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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 3 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
- 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 3 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
UBA	General	General	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	General	ge	The report focuses almost exclusively on demand response. Smart appliances may offer other relevant energy-saving features, such as giving feedback on energy consumption or energy-consumption relevant parameters (e.g. temperature); alerting consumers if there is a problem, or enabling them to (remotely) control such parameters. While we understand the agreed focus, these topics, and the benefits they may offer to consumers, should at least mentioned to some extend in the study.		Other relevant energy-saving features are indeed not in the scope of this study (see Task 1). These additional benefits are mentioned in subchapter “Drivers and barriers for the uptake of smart appliances”
UBA	General	General	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		This is part of Task 1

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				tender.		
UBA	Task 3 and upcoming Task 5			Refrigerators are taken out of the scope of the study due to their “medium” DR potential. To counter the risk of underestimation of the DR potential of this product group, we ask the Consortium to keep it in the scope throughout Task 5.		Refrigerators are integrated in Task 5 and following
ANEC/BEUC	p.7	1.1.1	Possibilities to raise consumer acceptance	We welcome that our recommendations on the smart appliances display has been taken into account.		Done
ANEC/BEUC	p. 62	1.1.3	Data protection, data security and consumer rights	It must be ensured that data protection principles encompass the field of smart appliances in order to comply with the recently adopted general data protection regulation, which will come into force in the coming years. The regulation will apply in all kind of applications that entail data collection and processing. Indeed, in particular in this sector the principle of privacy by design is very important. This principle requires that when companies develop their products they must ensure that users can effectively exercise their privacy rights and that these products do not collect and process more data than what is necessary for the performance of the services. We believe that this study shall go further than merely identifying issues associated to data protection and security as a factor that could inhibit consumer acceptance. It should map the regulatory environment and envisage its application in the field. We would also recommend that the study team summarizes comfort and safety issues that have been previously discussed in the chapter here. We also feel		Data protection and cyber security issues will be handled in so far they are specific for the demand-side management aspect of smart appliances

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				that an important topic that is lacking is the potential social (distributive) impact of remunerations schemes, which may put vulnerable consumers at disadvantage.		
CECAPI	General	General	Ge	CECAPI remarks that the shown use cases are only simple ones, more complex use cases which include other kind of energy than electrical energy will follow.		Although it is a valid remark, the scope of the study is strictly limited to DR flexibility used in the electricity grids, see also in Task 1
eu.bac	Task 3	Overall	ge	The shown use cases are only simple ones, more complex use cases which include other energy types than electricity shall follow.		idem
eu.bac	Task 3	Possibilities to raise consumer acceptanc	te	Suggest o add automatic adaptation as one reason to buy	This would lead to a mode where the customer tunest he system through his/her operational behaviours	Done
eu.bac	Task 3	HVAC controls settings	te	Seems tob e forgotten. The operation of HVAC is required while applying a change (e.g, day light syvings and user behaviour)	Suggest to add tuning capabilities in the thermostats.	Unclear observation. The reference of this comment in the report is missing.
eu.bac	Task 3	Commissioni ng	te	Suggest to add a section on how the user expects a commissioning /handover	Learning for users is differnt from today experience	In view of this topic, results from a pilot project have been added (PowerMatching City II)
FZI	1.1.1	p 1 ff.	ge	This section could probably benefit from results of PowerMatcherCity 2.0.	Probably add results of PowerMatcherCity 2.0.	Results have been added
FZI	1.1.1	p 5 para 1	ge	Paetz, Dütschke, Fichtner (2012), which has been referenced earlier, refer to the consumer preference to be able to override decisions, too.	Probably add reference Paetz et al. (2012) to this paragraph.	Reference has been added
FZI	1.1.1	p 5 para 2	ge	Not only users are afraid of malfunctions but also insurances.	Probably add something about problems and chances related to insurance, e.g., insurance of home contents.	Problems related to insurances have already been mentioned in the text.
CECED	1.1.1 Possibilities to	p.7 3rd para	Ge	CECED calls for an open architecture to develop interoperability. Several initiatives are undertaken by the industry. Standards should be elaborated according to the		The topic has been included in subsection “Possibilities to

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	raise consumer acceptance			needs of the industry to further innovate. The standardisation process should be technology agnostic and should not exclude any future possible solution.		raise consumer acceptance"
FZI	1.1.2.1.1	p 8	te	Table 1 shows the typical maximum power of a traditional (condensing) dryer. The text names heat pump dryers to become common.	Please distinguish different types of dryers (condensing and heat pump) and give typical power rating of heat pump dryer (600-800 W).	Conventional and heat pump tumble dryers have been distinguished, load curves of heat pump dryers have been added.
FZI	1.1.2.1	p 8 ff.	ge/te	Some appliances (dishwashers, dryers, washing machines) already offer the possibility of using different energy carriers/commodities (electricity, hot water, gas) in parallel or alternatively. These "hybrid appliances" may offer additional chances for energy management and reductions of electricity consumption.	Please add a paragraph about such hybrid appliances that use multiple energy carriers and the chances and possibilities for energy management they offer.	Paragraph is added in Task 2 report
FZI	1.2.1	p 65 ff.	ge	Use cases cover only DR.	Please add another use case about local optimization according to local generation, i.e., optimization of self-consumption, as well as one about self-sufficiency (autarky) that would benefit from smart appliances.	Currently, only limited examples of optimisation of self-consumption exist which makes it virtually impossible to make calculations at EU level. However, the referred use case is indeed relevant and is therefore added to the list of remuneration mechanisms in Task 2.
FZI	1.2.1	p 65 ff.	ge	Day-ahead use case is only about consumption tariff. There might be not only a variable consumption tariff but also a variable feed-in compensation tariff in the future, which creates an incentive for energy management.	Please add a paragraph that covers (variable) feed-in tariffs.	Relevant comment - added to the list of remuneration mechanisms in Task 2
FZI	1.2.1	P 66	te	Ancillary services include not only those three categories but also voltage control, phase balance, and congestion management.	Please clarify ancillary services and distinguish, e.g., frequency control (comprising the mentioned three services), voltage control, phase balance, and congestion management. Please correct "restauration" to "restoration".	This will be defined and clarified in Task 5
FZI	1.1.2.1.2	p 17	ge/te	Figure 10 shows a traditional condenser dryer. The text	Please add a figure visualizing a heat pump	Conventional and heat pump

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				names heat pump dryers to become common.	tumble dryer.	tumble dryers have been distinguished, load curves of heat pump dryers have been added.
FZI/KIT	1.1.3	p 60 f.	ge/te	DR applications do not necessarily require high-resolution energy consumption and generation data. Some DR techniques need real-time monitoring on a household level; other techniques don't need it or need only energy consumption and generation forecasts. Some need no monitoring at all. Additionally, households may provide abstract information about load flexibility and may opt in/out of DR flexibly, e.g., in case of temporary privacy concerns. Data may also be retained locally at the user's premises and communicated only in case of imminent DR actions. Homomorphic encryption may offer a chance to realize DR without disclosure of private information.	Please clarify that not all DR applications require high-resolution data. Please clarify that information for DR applications may be provided in abstracted form and on a temporary basis. Please add the possibility to retain the information locally until their communication is triggered in case of imminent DR actions. Probably add "homomorphic encryption" as a possible solution. One of the most prominent papers applying homomorphic encryption on real-time energy monitoring is: *F. D. Garcia and B. Jacobs, "Privacy-friendly energy-metering via homomorphic encryption," in Security and Trust Management, Springer, 2011, pp. 226–238*.	It has been clarified that not all DR applications require high-resolution data. Also the possibility to retain information locally until an imminent DR action has been added. Homomorphic encryption is one solution. It goes too much into detail to describe this method.
FZI/KIT	1.1.3	p 60 ff.	ge/te	There is not only anonymization but also pseudonymization. Linking different data sources, e.g., linking energy data, call detail records, internet records, and toll data, facilitates the reversal of anonymization and pseudonymization.	Probably refer to pseudonymization, too. Probably mention the danger of linking different data source for de-anonymization and de-pseudonymization.	Pseudonymisation has been added to the text.
FZI/KIT	1.1.3	p 61 f.	ge/te	Data retention for law enforcement is not mentioned in Table 13. Separate data retention of energy data for the purpose of law enforcement is actually not necessary.	Probably remove the purpose of law enforcement from the list of possible data retention periods or add it to Table 13.	Done
JBCE	1.1.2.4.4	Page 46 para 2	te	The report makes statement that AS 4755 is mandatory, Please note that AS4755 is not mandatory for air conditioners, we suggest to correct accordingly.		Done
CLASP	Task 3 TOC	TOC	ed	Section 1.1.2 End-Use parameters and user requirements of appliances is 53 pages long (p.7 to p. 60) and its subsections don't appear in the Table of Contents (TOC). Adding one level to	Add heading level 4 to the TOC.	Done

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				the TOC would make this section easier to navigate.		

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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'