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A. COMMENTS OF ORGANIZATIONS

a. Format

Please find below the comments of organizations (using the format) on the draft of the Task 2 report for the Ecodesign Preparatory Study on Smart Appliances:

- ANEC BEUC — ANEC/BEUC
- CECAPI — European Committee of Electrical Installation Equipment Manufacturers
- CECED — European Committee of Domestic Equipment Manufacturers
- ECODESIGN — ECODESIGN company GmbH
- eu.bac — European Building Automation and Controls Association
- FZI — Research Center for Information Technology, Germany
- JBCE — Japan Business Council in Europe
- UBA — Umweltbundesamt - Federal Environment Agency
- CLASP

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Ecodesign Preparatory study on Smart Appliances

Overview of comments of stakeholders

Date: 29/04/2016	Document: **Task 2 report overview of comments**

4	1	2	3	5	(6)	(7)
SH2	Section No./ Subsection No./ Annex	Page and Paragraph/ Figure/Table /Note	Type of com-ment1	Comment (justification for change) by the Stakeholder	Proposed change by the Stakeholder	Consortium observations on each comment submitted
FZI	General		ed	Inconsistent usage of USD, $, and €. $ may also refer to other dollars than USD.	Please use USD and EUR throughout the study.	ALL
JBCE	General	all		The document refers several times to the term 'smart', but it is not clear what is meant by this term. To distinguish between smart (being connectable) and demand response ready, there should be a better terminology. Demand side flexibility as suggested on the stakeholder meeting seems acceptable.		This is adapted in Task 1 where the definition and scope are handled
UBA	General	All	Ge	Critical overarching considerations seem to be necessary to give a picture about the framework conditions. We assume it is planned to investigate such issues in task 5: Is the grid in the EU already able to integrate DR-appliances and use their puffer function? Which number of DR-appliances need to be installed in order that their functionality will have an impact? Are there assessments about the time scale?		It is not feasible in the scope of this study to quantitatively assess these issues. However, we will qualitatively list the preconditions for a mature self-sustaining DR market in Task 6
UBA	General	All	Ge	Currently the study covers a broad range of appliances and use cases, often in an exemplary way. It seems to be difficult to assess all of them in the necessary depth. It might therefore be beneficial to focus on specific appliances and / or use cases. On the other hand the study focusses completely on the domestic sector, thereby excluding the issue of electromobility and non-domestic sector. While we understand, that the study needs to focus on some sectors in order to be able to deliver results within limited resources, it seems that the applications with the highest potential are not considered. Although means of transport are excluded from the ecodesign directive, it would be helpful to have at least an order of magnitude which potential this sector could provide in order to be able to rank the available potentials. Also, a more complete reasoning should be provided why specific appliances are considered to be in or out of scope and why some of them are discussed in more detail, possibly including a reference to the specific tender.		This is handled in Task 1
UBA	General	All	Ge	The dataset is to some extend incomplete (for some		Text has been extended on

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				products, no quantitative projections are being made) and where they are present, the database is considered to be not very reliable. The Ecodesign Impact Accounting uses data from previous preparatory studies that can itself date back as long as 2004. We understand that it is difficult to get the data, however it should be made more transparent. There is no information about the underlying assumptions for the expert guesses, and no assessment of their quality. Current stock and / or sales data for ventilation, electric heating, battery operated rechargeable appliances and battery storage systems seem more reliable; in the first two cases the data has been cross-checked with various sources (or grid load, respectively), in the last case, the source seems reliable and the methodology, at first sight, well described.		these issues for HH appliances
CECAPI	General	All	ge	CECAPI do not see that the preconditions for a successful smart appliance market fulfilled. The financial benefits for the customers are missing. As long as there are no benefits for the customer exists, only early adaptors will use smart appliances		"Chicken & egg problem" is mentioned in Task 1 report
CLASP	Overall		ge	There is a lack of clarity and consistency around the use of the phrase "smart appliances" throughout the draft Task 2 report. It is stated in the introduction that "Smart appliances as defined in this study have not yet (fully) seized the market and no figures are available specifically for this subcategory of 'smart' appliances. Therefore, the current stock data for all appliances - including non-communication/communication enabled and non-DR/DR enabled appliances – is given as a starting point. Expert judgment estimations have been made per appliance type of the current share of DR enabled stock as well as predictions for 2020 and 2030". However, in the subsequent Task 2 sections, figures are given for all appliances and for all "smart" appliances but without always specifying what kind of "smart" appliances are included. Ecodesign preparatory studies are likely to be used as a source not only for the current process but also for future studies. We therefore find it important to always clearly indicate what kind of	Clarify in the text each use of the phrase "smart appliances", explaining what type(s) of smartness is being referred to. Alternatively - and perhaps an even better option – would be to use the phrase "Demand-Response enabled" appliances or equivalent (*i.e.* appliances supporting demand side flexibility) when referring to what constitutes the focus of this study. When statements are made that don't specifically concern DR enabled appliances, indicate what the link is to DR enabled appliances (*e.g.* same trend expected or not, and why, etc.)	The definition of 'smart' is given in the Task 1 report and this the definition we follow in Task 2 report. Only if it is explicitly stated otherwise, another definition is referred to. This is now clarified in the Task 2 report at various places instead of just one as originally.

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				smart appliance is being referred to.		
FZI	2	p 1	ge	Unfortunately, the definition of „smart appliance“ used here is rather fuzzy.	Please refer to or state a clear definition of „smart appliance“ (e.g. in Task 1; similar to presentation at stakeholder meeting; probably in a table; distinguish from features mentioned in in Section 2.1).	The definition of ‘smart’ is given in the Task 1 report and this the definition we follow in Task 2 report. Only if it is explicitly stated otherwise, another definition is referred to. This is now clarified in the Task 2 report at various places instead of just one as originally
eu.bac	Task 2		ge	The preconditions for a succesful smart appliance market are not fulfilled. The financial benefits for the cusotmers are missing. As long as there are no benefits for the customer, only early adopters will use smart appliances.		“Chicken & egg” problem is mentioned in task 1 report
eu.bac	Task 2,3,4	Terminology	ge	Replace demand response	Use demand side flexiblity as recommended during the 2nd stakeholder meeting.	OK done
CECED	2.1	Page 1	Ge	The study should take into account the impact of existing eco-design measures as they have influence on technological and fuel shift. Indeed for some products, those regulations would heavily impact the results of the projection undertaken by the consultants.		These are indeed some of the influencers of the amount of smart appliances, together with a lot of other factors. Sensitivity analyses in Task 6 and Task 7 will investigate the impact of all influencers together.
ANEC/BEUC	2.1	p. 1		In absence of one definition of smart appliance and in order to overcome the wide-spread confusion on this term, the report should clarify to what the report refers to with the term “smart appliance”. While the two concepts of “communication-enabled/app-enabled” and “DR-enabled” are valid, it must be clear whether a smart appliance under this report embraces one or both of them. Depending on whether the smart appliance is		The definition of ‘smart’ is given in the Task 1 report and this the definition we follow in Task 2 report. Only if it is explicitly stated otherwise, another definition is referred to. This is now clarified in the Task 2 report at various places instead of

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				"communication-enabled/app-enabled" and "DR-enabled", different requirements for interoperability and data security may apply (as briefly discussed under 2.1.5).		just one as originally
ANEC/BEUC	2.1	p. 1		Predictions about the widespread deployment will have to be taken with care. So far there has been no important take off despite of numerous assertions in the past. It is not clear how the barriers will be overcome. With respect to business models, some may turn out problematic for consumers. Also, it may not always be clear for consumers what the business model is and which consequences it implies for them. The study should sketch potential consumer impacts of the various models.		The study makes abstraction of the business model. This is explained in Task 1
FZI	2.1.1	p 2	ge	The list of exemplary smart home appliances/series from different manufacturers would benefit from a table.	Probably add table about smart home appliances/series from different manufacturers (manufacturer, series, technology, app).	The first paragraph of section 2.1.1. lists some smart appliances series to substantiate the 'connected' trend. As explained in the note in 2.1 these are connected devices and not necessarily DR-enabled devices. As such, a table with smart appliance series does not contribute to the study.
ECODESIGN	2.1.1	p2, para 2	ed	Text says: Some smart appliances are designed in such a way that they can communicate information directly to the service operator for efficient and productive use of electricity. -> this last sentence is possibly an assumption, based on marketing arguments.	Change to: Some smart appliances are designed in such a way that they can communicate information directly to the service operator.	Accepted
ECODESIGN	2.2	Starting on p 13	ed	The tables with stock data for various appliances mention the source for the installed base as "Kemna, 2014". This report or source is not listed in the Section "List of References" (starting on page 38), nor in any footnote under section 2.2.	Consider including the complete information for the source "Kenma,2014".	OK, done
eu.bac	Task 2: 2.	3.3	te	Suggest to remove „smart meters from „good practice".		Title has been changed to

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				Smart meters do not represent „good practice“ for demand flexibility		‘Examples of existing (DR) practices’. The reference to the smart meter was mad in the context of a dynamic pricing example
CLASP	2.1.1.	pp. 1-2	ge	*Cf.* above comment: it is unclear how useful this chapter is in the context of this study as no indication is given of the kind(s) of smartness considered here.	Specify what type(s) of “smart” appliances are considered.	In intro 2.1 there is an ‘important note’ which explains this. We will repeat it again a few times.
ECODESIGN	2.1.1.1	P2, para 5	ed	The total addressable smart connected major home appliance (MHA) market is forecast to be 470 million units worldwide between 2015 and 2020.	Change to: The total smart connected major home appliance (MHA) market is forecasted to be 470 million units worldwide between 2015 and 2020. For these figures a reference to an IHS report as such is missing, but corresponds to a website text instead.	Text has been changed and a reference to the website has been added.
ECODESIGN	2.1.1.1	p3	ed, ge	No text introducing Figures 1 and 2 (as well as the others in the report).	Possibly include a text introducing figures in the texts as they appear in the report.	Text has been added.
FZI	2.1.2	p 7	ed	Missing acronyms: HEMS and BAU	Please add HEMS and BAU to list of acronyms.	OK done
ECODESIGN	2.2.1	p14, para 1	ed	in terms of 50,000 smart washing machine sold in 2014/2015….	Correct to “machines”.	OK done
ECODESIGN	2.2.1	P14, Table 2	ed	Column 2015 says: Extrapolation based on 0.13% Extrapolation based on 0.13% penetration of German market (Gfk, 2015).	Extrapolation based on 0.13% -> Text repeated twice.	OK adapted
ECODESIGN	2.2.1	P14, Table 3	te	Estimation of 40% of installed base for the year 2030	Isn´t this estimation rather high for tumble dryers?	Tumble dryers have significantly higher potential for DR compared to other periodical appliances.
ECODESIGN	2.2.1	p14, footnote 15 and p15, footnote 30.	ed	This footnote is again repeated with number 30 on page 15, but it is the same reference.	Use only the reference to footnote 15 for both cases.	OK done

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CECED	2.2.1	p.14; 1st paragraph	Te	Confusion between sales and installed base	Based on the installed base in Germany of 39 million washing machines	OK done
CLASP	2.1.1.1	p. 3	ge	The draft Task 2 report quotes the IHS report: “As smart appliances are expected to be more energy-efficient than their traditional counterparts, there is a push by governments and regulatory authorities to support and develop this trend” and adds in the footnote: “IHS cites this, but other sources do not agree (as demand shift capacity is often the main focus)”. A better characterisation of the features offered by "smart" appliances would help to understand how this statement applies to the work presented. In general, quoting or making statements that apply to other types of “smart appliances” but are not particularly relevant for DR enabled appliances can be misleading and cause incorrect conclusions to be drawn.	Specify what type(s) of “smart” appliances are considered and clarify when a statement is relevant to the type of smart appliances that are the focus of this study – DR enabled appliances.	In intro 2.1 there is an ‘important note’ which explains this. We repeat it again a few times
CLASP	2.1.1.1	p. 3	ge	Another quote referenced to the IHS report states: “Many appliance makers are shifting focus from the low-profit, low growth traditional ‘non smart’ segment toward the high-margin, revenue oriented smart appliance segment.” If many manufacturers are shifting focus, it would strengthen the report and be interesting to the reader to have examples of this trend and some quantification of the shift.	Substantiate and quantify this statement about manufacturers’ shifting focus.	There is no quantitative information available
CLASP	2.3.	p. 30	ge	It is stated in the introduction to this chapter that “A proper implementation of these dynamic tariffs requires smart meters that enable the communication between the meter of the end-consumer and the utility”. That should be reflected in the projections, knowing that not all Member States are planning to roll-out Smart Meters.	Discuss and take into account the current situation and Member States’ intentions concerning the potential roll-out of Smart Meters, and the impact it will have on the projections.	The estimated and predicted share of smart appliances is far below the smart meter roll-out figures, therefore the smart meter roll-out is not expected to hinder the roll-out of smart aplliances.
ECODESIGN	2.1.3	p8, second bullet point	ed	Energy providers are providing smart thermostats and energy boxes…	Clarify - what is an energy box?	Footnote added with explanation.
CECED	2.1.3	P.9	Ge	CECED supports the vision of an open architecture to develop smart appliances‘ interoperability.		
ECODESIGN	2.1.3.	p7, first line in section	ed	Smart home solutions have been on the market for several years and…..	Section 2.1.1.3 talks about the Smart home market and smart home adoption. Then section 2.1.3 talks about Smart home solutions and smart home	This section is not only about home automation systems. It is indicating the trend that

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					systems, possibly meaning “home automation” instead, and as such, justifying the inclusion in a different sub-chapter of the report -> Possibly clarify that Smart home solutions in this context means home automation. This is finally mentioned in this section but on page 8 as follows: ”According to Argus Insights, home automation was experiencing robust growth in 2014..”	home automation systems are not the only solution to create smart homes and that other players and solutions are targeting the smart home market.
ECODESIGN	2.2.2	P16, para 5	ed	Many manufacturers dealing with cooling systems have monitoring centres, these cover not just the cabinets but can also for example chillers. More information will be gathered to match the figures of Table 6 with the categorisation mentioned above.	Marked sentences are not very clear, please consider revising them.	The commercial refrigeration case is detailed in the new version of the reports
ECODESIGN	2.2.2	P16 Table 6 Commercial refrigerators and freezers	ed	CF is not explained as an abbreviation, and Table 6 apparently refers to both, refrigerators and freezers.	Does CF mean Commercial Freezers only? Please clarify abbreviation CF in Table 6.	OK done. CF = Commercial refrigeration products incl. both refrigerators and freezers
CECED	2.2.2	p.15; last para	Te	Confusion between sales and installed base	Based on the installed base in Germany of 40 million refrigerators	OK done
FZI	2.3.1	p 31	ed	FRC and FRR. Typo: Restauration.	Please add FRC and FRR to list of acronyms. Use restoration instead of restauration.	OK done
CECED	2.3.1	p.31	Te	Technically, the technology of smart appliances can provide a response in such a short time (15 seconds). The difficulties might lie on the time the DSO and TSO transmit the signal. Therefore the barriers preventing DR to participate in the market of FCR would be related to network operators regulation.		The text has been adapted. Two additional footnotes are also added, illustrating the current state of participation of demand side flexibility in the market of FCR.
CECED	2.3.1	p.31	Ge	It would be important that this study assesses, in addition to mature use cases, also foreseeable future use cases (DSO grid congestion cases, reactive power voltage support, ...). The aim of the study is to assess the future potential of smart appliances and demand flexibility at residential level. These use cases should not be put aside. The lack of maturity of these use cases mentionned is due to current regulatory barriers. Those regulatory barriers preventing demand side flexibility		This is indeed a valid remark. However, it is virtually impossible to contribute a value to cases which do not exist today as many determining factors are still unclear. We will make sure that in Task 5-6-7 the approach and assumptions

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				might be subject to change in a near future, notably in the frame of the energy market design initiative or network codes evolution.		are clearly defined. The results must be considered as a conservative baseline of today's value; the future economic value may be higher thanks to such future DR business cases as mentioned in the comment.
CLASP	2.1.1.2.	p. 4	ge	It is mentioned in the second paragraph that "one important factor that will make connected-home devices ubiquitous in the near term is the growth in the number of households worldwide with broadband internet connections". It is however unclear whether this statement is related to DR enabled appliances.	Clarify the link between the increase of broadband internet connections and the uptake of DR enabled appliances.	The text has been removed.
CLASP	2.1.3.	p. 7	ge	A definition of "Smart Home" and the relationship between a "Smart Home" and DR would be helpful to better understand this section and the implications on the study.	Define "Smart Home" and clarify how DR relates to it.	Added a clarification in the section.
CLASP	2.1.3.	p. 8	ge	The draft report states: "The consumer industry and especially some dominant and innovative actors like Google/Nest, Apple and Samsung are offering products or platforms for the smart home. These offerings may tie the customer to a particular ecosystem": the text would benefit from having more details on how these options would work in practice and how the consumer is locked into one platform.	Develop these points and add examples in the appropriate Task(s).	Added a footnote.
CLASP	2.3.1.	p. 31	te	It is unclear why the fast response time that is required to participate in the FCR market would make it more difficult for DR and only accessible to applications based on batteries.	Revise the text to clarify this point.	The text has been adapted. Two additional footnotes are also added, illustrating the current state of participation of demand side flexibility in the market of FCR.
CLASP	2.3.1.	pp. 32-33	ge	The report states that "a reduction in the purchasing price of eligible appliances could lower the barrier for end-consumers to buy smarter appliances and to use actually the flexibility inherent in the appliance". As written, this sentence sets up two impacts from a lower purchasing price: (1) to buy and (2) to use – however this second impact is not linked to purchase price. The fact that consumers would start "to use actually the flexibility inherent in the appliance" is not associated with a lowering of the	Revise this sentence.	The text has been revised on this point, taken into account the comment raised.

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				purchasing price.		
eu.bac	Task 2: 4,5	Overall	te	Demand pricing as a separate model to compensate for infrastructure development through use of e.g. heat pumps	Demand pricing asks for compensation of demand (MW or kW) and is usually applied for larger customers which can trigger an invest at customer site like „peak demand limiting)	Agree, this is added as an additional remuneration mechanism
ANEC/BEUC	2.1.1.3	p. 5		As highlighted in the report, the lack of interoperability constitutes a barrier. Currently, there are several standards on demand response and smart appliances available coming from different sources: - between CEM and smart meter and home automation and DSO (Actor B): CEN-CLC-ETSI standards - between CEM and home automation: CLC TC 205 and ETSI SAREF - between ESCO (Actor A) and CEM: IEC TC 57 and open ADR These standardisation activities need to be aligned. As the SGTF EG1 report notes, appropriate measures must be proposed to guarantee interoperability on the information/data layer with the commercial channel in order to enable the development and provision of consumer-benefitting services and products. In order to prevent the risk of parallel communication models and architectures and in order to ensure interoperability, the development of a single communication architecture based on a consensus-based approach is essential.		These initiatives are mentioned in task 1.
ANEC/BEUC	2.1.1.3	p. 5		The absence of interoperability could result in end devices losing their functionality when consumers change supplier or when they buy appliances from different manufacturers. Open interfaces within the smart home architecture that are future-proof are therefore important.		We agree, but this section is only showing the current trends in the market. Recommendations can be made in task 7.
ANEC/BEUC	2.1.1.3	p. 5		Regarding compatibility, appliances should be designed in such a way that they are compatible with future (software) upgrades. Upgradability of appliances is a very important aspect affecting product lifetime. In case the appliance cannot		We agree, but this section is only showing the current trends in the market. Recommendations can be

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				accomodate software updates the product lifetime decreases. Mobile phones often have a short life-cycle if they lose their functionalities after an upgrade. This should be avoided.		made in task 7.
FZI	2.1.4	p 9	ge	Smart Meter Gateway is not mentioned.	Probably add some information about outlook and development of German Smart Meter Gateway.	This section summarises the 2014 Commision Benchmarking report.
ECODESIGN	2.1.4	p10, Figure 5	ed	Error in the caption text of Figure 5	Correct caption, and include the source of Figure 5.	Corrected.
ANEC/BEUC	2.1.4	p. 9		This part should be updated according to the findings of the SGTF EG1 report. Particular attention shall be attributed to the conclusions of this report.		Added.
FZI	2.3.2	p 31 and 31	ge	TOU pricing does not mention the simple variant “day/night tariff”. The term “block” is usually used in the context incline/increasing or decreasing block tariffs, which may lead to misunderstanding.	“Day/night tariff” could serve as an introduction. Probably better use term “time period” instead of “block”.	Text has been modified. The example of day/night tariff has been added, The term ‘block’ has been replaced with ‘time period’.
CLASP	2.1.4.	p. 9	ge	The draft report states: “The Commission argues that the extent of energy saving can depend heavily on the functionality of smart meters: those with broad functionality cost more in the short term but yield greater savings in the longer run. This is because they are able to provide a wider range of information to customers, which is more frequently updated and more easily accessible, thereby facilitating demand side response”. The report needs to provide the details of the evaluations on which these statements are based.	Add the results of the evaluations by Member States on the energy saving impact assertions made in this quote.	Changed the sentence because energy savings due to smart meters are not part of the scope of this study
CLASP	2.1.4.	p. 10	ge	No link is made between the roll-out of Smart Meters (evaluation by Member States, current situation and Member States’ intentions) and the potential deployment of DR enabled appliances.	Add text to explain the link between Smart Meter roll-out and DR enabled appliances, and discuss the implications.	The estimated and predicted share of smart appliances is far below the smart meter roll-out figures, therefore the smart meter roll-out is not expected to hinder the roll-out of smart appliances.
ECODESIGN	2.1.5	P11, para 1	ed	Text says: Obviously these companies will try to convince consumers to buy in to connected machines from the same brand rather than shop across the category. The big advantage for those companies that succeed	The wording “machine” might not be clear in this context, use, as before, device or appliances.	Corrected.

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				in making the right connected machines, is that …..		
ECODESIGN	2.2.4	P19	ed	No introduction text before Section 2.2.4.1	Revise section and sub-section to possibly include a (short) introduction.	Done
ECODESIGN	2.2.4		ed	Various references listed (e.g., BIOIS,2012; VHK, 2007; EHPA, 2014) are missing in the list of references at the end of the report.	Include references mentioned in the report.	Done
ECODESIGN	2.3.3	P33	ed	Example of Good practices – the title could be more general, without any implicit judgement.	Title could be, e.g., Example of existing (DR) practices.	OK done
CLASP	2.1.5.	p. 11	ge	Concerning the fact that "upgrades can be simply plugged into existing devices", the study should also evaluate the risk that smart appliances can update their software after installation and could increase their energy consumption (*e.g.* different default standby mode, higher wash temperature, brighter screen, etc.). For example, consumers could be prompted by their new smart appliance to register online, and when they do, they are offered a software update to "optimise" the settings. As such, the "out-of-the-box" setting would become less and less relevant as it would no longer be indicative of in-home performance and consumers who thought they were buying an A-class appliance could end-up with a lower energy class.	Mention this risk in the discussion and take it into account as appropriate in the following tasks.	This is added in Task 3
CLASP	2.1.5.	p. 11	ge	Concerning the new obligations and the need for companies to reassure consumers, there is also a personal data risk for consumers. Specifically that, as is already the case for smart phones, consumers wouldn't be able to enjoy some of the functionalities of the smart appliance without approving a set of company-issued terms and conditions that the consumer doesn't necessarily agree with, cannot modify and in reality very few people would read or understand.	Discuss this personal data risk in the appropriate section.	This is relevant for Task 3 and will be handled by an external expert
FZI	2.2.4.1	p 20	ge/te	The paragraph about electric heat pumps is rather short and does not mention upcoming technologies, such as so-called hybrid devices that combine for instance heat-pump and gas boiler.	Please extend paragraph and refer to upcoming technology hybrid heat pump gas boiler. Additionally, mention the usage of electric insert heating elements in heat pumps.	Done. Extended text was also already integrated in Task 1 report.
FZI	2.2.4.1	p 21 and 22	ed	Paragraph "Figure 7 …" and Figure 8 refer to two sources naming different values (2300 and 2400 MW/°C respectively).	Please use sources and values consistently.	There are two values for the thermal gradient slopes corresponding to resp 2012 (2300 MW/°C) and 2013 (2400 MW/°C). There is no

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4	1	2	3	5	(6)	(7)
SH2	Section No./ Subsection No./ Annex	Page and Paragraph/ Figure/Table /Note	Type of com-ment1	Comment (justification for change) by the Stakeholder	Proposed change by the Stakeholder	Consortium observations on each comment submitted
						mistake there.
JBCE	2.2.4.1	Page 20 para 1		9 kW electrical peak load is too high for a residential heat pump. Normally this is about 2 to 3 kW, does this 9 kW include electric back up heating?		This value refers to an average heat pump size of 30 kW (according to EHPA figures) in standard rating conditions (7 °C outdoor). 9 kW peak electric power at design temperature seems a fair evaluation, without any backup considered. A 2 to 3 kW electric consumption in peak conditions would probably lead to less than 15 kW capacity at standard rating conditions.
ECODESIGN	2.2.4.1	P22 onwards	ed	Reference for Figure 8 is incorrect - shall be RTE, 2013 and not RTE, 2012.	Correct reference of Figure 8.	No, both sources are from different years. There is no mistake.
ECODESIGN	2.3.4	P36	ed	Consider a shorter title for this section.		Title has been shortened.
ECODESIGN	2.3.4	P37, para1	ed	Text says: A smart remuneration mechanism will enable consumers to better match their production profile of the solar panels on their pattern of own consumption.	If this is a conclusion of this section it might be too specific (referring to solar panels use), but at the same time too general, referring to consumers which might not have smart appliances. Perhaps re-write this paragraph, also explaining what is meant with “smart remuneration mechanism”.	Conclusion has been modified and has been shifted from section 2.3.4 towards section 2.3.2.
ANEC/BEUC	2.3.4	p. 36		**Further key success elements** Both protection and assistance should be in place for all consumers, especially those in vulnerable situations. Demand response should not punish inflexible consumers. Safeguards to ensure consumers who are unable to change their consumption patterns are not exposed to increased prices for peak time energy are		This is a valid comment. Consumers will have the choice to opt for a pricing mechanism which is not dynamic (e.g.fixed price or other pricing formulas that exist today). The benefits of DR for these consumers will

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				necessary. Impartial and independent price comparison tools are also necessary.		be indirect, as due to the flexibility of other consumers, costs for balancing the grid will be lower, and this reduction in costs could be via grid tariffs and/or fixed costs of energy suppliers also passed through towards the non-flexible consumers. A footnote has been added in the introduction of 2.3.
ANEC/BEUC	2.3.4	p. 36		**Manual control to support end-user acceptance** We welcome that this element has been added. Users have to be in control of their appliances. A direct control should not be imposed from outside the house if the user does not agree with it. The ultimate right to override any programme is essential for consumers, especially for those, who find themselves in urgent need to switch on/off a certain device.		Valid comment – no modifications made to the text.
ANEC/BEUC	2.3.4	p. 36		**Financial incentives** Consumers unable to participate in such a scheme should not be penalised by higher tariffs. Households will not be incentivised to participate in demand response programmes without substantial benefits for them. DECC found savings from demand-side response between 2025 and 2030 are likely to amount to roughly £10 per household per year if evenly shared1. The University of Umeå also found that economic incentives for individual households to reschedule their electricity consumption over the course of the day are small. They also found that the appropriate compensation		Valid comment – footnote added in introduction of 2.3 about the benefits for both flexible and non-flexible consumers. Comment support statement in the text that financial incentives should be substantially in order to stimulate consumers to shift their energy consumption (no specific modification made in the text).

[1] Redpoint/Baringa/Element (2012), *'Electricity System Analysis – future system benefits from selected DSR scenarios'* in Citizens Advice (2014), '*Take a walk on the demand-side'*

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				for an average household to systematically reschedule its electricity use is considerably higher than today's incentives2.		
ANEC/BEUC	2.3.4	p. 36		**Restriction to DR** Demand response programmes can optimise - but should not restrict - household energy consumption. Research by the University of Bremen3 shows small price changes can translate to large load fluctuations through catastrophic consumer synchronization. Demand response programmes react to price signals in the energy market and postpone the energy consumption to a time when the price is lower. However, the study explains that potential demand may be higher as more machines wait to start. When the price does fall, a collective avalanche mechanism may be triggered that leads to extreme load on the grid, increasing the probability of black-outs.		Research by A. Jokic et al, see http://www.sciencedirect.com/science/article/pii/S0142061509000738,
FZI	2.1.7	p 13	ed/ge	Before: BEMS, here just Energy Management System and EMS.	Please clarify difference between EMS and BEMS. Add EMS to list of acronyms.	Added a footnote on page 7
JBCE	2.1.7	Page 12 para 4		Smart thermostat: Existing smart thermostat only consider on/off as these are customized for US applications. More improvements are needed to consider frequency control of the compressor. Key point is here that the thermostat should have the capability of EMS. Current ones or not fully fit to fulfill demand side flexibility. For HVACR we do also need to consider that other means than smart thermostats should be used for DSF. Furthermore, to handle DSF, the manufacturer should be enabled to control the functionality even if 3rd party controls are used in the system.		This point was already mentioned in Task 1 of the report. It is necessary you add a few words to explain that smart thermostat should do more than on/off not to deteriorate the part load performance of the cooling / heating smart appliances and that this may require the intervention of the

[2] Broberg et al. (2015) '*An electricity market in transition-Is consumer flexibility for sale, or even for real*?', Umeå School of Business and Economics, Umeå University Centre for Environmental and Resource Economics

[3] Sebastian M. Krause, Stefan Börries, and Stefan Bornholdt ('*Econophysics of adaptive power markets: When a market does not dampen fluctuations but amplifies them'*, 22 July 2015), University of Bremen

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						manufacturer (by a specific agreement with a smart thermostat company for instance).
ECODESIGN	2.1.7	P12, para 2	ed	Text says: Manufacturers will most likely include digital communication functionality in all or special product series for all product categories in the scope of this study.	Means this preparatory study? – possibly clarify.	Added preparatory
ECODESIGN	2.1.7	P13, para 3	te, ed	Text says: Energy management systems: 1.- Energy management systems do not only provide the ability to increase overall energy efficiency, but provide also the opportunity to offer DR capacity based upon the resources managed by the EMS. 2.- According to the estimations made by the EC, 200 million smart meters for electricity will be installed in 2020, representing approximately 72% of all European consumers. The EC recommends that these intelligent metering systems should enable demand response and other energy services to evolve.	1.- This is a concluding statement that might need to be revised -> energy management systems might help increase the overall energy efficiency, depending on the context and its use. 2.- If this sub-section or discussion is dealing with Energy management systems, then smart meters shall be separated in another sub-section, following the logic of the previous separations in the report, for sections 2.1.2 (Energy management systems) and 2.1.4 (Smart meters).	Changed the wording and removed the subsection headers.
ECODESIGN	2.2.4.2	P23 onwards	ed	Selected references listed in this section are missing in the list of references at the end of the report.		Added
JBCE	2.1.1.3 bullet 4	Page 5		The interoperability test and certification is already well established in existing systems.		There are a lot of initiatives to solve the interoperability issue in the connected home (See task 1), but the problems remains that devices may work and may be certified in a particular ecosystem, but that doesn't mean it will be interoperable with other ecosystems/devices.
ECODESIGN	2.2.4.3	P25	ed	Text is not well written, possibly consider a revision.		Done

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Ecodesign Preparatory study on Smart Appliances

Overview of comments of stakeholders

Date: 29/04/2016	Document: **Task 2 report overview of comments**

4	1	2	3	5	(6)	(7)
SH2	Section No./ Subsection No./ Annex	Page and Paragraph/ Figure/Table /Note	Type of com-ment1	Comment (justification for change) by the Stakeholder	Proposed change by the Stakeholder	Consortium observations on each comment submitted
CLASP	2.1.1.7.	p. 6	ge	Interesting section on smart thermostats but it does not specify what share of smart thermostats is expected to be DR enabled vs. simply a comfort feature forend-users.	Clarify the characterisation of smart thermostats and what proportion is expected to be DR-enabled.	Such information is not readily available in the literature. Estimates are given in part 2.2.4.5.
FZI	2.2.4.5	p 26 para 2	ge	The paragraph refers to sales for A/C in Europe based on Table 15, which only accounts for Japanese devices. This excludes Chinese manufacturers, such as Haier.	Please state in the paragraph that these figures are based on Japanese sales only.	Done
ECODESIGN	2.2.4.5	P26	ed	References for the data presented in this section (including table 1) is missing.	Include references.	Integrated in newer version
ECODESIGN	2.2.4.5	P27, para 5	ed	This paragraph refers to Table 15 when it shall be table 16. The paragraph is not well written.	Correct text to refer to table 16 and consider revising the whole paragraph.	Done in newer version
CLASP	2.3.3. and 2.3.4.	pp. 35-36	ge	Several of the cited experiences and factors given in this section seem to refer to manual responses rather than to the use of DR enabled appliances.	Clarify the object of each experience and factor/recommendation, ensuring the DR enabled aspects are visible.	The examples of US, UK, NL and Australia are examples where no manual response was requested from the consumer. Other examples of projects pilots are examples of manual response. As indicated in 2.3.4, manual response is the first step in order to support the user acceptance for smart appliances and the use of demand side flexibility. This explains why several projects started with manual response. The text has been adapted to highlight if manual or automated response was required.

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b. Papers

The following organizations commented by means of a paper.

-	BEAMA	BEAMA Ltd	'Eco Design preparatory study for smart appliances – task 2, 3 and 4 reports – BEAMA response'
-	DECC	Department of Energy & Climate Change, UK	'Ecodesign preparatory study – UK Comments on Task 2, 3 and 4 reports'
-	EPEE	European Partnership for Energy and the Environment	'Ecodesign preparatory study ENER Lot 33 (smart appliances)
-	eu.bac	European Building Automation and Controls Association	'Position paper on the scope of Ecodesign Lot 33 DG ENER'
-	NVE	Norwegian Water Resources and Energy Directorate	'Input to the Preparatory study on Smart Appliances , Task 1-4'