20/05/2008			There are few comments upon when and where different fossil fuel/biomass combustion technologies might best be applied. How do waste solid fuels fit into the picture?	Waste (apart from clean wood) are not considered as fuel in the Lot 15 study.

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INFORSE-Europe, supported by ECOS	1	v2	20/05/2008			<p>Recommendation for the further work on Lot 15: There is a need to focus on the most demanding standards for air pollution, such as the Austrian standard that is explained in the report and the German "Blaue Engel". It is important to focus on the added value of better performing solid fuel installations.</p> <p>In the future work of lot 15 it must be considered to use the methodology and some of proposals for oil and gas boilers developed in lot 1 and 2. A harmonised approach to consumer information regarding energy efficiency will give the consumers the best tool to choose efficient boilers. With the increase use of biomass boilers this can lead to a development where the differences in efficiency are narrowed between oil/gas boilers and solid fuel boilers. The technologies exist to reach high efficiency and low emissions with solid fuel boilers.</p> <p>It is important to focus on efficiency and emissions in a typical set of use situations. For boilers this should include that low-load situations are given. It is important to focus on installations requirements.</p> <p>It is necessary to consider special demands for installations in areas with high density of pollutants and in areas with little air movement (such as valleys). If information on air pollution becomes an ecodesign requirement, local authorities can use this to allow only installations of the least polluting equipment in sensitive areas.</p> <p>It is important that proposals are combining the EU expectations of improved European air quality following the EU Thematic Strategy on Air Pollution with less particles and less organic compounds in the air as well as the EU ambition of increased biomass use.</p>	The study will follow the Methodology for Ecodesign of EuP (MEEuP) as specified in the contract with the European Commission. Any performance requirements for SCI or policy recommendations will be developed in line with this methodology. No changes to Task 1 report.
CEN TC 295 HETAS	1	v2	20/05/2008			We believe that any final Report covering Task 1 should deal separately with appliances and fuels which heat a single dwelling occupied by a single household and should specifically cover appliances of output up to and including 50kW. This means that the relevant ENs are those produced by CEN TC 295. The TC 295 ENs also cover all appliances that also have a direct heat output to the space in which they are installed and it is our view that this also should be a limitation of this part of the study and therefore does not include heating boilers covered by EN 303-5.	Task 1 report gives first features/characteristics of appliances. Direct and indirect heating appliances will of course be dealt with separately in the following tasks, in particular in Task 4 (technical analysis) and Task 5 (base-cases). No changes to the report.
CEN TC 295 HETAS	1	v2	20/05/2008			We believe that the separation into three output ranges is over-complicated and is not relevant to some of the appliance types. There is no reason why there should be more than a 0 to 25kW and a 25kW to 50kW split.	We do not quite see what this comment refers to. No changes in the report.
CEN TC 295 HETAS	1	v2	20/05/2008			It is not sufficient to use the term "hard coal" to cover the range of coals on the market. Anthracite is a naturally smokeless fuel that can be used at high efficiency with very low environmental impact in residential heating appliances of all types. High volatile content bituminous coal is "smoky" when burned in unsophisticated appliances and requires specially designed appliances with down-burning systems or underfeed stoker feeders to meet low emission standards. Throughout the report this should be taken into account; for example in Table 1-2 Solid fuel types. There are International Classifications for solid mineral fuels. When discussing the variety of appliances it is necessary for these differences to be taken into account.	Table 1-2 has been amended, although it already mentioned both bituminous coal and anthracite. Fuel properties and quality will be looked at in more details in Task 3.
CEN TC 295 HETAS	1	v2	20/05/2008			Comments are made averring that "Parameters given for coal are less precisely defined in comparison to solid biofuel parameters" in the ENs produced by CEN TC 295. I do not believe this to be true. The ENs describe tests that have to achieve comparable results on the variety of fuels available across the EU. The Tables are thus of two types. One gives a range of analyses that represent the fuels that are available in the market and which is wider than the other Table that gives analyses of Test Fuels that are considered to give reproducible results but which can generally represent the performance of the commercially available fuels. For many years this has been the case throughout most of Europe and in practice has been shown to work well. Further, this suite of ENs also sets test requirements for any fuel that falls outside the tabulated commercial specification. It is to be tested according to the EN on a standard appliance representative of the appliances covered by the specific EN. We do not, therefore, agree with the "identified need" of defining "more precisely" the analyses of "coal" fuels.	The note on this issues in Section 1.2.3.3 has been amended.
CEN TC 295 HETAS	1	v2	20/05/2008			We agree with CEFACD that the type and quality of fuels used is very important for the efficiency, output and clean-burn performance of the appliances suitable for heating the single dwelling home. Reference to the Biofuel analysis standards produced by CEN TC 335 are only of value if they have been aligned with the fuel requirements of the suite of appliance ENs produced by CEN TC 295 – preferably by testing carried out on the appliances for which they are to be recommended.	General comment - no change to the report.
CEN TC 295 HETAS	1	v2	20/05/2008			The Report covering appliances that heat the single household occupancy home should primarily cover units that give out a proportion of their heat by radiation and/or convection to the space in which they are installed. All the appliances covered by the suite of ENs produced by CEN TC 295 have a significant proportion of their output available to their surroundings. Also, most of these appliance types whether they be open fires and inserts, roomheaters, stoves, wood pellet appliances under EN 14785, cookers (EN 12815) and independent boilers (EN 12809) can be constructed and sold with a water heating facility (a "boiler") as part of their heat output together with a direct space heating output.	Agreed. This is why appliances covered by the ENs produced by CEN TC 295 are classified - based on their primary functionality - as direct heating appliances. No change to the report.
CEN TC 295 HETAS	1	v2	20/05/2008			<p>Where TC 295 appliances have a boiler, the hot water output is measured directly whilst the space heating and the total efficiency of the appliance are measured indirectly by the "flue loss" method. Under 1.2.3.1 the second paragraph needs revision to show this to be the case. In these cases the boiler heat output and direct heat output are quoted separately by the manufacturer and are necessary for the proper design of the system. Table 1-5 (page 55) and Figure 1-24 (page 90) especially need amending to take the above comments into account. Also some European countries use fireplaces (open fires) and inserts that are designed to burn bituminous (hard) coal as well as peat or brown coal and this should also be indicated in Figure 1-24.</p> <p>For example in use on the UK domestic market are open fires with high output water heating "boilers" capable of providing central heating and hot water for a small or well insulated home. The efficiencies of such appliances can exceed 70% Gross when radiant heat output to the living space is included. The Table produced by CEFACD needs, therefore, to take into account open fires that provide central heating and/or domestic hot water. This is also true of some types of Cookers as well as roomheaters and of course independent boilers.</p>	Agreed. 2nd paragraph under 1.2.3.1 gas been modified. Table 1-5 and Figure 1-24 amended.
CEN TC 295 HETAS	1	v2	20/05/2008			The difference between appliance output for heating indirectly by a hot water central heating system and direct heating by convection and/or radiation to the room in which the appliance is situated is not clearly expounded in the current Draft and has led to incompleteness and inaccuracy throughout the Report.	Text has been clarified in this regard
CEN TC 295 HETAS	1	v2	20/05/2008			The ENs measure efficiency on a Net CV basis and the standards quoted for other Countries legislate in the Report are quoted on a Net basis. Where efficiency is quoted this differentiation should be noted each time. For wood a "default" conversion figure that can be used in the absence of a measured CV is $\text{Net} \times 0.91 = \text{Gross}$. It is believed that in the Standards for Heating Systems in Buildings Gross Efficiency is preferred. EN15316-1 Heating systems in buildings – Method for calculation of system energy requirements and system efficiencies - Part 1: General definition at 3.1.31 Note 2 states "according to ISO 13602 –2 the Gross CV is preferred to the Net CV " and is being used. Your section 1.2.1.11 should make a note of this!	Regarding EN standards, a footnote has been added under section 1.2.1. A footnote has also been added regarding EN15316-1. The issue further clarified throughout the report.

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CEN TC 295 HETAS	1	v2	20/05/2008			It is imperative that in reducing the EU's net carbon emissions that we maintain the Member State's clean air performance. In the UK this has been successfully done by using the system of Smoke Control Areas in Urban environments. Standard gravimetric tests for the Authorisation of smokeless fuels which can be burned with low emissions on normal appliances and Exempted appliances that can burn potentially smoky fuels "smokelessly" has worked well. The electrostatic precipitator takes all the flue gas from the appliance and "catches" 95 to 98% of the particulate and condensed droplets that pass through it.	General comment. No change to the report.
CEN TC 295 HETAS	1	v2	20/05/2008			As I have previously indicated, CEN TC 295 has accepted a final Draft of a TS covering the measurement of emissions NOx and VOCs to add to the measurement of CO given in the suite of appliance ENS. This TS is now going through the Standardisation process prior to publication (TC 295 Work Item 017). CEN TC 295 has found it the most difficult of tasks to "harmonise" particulate test methods but has now completed work on a dilution tunnel TS method for the gravimetric method of measuring total particulate emissions. Because of the increased interest in PM10 particulates, work is also being carried out additionally to produce a method of test for estimating these small particles that will form an Annex to the above TS.	Information has been added in "summary of test standard review" paragraph.
CEN TC 295 HETAS	1	v2	20/05/2008			CEN TC 295 believes its task is to provide "harmonised" test methods for emissions to replace the national methods currently in use in member states which are seen to vary greatly in the results they give for the same fuels and appliances. The TC believes it is for member states individually or acting together to set levels of performance on the basis of common test methods.	General comment. No change to the report.
HETAS	1	v3	21/11/2008		8	Para 2 line 1, add "ed" to fuel i.e. "fuelled".	Corrected
HETAS	1	v3	21/11/2008	1.1.3	10	Figure 1-1. Add Cookers with/without boilers under "Residential".	Accepted, cookers have been added in the figure.
HETAS	1	v3	21/11/2008	1.1.4	11	Para 7. Comment that (domestic) residential single home heating requires in general no more than 30kW output appliances.	No change in the report. The 50kW threshold for domestic use is based on upper size criteria in EN Standards for residential solid fuel appliances. It will be clear in later Tasks (Task 4) that this refers mostly to appliances <30KW.
HETAS	1	v3	21/11/2008	1.1.4.1	12	Para 1 Sentence 3. At end of Para add "all of which would most probably have a NHO less than 50KW". At end of penultimate Para delete "possibly" and add "where a boiler is part of the unit" also directly.	No need to precise "less than 50 kW" at this stage. The sentence suggested to be modified has finally been deleted.
HKI / CEFACD	1	v3	21/11/2008	1.1.4.1	12	Additionally CEN Technical Committee 295 has also produced harmonised ENs covering cookers and independent boilers with space heating, Slow Heat Release appliances and wood pellet fired appliances (boilers and room heaters). As we understand it the harmonised EN produced by CEN TC 295 covers all relevant "aspects" of cooker performance including cooking, heat output to space and boiler, efficiency etc.	Harmonised standards are dealt with in the Section 1.2 of the report. The bullet points in section 1.1.4.1 aim to give an overview of the main function of the appliances: the purpose at this stage is not to describe in detail all the possible functions of an appliance. The footnote has been expanded to clarify all types of products.
HETAS	1	v3	21/11/2008	1.1.4.1	13	Table 1-1. Units are frequently available that can supply both direct and indirect heating from the same unit. Note at bottom of Table is very unclear to what it applies! Bullet point 2 add at end " As well as using water as a medium to supply direct space heating many small domestic units also supply hot convective air an radiation emanating from the heated surfaces of the appliance".	Notes at bottom of table clarified. Direct heating from boilers is acknowledged but not adopted in text because by definition in this study boilers will only be considered in the indirect application to reduce the size of analysis and number of base cases.
HKI / CEFACD	1	v3	21/11/2008	1.1.4.2	13-14-15	The commentary over emphasises the "bad" performance of open fires. Fuels (cokes and briquettes) which meet stringent clean air requirements (in the UK especially) can be burned without excess smoke in open fires and it is also possible to design appliances that burn naturally "smoky" fuels with acceptable emission levels in an open fire. An EN covering Sauna Stoves has been completed by CEN TC 295. The use of the term "raw coal" is inexact. Anthracite (with less than 10 % volatile matter) burned in a gravity feed boiler or roomheater is a very good smokeless fuel; bituminous coal with 35% volatile matter can be burned in small underfeed stoker fired boilers with a high degree of smoke reduction. These appliances may have automatic ignition systems.	Comment acknowledged. Open fire comments adopted (paragraph modified). Sauna stove footnote rejected because they are outside the scope and are not relevant in the text concerned. The term "raw coal" has been deleted.
HKI / CEFACD	1	v3	21/11/2008	1.1.4.2	14	Combustion technologies Small domestic systems are defined in the report as having a thermal output of < 50 kW. A more realistic approach would be to define categories for domestic appliances with a range of thermal output (see Tab. above). Room heaters, cookers, insets etc. being used for domestic purposes in the EU have a typical thermal output in the above mentioned ranges. To maintain a single range up to 50 kW is not realistic, since this will also include small industrial installations, which quite often use combustion techniques that differ from domestic appliances.	Comment acknowledged, however to remain within the guidelines of EN standards, 50 kW has been retained. Also, it has been included in the definition that only domestic products will be considered for boilers because the industrial market size in this capacity range is too small.
HETAS	1	v3	21/11/2008	1.1.4.1	14	Add to end of first two lines. They are not likely to be used in domestic residential single home heating.	Comment added to report
HETAS	1	v3	21/11/2008	1.1.4.2	14	Insert "chambers with specially prepared fuels and automated fuel and combustion control systems". Final Para, third line from end to read:good quality combustion up to 70% Gross Efficiency with anthracite and 'smokeless' fuels;....	The location of where to add "specially prepared fuels" is not clear, no action taken. Reference to anthracite was removed, thus 70% efficiency is no longer relevant, no action taken.
HETAS	1	v3	21/11/2008	1.1.4.2	15	Para 1 line 3, prefix "open fire" with the adjective "simple". Para 1 Second Sentence. Add to end "unless they are specially designed to burn a specific closely defined fuel".	Accepted
HETAS	1	v3	21/11/2008	1.1.4.2	16	1st Para. Add sentence: They are, however, considerably more expensive than the simpler appliances.	Accepted
HKI / CEFACD	1	v3	21/11/2008	1.1.4.2	17	Anthracite a naturally "smokeless" fuel should be added to the list of fuels given.	Anthracite has been added in the paragraph dealing with small non-domestic boilers. Rejected 'smokeless'
HETAS	1	v3	21/11/2008	1.1.4.2	19	Para 2 Add sentence after 1st sentence: "This, again, is likely to a coarse granular fuel for consistent performance regarding efficiency and emissions".	Rejected, does not make sense as stated.
HETAS	1	v3	21/11/2008	1.1.5	19	Insert "from anthracite to high volatile bituminous coal" between (coal of various ranks lignite).	Accepted
HKI / CEFACD	1	v3	21/11/2008	1.1.5	20	The reference to EMEP is not relevant for single household appliances.	The guidebook is taken as one reference for the definition of solid fuels. It does contain a chapter on SCI, including residential appliances (stoves, fireplaces, small boilers). No changes to the report.
HETAS	1	v3	21/11/2008	1.1.5	20	Table 1-3 Add to Bituminous coal (low and high volatile). Add to Petroleum coke (usually high in sulphur). Add to Peat "and Peat Briquettes". First "bull" point. "hard coal" is not specific enough and should be split into anthracite and low and high volatile bituminous coal. These have very different burning properties and emission potentials. A reference should be inserted "COAL" D.W. Van Krevelen, Third, Completely Revised Edition, 1993, Elsevier, Amsterdam	Proposed changes have been made in the table.

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HETAS	1	v3	21/11/2008	1.1.5	21	Fig 1-12, should have inserted between Anthracite and Peat or Turf "(high and low volatile bituminous coal)". First Para below Figure 1-12 line 1. Many roomheaters and cookers in the UK burn both mineral (mostly "smokeless") and wood based fuels (mostly logs) and this should be made clear. Final Sentence of this Para. Add after "...appliance efficiency: "if the design does not take this requirement into full account"..... incomplete combustion. First "bull" point: Add at end of 2nd sentence: suitable for coke "except where s low temperature, reactive form of the product is burned. Last line on Page add after mineral fuels "whose volatile content has been reduced to render them "smokeless"...whereas larger appliances	Some text changes adopted, where relevant.
HETAS	1	v3	21/11/2008	1.1.5	22	Add at end of first full Para. Task3. "These automated appliances are inevitably significantly more expensive and fuel specific in size and composition". Fuel quality. Add to end of Para 3: "It is important for efficient and clean combustion that the suitable fuels are closely tied to the appliance manufacturer's declared specified fuel".	Acknowledged, text not changed, the price and operating characteristics are not relevant at this point in the document.
HKI / CEFACT	1	v3	21/11/2008	1.1.6.2	23	The European product standards are valid for appliances with an output < 50 kW. However, one should keep in mind that the main goal of these standards was to define a uniform test procedure for the appliances as mentioned in the European standards and less to define limit values for CO and efficiency. Member states can differentiate in CO and efficiency levels as long as that limit is within the limits as mentioned in the European standard. So, it is necessary to differentiate categories as given in the Table of page 1 of this comment.	Acknowledged, text not changed. Ensuring congruency between test procedures and limits of CO will help to ensure effective implementation. The initial categorisation has been maintained, but may be refined later.
HKI / CEFACT	1	v3	21/11/2008	1.1.6.2	23	All the CEN TC 295 ENs include testing and also cover direct space heating performance and output to any hot water or central heating boiler. They all deal with firing and heat exchange systems in a single unit and are specific to domestic use.	Acknowledged. No action taken.
HKI / CEFACT	1	v3	21/11/2008	1.1.6.2	23-24	Table 1.3 It is necessary to differentiate between harmonised (mandatory) and non-harmonised (voluntary) standards.	Table 1-3 illustrates the existing product categorisation (topic of the section) according to the EN standards where the status of the standard is not the key issue. No changes to this table, however, when relevant, the fact that EN 303-5 is not harmonised has been mentioned.
HETAS	1	v3	21/11/2008	1.2	25 and the following	Task 1.2 – TEST STANDARDS In general the boiler and appliance Test Standards are correctly described. There are a small number of errors and misstatements which will now be referred to. EN 303-5 is not a harmonised EN at this time. In describing all the ENs a comment is made regarding Quality of test fuels thus "Parameters given for coal are less precisely defined in comparison to solid biofuels". Again we aver that there is no factual basis for this comment which should be removed.	It is acknowledged 303-5 is not harmonized. A footnote has been added to clarify the reasons why we state that "Parameters given for coal are less precisely defined in comparison to solid biofuels"
HETAS	1	v3	21/11/2008	1.2.1.5	32	In describing the "Roomheater" standard EN 13240 it is incorrect to say that this covers appliances having thermal storage capacity if this refers to the use of the mass of the appliance. This specific type of appliance with thermal storage capacity is covered by EN 15250.	Accepted, sentence deleted.
HETAS	1	v3	21/11/2008	1.2.1.6	34	Total and nominal heat output. The statement of Para 1, line 4 is incorrect and should read: "test shall be equal to and not less than the Nominal Heat Output declared by the manufacturer." Again erroneously under Quality of test fuels it is stated that "Parameters given for coal are less precisely defined in comparison to solid biofuels parameters" when the Title of the EN declares the appliances to be "...fired by wood pellets."	The sentence about heat output has been changed.
HETAS	1	v3	21/11/2008	1.2.1.11	41	Standards for heating systems in buildings P41 why is only the non-harmonised EN 303-5 quoted as relevant when all the appliance ENs (many harmonised) described earlier are equally relevant to the calculation of the heat supplied to a dwelling?	This section gives a description of EN 15316-4-7 so we can not refer to other standards than these mentioned in standard under consideration. No change in the report.
HETAS	1	v3	21/11/2008	1.2.2	42	Overview of Existing Test Methods For Determining Emissions. Also P53, Remarks. The review referred to of test methods is only a working document. CEN TC 295 has sent for Voting under the CEN UAP procedure PrTS 15883 which sets methods of measurement of OGCs and NOx but only records the particulate emission methods currently used by Norway, Germany and the UK. A draft TS has been produced by the TC for a dilution tunnel method for the gravimetric measurement of solid particulates and condensable droplets. Much independent evidence is available that the DIN in-stack sampling method gives much lower values than the other two methods. A recent study by Linda S Båfver of Chalmers Technical University, Göteborg dated 2008-11-24 and entitled "Particles from biomass combustion – Characteristics and influences of additives" confirms other work that the DIN in stack method underestimates the emissions of particulates by between two and ten times depending on the quality of combustion. It is necessary to have a scientifically correct method of measuring all the solid particles and condensable droplet emissions from small solid fuel burning appliances that is accepted throughout Europe. The draft TS dilution tunnel method developed by CEN TC 295 together with a method still under development to estimate fine <10 micron particles is thought to be a satisfactory way forward when used in parallel. CEN TC 295 continues to work towards this. It is my view that the DIN method cannot be	Acknowledged. No action taken.
HKI / CEFACT	1	v3	21/11/2008	1.2.3	53	One should be aware that solutions to provide for high efficiencies and low emissions that work for industrial installations are not necessarily applicable for domestic appliances and vice versa. A very clear distinction should be made between these two types of combustion installations with respect to measures that can be done to increase efficiency and minimize emissions. For instance automatic and electronic control of a combustion process is more applicable to industrial processes whereas the use of new materials that improve combustion and minimize emission is more suitable for domestic appliances. Also the main difference between industrial and domestic appliances is that the former is predominantly used continuously whereas domestic appliances are mainly fueled batch wise and used intermittently. This difference leads to two complete different approaches regarding to efficiency and emission.	Acknowledged, however no specific action at this stage because this comment is in regards to the design and operation of the products rather than the emission tests. We agree that, except for automatically-fueled boilers, small combustion installations are often used non continuously (for domestic purposes). The characteristics of use are detailed in Task 3.
HKI / CEFACT	1	v3	21/11/2008		54	The TC 295 Standards refer all to 13% O2. The following reference to 10 % should be deleted in the report. Please find below of all text passages where you claim 10% O2. Page 68 Table 1-14 Page 69 Table 1-15 Page 73 Table 1-20 Page 77 Table 1-29 Page 82 Table 1-39 Page 116 Remarks Page 121 Table 1-61	Corrected.

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HETAS	1	v3	21/11/2008	1.2.3.1	54	Para 2. The comments concerning the precise specification of a coal or briquette test fuel are naive. It is not possible to have the same analysis of fuel in these two categories as a single test fuel throughout Europe. Typically a $\pm 2.5\%$ variation in such a parameter as efficiency is obtained from tests using a specific briquette or "coal". Moving to another region where the analysis of the fuel is different and more to the point other characteristics which will alter the way the fuel burns will give different answers. So even if one were to manufacture a standard fuel which one carted round European Test Labs and got reproducible answers then when the actual commercial fuel of that region was burned in a home the efficiency etc would be different. This is also true of wood fuels with test fuels birch/beach/hornbeam giving different answers from oak, for example, which is burned in Portugal.	Acknowledged, text changed slightly however the desire to develop a more rigorous test procedure remains.
HETAS	1	v3	21/11/2008	1.2.3.1	54	Last Para. I affirm the need for isokinetic sampling.	Acknowledged.
HETAS	1	v3	21/11/2008	1.2.3.1	55	Particulate matter. The convoluted English makes it impossible to be sure what the author of this section is saying!! An ESP method such as the UK use has all the flue gas passing through it and captures at least 95% of the slow moving gasses and therefore is seen to be a satisfactory method. Where collected deposits are seen near the tip of the ESP an additional "honeycomb" is placed on top of the first. We have recommended alternatively a dilution tunnel method with isokinetic sampling as drafted by CEN TC 295 as the preferred standard method of measuring gravimetrically all solid and condensed liquid particles.	Accepted and text clarified.
HETAS	1	v3	21/11/2008	1.2.3.3	58	Comments re coal, coke and briquetted fuels have been made earlier and are relevant at "bull" point 3.	Acknowledged. Unclear sentence has been deleted.
HKI / CEFACD	1	v3	21/11/2008		64	The CEN TC 295 suite of standards covers the measurement of CO as the bellwether of good combustion. The TC has also completed a TS covering the measurement of NOx and VOCs which additionally quotes particulate measuring techniques in a number of countries. EN 303-5 from TC 57 includes "A" deviations from a number of countries covering inter alia particulate emissions measurements and it is not a harmonised EN under any Directive. It is known that very different results (5 or 8:1) can be achieved using the different national methods. The harmonised ENs covering such appliances specify test fuels that represent commercial fuel analyses which must be adhered to in the market for the appliances to be confirmed as "clean". The analytical range of such commercial fuels is also specified. It is important that the quality of the fuel required to match output, efficiency and clean air performance is quoted by the manufacturer in his appliance operating instructions.	Accepted. No further change in the report.
HETAS	1	v3	21/11/2008	1.3.4.1	74	Table 1-22. Revision is taking place of the UK Domestic Services Compliance Guide and a new Table 16 is currently proposed as below with all the minimum efficiency figures as Gross values. (See "data HETAS" sheet)	Accepted. Data sheet from HETAS was updated in the text.
EFA	1	v3	21/11/2008	1.3	77	there are 2 typing errors regarding the EFA labelling scheme You wrote: at 10 % O2. Right: at 13 % O2 <i>Room heater Type 2</i> You wrote: Dust 1.1. Right: Dust 0.1 <i>Pellet stoves (with water)</i> You wrote: Minimum Efficiency 85 % CO 0.40 Dust 0.05 Right: Minimum Efficiency 90 % CO 0.45 Dust 0.03 <i>Pellet stoves (without water)</i> You wrote: Minimum Efficiency 90 % CO 0.45 Dust 0.3 Right: Minimum Efficiency 85 % CO 0.40 Dust 0.05	Corrected.
HETAS	1	v3	21/11/2008	1.4	87 and the following	We agree the Scope and Criteria for defining the Scope sections and the sections entitled Capacity and end-use and Functionality.	Acknowledged, no action taken.
HETAS	1	v3	21/11/2008	1.4.1.3	89	Fuels. The variation in analytical and combustion properties of fuels available to the householder throughout Europe make this area particularly difficult one. Different NHOs and efficiencies are obtained by different fuels on the same appliance. The manufacturer's choice of different refuelling intervals alters the results obtained using the standard test. This makes complete uniformity of regulation artificial and without foundation without some degree of regionalisation. This problem will require further consideration. It should be noted that the CEN TC 295 ENs generally give methods for the testing of non-standard fuels by assessing their performance on standard appliances.	Acknowledged. General comment, no action taken.
HETAS	1	v3	21/11/2008	1.4.1.4	89-90	Product vs system approach. We strongly support the general contention that a "product" approach is the only one that makes practical sense.	Yes - this is anyway the EuP15 mandate.
HETAS	1	v3	21/11/2008	1.4.2.1	91	Products included in the scope. We agree the generality of this section but would again point out that many of the appliances in use and sold in the UK have both direct (convective and radiative) and hot water (boiler) functions. The ENs produced by CEN TC 295 provide for the measurement of these functions. "Bull"point 2. There is strong case for separating consideration of appliances under 50kW used in domestic single occupancy dwellings from those from 50kW to 500kW as their installation and use are very different. It is not understood what is meant by a "secondary functionality" or why it should be optional in the above circumstances.	Acknowledged and clarified in text. However, to reduce the number of base cases and maintain a fairly manageable size of study, direct heating functionalities of boilers will not be studied. Secondary functionality is represented in the following figure 1-24.
HETAS	1	v3	21/11/2008	1.4.2.2	91	Products excluded from the scope. We agree the generality of this section but are concerned with the proposal to exclude "Bespoke, uniquely designed and constructed fireplaces". It should be clear that where these are covered by a harmonised EN they are to be included.	This study is specifically set forth to improve products. Accordingly, unique and custom-built fireplaces are not considered products and are not included in the scope of this study.
HKI / CEFACD	1	v3	21/11/2008	1.4.2	92	Please take these slight changes for Figure 1-24 into consideration: see <i>proposed graph</i> sheet Please note that our changes for primary/secondary use of fuel are only for the Continent of Europe, this might be different in the UK.	Accepted, except biomass briquettes could refer to other things than wood briquettes, or logs, thus biomass briquettes remain.
HETAS	1	v3	21/11/2008	1.4.2	92	Figure 1-24. Again be advised that the word "stocked" refers to tins of baked beans placed in piles in a store room –as the secretariat of TC 57 were advised at the time! The word that should be used is "stoked"! We believe that "Bales/straw" is unlikely to be a reproducible fuel and therefore CEN TC 295 would be unable to set standards for its use on appliances under 50kW output. Lignite should also be shown to include lignite briquettes. Coal has such wide ranging properties that it is advisable to refer to mineral fuel briquettes rather than coal briquettes. Some coal for example low volatile coals (near anthracites) are regarded as naturally "smokeless" in the UK. Again, consideration needs to be given to appliances that heat homes both directly and indirectly from the same appliance such as open fires, roomheaters, boilers and cookers.	Incorrect "stocked" terms have been corrected. Other comments acknowledged
HETAS	1	v3	21/11/2008	1.5.4.1	99	EN 303-5 is not a harmonised EN as Noted on P104. Again on P101 the author uses "stoking" and "stocking" in the same sentence to mean the same thing – which they does not! Merit is accorded to the setting of less important standards at the cost of more essential test requirements. It is hoped that the revision of this EN will remedy this situation.	Accepted, stoked fixed throughout
HETAS	1	v3	21/11/2008	1.5.4.1	99 and the following	EN 303-5 is a non-harmonised boiler standard which has to be matched with a burner or stoker standards e.g. EN 15270 for pellets to produce a test for a boiler/burner unit. Tests on a matched boiler/burner unit are required and only apply to that unit unless a "family" is declared.	Acknowledged, no action taken
HETAS	1	v3	21/11/2008	1.5.4.2	106	EN 12809. The paragraph between the two tables does not make sense as written!	Accepted, text clarified

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HETAS	1	v3	21/11/2008	1.5.4	107 and the following	Comment on all the ENs from TC 295. It is because of the differences in legislation regarding emissions in many countries (i.e. what emissions are covered and what the limits are) that CEN TC 295 decided to concentrate its efforts on correct measurement. The TC has extended its work to cover the measurement of other various polluting emissions as indicated earlier. This is general to CEN TC 295 standards which usually give "threshold" values rather than "classes" or "limit" values. We therefore strongly disagree with the Remarks (P109) statements commenting on this "suite" of ENs. It is the duty of the CEN TC to set harmonised Test Methods whilst the setting of limits on emissions is the duty of Nations acting separately or collectively under health and safety requirements.	Acknowledged, no action taken
HKI / CEFACD	1	v3	21/11/2008	1.5.4.2	109	Limits to be placed on NOx are inappropriate as all the NOx comes from fuel nitrogen and none from "thermal nitrogen". This is not only applicable to appliances under EN 12809 but all appliances.	Accepted, text has been changed according to the comment, but a footnote has been added to explain that emission of NOx can increase in case of new solid fuel combustion techniques, mainly automatic ones (this was what we considered when we mentioned the need to put NOx emission limits).
HETAS	1	v3	21/11/2008	1.5.4.6	117 and the following	EN 14875 is a harmonised burner/boiler combined unit EN which is for appliances which can have both hot water and direct space heating output or just convective space heating output containing its own specification and requirements for pellet burning.	Acknowledged, no action taken. Boilers in this study will only use indirect method as presented in the Annex.
HETAS	1	v3	21/11/2008	1.5.4.8	120	EN 15270. The main omission from the commentary on this standard is that there is a need to match a burner with a boiler in a safe way. This is vitally important to the safety of the household into which it is placed. Further, the emission classes given in Table 1-61 only refer to the burner in isolation out-with a boiler to which it may be matched. Only when the burner is sold as a unit with a boiler can the combined unit's Nominal Heat Output, efficiency and emission values be measured.	Accepted, a sentence has been added.
HETAS	1	v3	21/11/2008	1.5.5	122	P122/3, We agree that "Heating Solution Products" are not considered to be products from the point of view of the Lot 15 study.	Acknowledged, no action taken
Ovnsætter Lars Helbro	1	v3	21/11/2008	1,4		Saunastoves is excluded from the scope, due to different functionality. Open decorative fireplaces, are on the contrary included in the scope. (Is decoration not a different functionality ?) Both have usually very low efficiency, that could be improved dramatically.	Products are included within the scope of the study based on their importance on the market and on their space heating functionality. Open (sometimes decorative) fireplaces provide a space heating function (albeit only occasionally) and are widespread on the market (see Task 2). In contrast, sauna stoves do not have a space heating function per se (ie they do not serve to heat a room/house); moreover, they are common only in the nordic countries (and mostly in Finland), and as such they do not meet the market criteria set by the EuP directive.
Ovnsætter Lars Helbro	1	v3	21/11/2008	1,4		On the other hand - uniquely designed handbuilt masonry heaters are excluded from the scope. This even though these kind of heaters often is outstanding regarding to clean combustion, high efficiency, very long lifetime and very easy to use. Furthermore these stoves cannot be fired with fossil solid fuel without fatal damage. So, as i se it, these kind of stoves meet all the criterias taken into account in the final purchase decision (task 3), and even that the emmission of pollutant is consideret low by the costumors, they get it anyway	These stoves can be considered as 'slow heat release appliances' (see Task 1), and are not excluded from the scope of this study.
Ovnsætter Lars Helbro	1	v3	21/11/2008			All solid fuels are covered. I wonder why ? Isn't it part of the overall issue to get rid of fossil fuel ? As it is said in Task 3, it is to the costumors.	The idea is to not let the least efficient solid fuel appliances enter the market. Therefore, the environmental impacts of an appliance should be evaluated for the different types of fuels it can support.
HKI / CEFACD	1	v3	21/11/2008			There is confusion between the Scopes of various ENs for example EN 12809 and EN 303-5 which leads to unacceptable conclusions being presented. The difference between indirect and direct heating has to be clarified throughout the text (e.g. Fig. on page 92).	The comment remains very general - some clarifications have been included regarding the scope of the EN standards. Explanations about direct and indirect heating appliances are given in paragraph "functionality". Cited figure has been modified.
HKI / CEFACD	1	v3	21/11/2008			Single household dwelling type of appliances need to be dealt with separately. This is done for single dwelling appliances via the ENs and TSs of CEN TC 295 and only covers appliances less than 50 kW.	Disagreed - there is no need to deal with single household appliances separately: the appliance types vary according to their capacity (regardless of the building type) rather than according to the type of building (for a given capacity). No change to the report.
HKI / CEFACD	1	v3	21/11/2008			The type and quality of fuels used is very important for the efficiency of the appliance. It should be already clarified in Task 1 and not in a later Task. For the full range of solid mineral fuels and biofuels in the European Market the method of firing, the type of fuel and method of emission measurement have all a major influence on the results obtained.	The role of fuel quality is mentioned under section dealing with fuel, in the presentation of the criteria taken into consideration to define the scope. The issue will be dealt with in more detail in Task 3. No changes to the report.
HKI / CEFACD	1	v3	21/11/2008			As there is no uniform measuring method to measure particles in Europe, data from different member states can't be compared with each other. It is important to settle on one measuring method all over Europe. (see Position paper on particulate emissions measurement)	Agreed.
HKI / CEFACD	1	v3	21/11/2008			We propose the following categorisation : see "proposed categorisation" sheet.	The aim of Task 1 is to give an overview of the studied products and the categorisation has to be easily understandable, even by non-technical people. Hence the proposed alternative categorisation is not adopted here. Task 4 will focus more on technical aspects.
HKI / CEFACD	1	v3	21/11/2008			There are International Classifications for mineral fuels! As commented, EN303-5 currently under revision, does not define fuels well nor the firing systems used for fuelling the boiler. However, the suite of harmonised ENs produced by CEN TC 295 carries Tables covering the analyses of the fuels generally found in the market and a narrower analytical specification for the Test Fuels to be used to represent these commercially available fuels. Further, if the fuel recommended by the manufacturer lies outside the Table's specification a test is included for the assessment of the fuel as suitable for the class of appliance.	Accepted. It was stressed on page 20 table 1-2
HKI / CEFACD	1	v3	21/11/2008			Reactive Cokes which are "smokeless" can be burned in open fires and closed appliances. Multifuel closed appliances are widespread in the UK which can burn both cokes, natural and manufactured smokeless fuels and wood logs. Automatic boilers in the UK are produced to burn anthracites.	Accepted. Text already modified.