PACHELBEL

POLICY ADDRESSING CLIMATE CHANGE AND LEARNING ABOUT CONSUMER BEHAVIOUR AND EVERYDAY LIFE

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TITLE

Evidences of lay people's reasoning related to climate change: per country and cross country results

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Executive summary
This deliverable is about lay citizens' reasoning about sustainability, in particular environmental protection and climate change, in various consumption domains, and the relation of this reasoning to the day-to-day lives of the participants. It presents country and cross-country findings from all 18 STAVE trials conducted between May 2011 and February 2012 in all six PACHELBEL partner countries. Analyses demonstrate that participants in the STAVE trials predominantly display a clear awareness that citizen consumption as demonstrated in their everyday practices of energy use, mobility, waste etc. are strongly connected with issues of environmental sustainablility. The STAVE trials also demonstrated that to live sustainably is a daily challenge, and people are often not able to organize their everyday routines in an environmental-friendly manner. Frequently there is a gap between participants' aspirations and their practical behaviours. Significantly, the group conversations enabled participants to become aware that the self-assessed soundness of their everyday lives in terms of sustainability was at variance from the actual impact of e.g. their energy use or or mobility practices.

Keywords	STAVE, sustainabililty, environment, climate change, lay citizens, energy use, mobility, consumption, smart meter, white goods, thermal insulation

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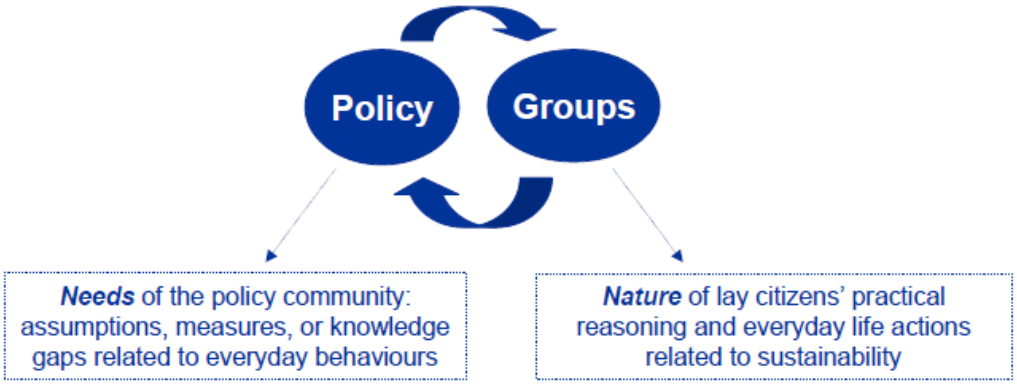
1. Introduction

The major objective of project PACHELBEL is to develop the STAVE tool which seeks to link the world of sustainability-oriented policy-making with everyday lay practices. There was a need to produce suitable means by which the needs of the policy community in question could be captured and translated into a form suitable to “pose questions” to the citizen community being investigated. There was also a need to capture the deliberations of the citizen groups, and to translate these into a form which could be fed back into the policy-making process in meaningful and constructive ways (cf. figure 1).

Figure 1: Schematic diagram of the STAVE tool



Regarding the group part, a reference scheme for conducting STAVE groups was elaborated that entails detailed instructions for implementing citizen deliberations including instructions on the use of diaries and stimulus materials. Relying on this reference scheme, each PACHELBEL partner performed three national STAVE interventions (each of 3 group meetings) whose topics were agreed in conversations with partners’ national policy makers. The following table provides an overview of all STAVE interventions carried out by the project’s partners.

Table 1: Overview of STAVE groups

Country	*Policy partner*	*STAVE policy issue*	*STAVE implementations*
France	- Ministry of Environment - ERDF	Smart meters and electricity savings	STAVE 1: Nov-Dec 2011 STAVE 2-3: Jan-Feb 2012
Germany	Ministry of Environment Baden Württemberg (UVM)	Climate Protection Concept 2020+ (domestic energy use)	STAVE 1-2-3: July 2011
Romania	Caraş-Severin County Council (CSCC)	National Thermal Rehabilitation Programme	STAVE 1-2-3: June-July 2011
Spain	- Barcelona Agenda21 Technical Office - Barcelona Energy Agency	- Agenda 21 for Barcelona (energy saving, wastes, mobility) - Participatory energy plan in a neighbourhood (domestic energy savings with/without smart meters)	STAVE 1: June-July 2011 (Agenda 21) STAVE 2-3: Nov-Dec 2011 (Barcelona Energy Agency)
Sweden	County Administrative Board of Värmland (CABV)	Policy for climate-neutral Värmland by 2030 (mobility, consumption, electricy consumption)	STAVE 1: May-June 2011 STAVE 2: Aug-Sep 2011 STAVE 3: Sep-Oct 2011
UK	Department for Environment, Food and Rural Affairs (DEFRA)	White goods, lifetimes, and shopping	STAVE 1: July-August 2011 STAVE 2-3: Nov-Dec 2011

The most addressed area of the STAVE trials is the topic of energy use in terms of patterns of spending and saving electricity, heat, and hot water, the links of smart meters with electricity savings, and thermal refurbishment. These energy topics have been implemented as overall issue of a group (France, Germany, Romania, Spain), or together with other issues (Spain, Sweden). Aside from energy consumption, other topics investigated consist of mobility (Spain, Sweden), consumption (Sweden), wastes (Spain), and white goods in relation to consumers' understanding of product lifetimes and its relationship with shopping behaviour (UK).

In five countries – France, Germany, Romania, Sweden, and UK – it was decided to run each time 3 groups with the same issue but with socio-demographic differences between the groups. In Spain, as a result of the interaction with the policy partner, a different approach was chosen by carrying out different groups with different topics.

All groups have been made up of various cross-sections of eight to ten lay citizens – with one exception: one Spanish STAVE intervention consisted of a group of nine shopkeepers from Barcelona's Sagrada Familia area – as this was the collective of interest for the Spanish policy partner.

Overall, the 18 STAVE interventions have been attented by 157 people (including eight who did not participate in all meetings of a STAVE group). The following table presents an overview of the different segmentation dimensions.

Table 2: Segmentation of STAVE goups

France			
Overall approach: The three STAVE groups deal with the same issue: smart meter ("LINKY") and electricity savings. A fraction of the French population (250,000 homes) has recently been equipped with Linky by ERDF (the national utility) as a test sequence before the equipment is generalized to serve the whole French population (35 million homes). Participants were drawn from a list of the test population, provided by ERDF. One rural and two urban groups were engaged. The STAVE groups' composition reflects the ERDF test population: older persons and lower socio-economic status in the rural area, younger and higher socio-economic status in the urban area. A balance between men and women was kept in each group. None of the participants had previously been engaged in focus groups.			
Criteria	***STAVE 1***	***STAVE 2***	***STAVE 3***
Number of participants	9	9	8
Gender	4 women, 5 men	5 women, 4 men	4 women, 4 men
Age range	30-72 (5 participants between 60 and 72)	25-35 (all but one between 25 and 31)	24-41 (all but one between 32 and 41)
Socio economic status	Low and middle	Middle - Middle +	Middle (+ 1 low)
Location	Small city in the center of France (Château-Renault)	Big city towards the south-east of France (Lyon)	Big city towards the south-east of France (Lyon)
Germany			
Overall approach: All three German STAVE trials deal with the issue of energy using at home. The main reason for the German policy partner to choose domestic energy consumption as policy issue is that in terms of climate protection this sector has the highest relevance among the consumption-related sectors of the Climate Protection Concept under development at that time. This reason went together with the fact that policy makers had the impression to know more about mobility behaviour and how to change it than about energy-related domestic behaviour. Regarding domestic energy use there was the expectation that citizen groups could generate useful new findings with high policy relevance. Relying on the assumption that the domestic energy use of homeowners and tenants as well as people with and without children is different the following group composition was agreed: • 1 group of tenants (households with children) (STAVE 1) • 1 group of tenants (single and couple households without children) (STAVE 2) • 1 group of homeowners (households with children) (STAVE 3)			
Criteria	***STAVE 1***	***STAVE 2***	***STAVE 3***
Number of participants	7 + 1 (1 person only attended sessions 2, 3)	8	8
Gender	7 women, 1 man	4 women, 4 men	5 women, 3 men
Age range	20–54	20–67	27–64
Socio economic status	Middle and high	Low and middle	Middle and high
Location	Big city in the south of Germany (Stuttgart)	Big city in the south of Germany (Stuttgart)	Big city in the south of Germany (Stuttgart)

Romania			
Overall approach: The policy issue was the National Thermal Rehabilitation Program, and this only affects blocks or faltes. Thus, group participants were composed of urban population living in block of flats (condominiums) as owners. Tenants have not been considered in the study because their low level of interest for thermal house insulation. • 1 group of citizens over the age of 35 years and no social problems (STAVE 1) • 1 group of citizens under the age of 35 years and no social problems (STAVE 2) • 1 group of citizens with social problems (unemployment, low-income families, retired person, single parents, etc.) (STAVE 3)			
Criteria	***STAVE 1***	***STAVE 2***	***STAVE 3***
Number of participants	9	10	8 + 3 (3 people only attented session 1)
Gender	4 woman, 5 men	5 woman, 5 men	6 woman, 5 men (session 1) 4 woman, 4 men (session 2,3
Age range	35-56	18-33	30-76
Socio economic status	Middle	Middle	Low
Location	Medium sized city (Pitesti) in the south of Romania	Medium sized city (Pitesti) in the south of Romania	Medium sized city (Pitesti) in the south of Romania

Spain			
Overall approach: • The policy issue for STAVE 1 in Spain was the Agenda21 and the commitment of the city towards sustainability. In this context, shopkeepers were considered a key actor by the policy partner (as theycan play a relevant role in the city's sustainability). Thus, the first STAVE intervention consisted of a group of shopkeepers from a specific commercial area in the city of Barcelona identified by the City Council ("snow ball" from a shopkeepers association in the area). All these shopkeepers sell quite different products: ice-creams; ecological soaps and cosmetics; house clothes; house curtains; mobile phones; canopies; etc. All are small shops. • Energy saving at households and smart meters were the policy issues in STAVE 2, 3. Therefore, two citizen groups were selected according to a clear segmentation criterion: a group with smart meters at home (STAVE 3), a group without it (STAVE 2). The smart meters were installed the week before the first STAVE meeting by the City Council Energy Agency. All participants were homeowners with children, living in buildings with similar constructive and climatic features, in the same urban district of BCN (according to the Energy Agency's needs).			
Criteria	***STAVE 1***	***STAVE 2***	***STAVE 3***
Number of participants	8 + 1 (1 person only attended sessions 1, 2)	8	9
Gender	4 woman, 5 men	4 woman, 4 men	4 woman, 5 men
Age range	35–60	35–55	35–55
Socio economic status	Medium	Medium-Low	Medium-Low
Location	Sagrada Familia (urban district of Barcelona)	Sant Martí de Provençals (urban district of Barcelona)	Sant Martí de Provençals (urban district of Barcelona)

Sweden			
Overall approach: The substantive policy issues of the group discussions were all related directly to the development of policy for climate-neutral Värmland by 2030. Specifically the issues chosen were: 1) Transportation (main issue), 2) Consumption in general, 3) Electricity consumption. All STAVE interventions were carried out with: • A selection of citizens with the following specifications: age over 18, with all or some responsibility for purchase in the family, and the group should be mixed with regard to gender, age, and socio-economic status. • Each group comprised: differences in age and income; household with singles, couples, families, single parents; varying occupations including: unemployed, employees, self employed, retired persons and students. Participants lived in flats and own houses, and represented both the countryside and the city.			
Criteria	***STAVE 1***	***STAVE 2***	***STAVE 3***
Number of participants	9	8 +1 (1 person only attended sessions 1, 2)	7 + 2 (2 people only attended sessions 1, 2)
Gender	6 men, 3 women	3 men, 6 women	4 men, 5 women
Age range	26-63	31-59	23-60
Socio economic status	Mixed group	Mixed group	Mixed group
Location	Medium-sized city (Karlstad, county Värmland)	Medium-sized city (Karlstad, county Värmland)	Medium-sized city (Karlstad, county Värmland)

UK			
Overall approach: The substantive policy issue for the UK STAVE trials was consumers' understanding of, and shopping behaviour towards, household kitchen appliances that are known as 'white goods' (e.g. washing machines, fridge, toasters, etc.). This choice was made during consultations between the UK research team and the policy partner based at the Centre of Expertise on Influencing Behaviours, DEFRA. Specifically, the UK policy partner was interested in consumer reasoning, everyday behaviour and expectations concerning produce durability and reuse, product lifetimes, and the purchase of second-hand products. The policy officials expressed a specific interest in white goods because of a lack of existing evidence on consumer practical thinking around these appliances, and a lack of clarity as to what might be viable policy options in this area. For the first UK STAVE group, the participants had to meet the criteria of being home owners, with a household income of above £45,000. Four of them had to have purchased a kitchen appliance in the last 2 years, and the other four had to have owned at least one kitchen appliance for at least 5 years. The STAVE 2 and STAVE 3 groups were run "in parallel" during November-December 2011, using the same venue, and facilitation and stimulus methods. In response to DEFRA's stated interest in people's behaviour at "moments of change" (getting married, splitting up, moving into a new home together, becoming single again, having a baby, retiring etc), we recruited the participants for the second and third groups on the basis of having either experienced a big life change of this nature during the previous 6 months, or anticipated such a change during the following 6 months. DEFRA also expressed interest in how people at the lower socio-economic levels behaved, so we recruited in order to create socio-economic comparisons between STAVE 2 and STAVE 3. STAVE 2 was recruited from standard ABC1 categories and STAVE 3 from C2DE. Both groups were recruited with the objective of achieving a gender balance and the presence of at least one person per group with an ethnic background. STAVE 2,3 participants were informed that the project was trying to better understand how people make decisions about shopping, and in particular about the purchase of white goods (i.e. refrigerators, cookers, washing machines etc.).			
Criteria	***STAVE 1***	***STAVE 2***	***STAVE 3***
Number of participants	8	8	8
Gender	5 women, 3 men	4 women, 4 men	4 women, 4 men (one of whom had an ethnic background)
Age range	22–65	20-65	20-65
Socio economic status	Middle	ABC1	C2DE
Location	Woking, Surrey	Cardiff city centre	Cardiff city centre

This report is about lay citizens' reasoning about sustainability respectively environmental protection and climate change in the addressed consumption domains, and the relation of this reasoning to the day-to-day life of the participants. Analyses of the evidence gathered are based on all 18 STAVE interventions.

At first the methodological approach of a qualitative thematic data analysis will be characterized (chapter 2). Then, key findings from this analysis with respect to participants' reasoning about sustainability, and engaging with policy questions will be presented (chapter 3). Finally, in the annex (chapter 4) insights of the thematic analyses will be detailed on a country-by-country basis.

2. Methodology – thematic data analysis

STAVE interventions consist of group based lay citizens' discussions around the policy issue employing various methods:

- → group exercises (e.g. oval mapping, resource allocation tasks)
- → diaries (between the group sessions)
- → questionnaires (e.g. EVOC-CAPA-SIMI set)
- → other individual tasks (e.g. individual search of second-hand appliances on ebay)

Various stimulus materials were used to engender group discussion such as cartoons, fictitious descriptions of appliances, diary excerpts, and newspaper or magazine articles (both real and fictitious). In turn, and in response to this material, the groups produced both verbal and written material.

The stimulus materials used in the group processes are fully detailed in deliverable D4.4, and the detail of methods employed to implement STAVE interventions is described in deliverable D5.3.

The analysis of participants' reasoning related to sustainability, which underlies this document, is based on both transcripts of the group sessions and the diaries participants have kept between STAVE meetings.

The qualitative analysis of this evidence was carried out systematically by relying on a thematic framework encompassing the following categories:

1) Sustainability in the context of country-specific discourses: Here wrap-ups of the respective national or local sustainability and environmental discourses will be presented. This is necessary to properly make sense of the group discussions. The main source to sketch country-specific debates is the findings of the media analysis carried out by all partners and summarized in D4.2.

2) Talking about and making sense of sustainability: This topic has a twofold analytical focus:

→ It first addresses participants' awareness on sustainability as defined by experts in scientific and political discources. It will be examined whether participants make sense of sustainability in terms of climate change, sustainable consumption, future generations, environmentally friendly, air pollution, etc.

→ The second focus asks for the meaning of "everyday sustainability", i.e. what this notion really means to lay people. This relates to e.g.

- informal ways of talking about and understanding practices that has an impact on sustainability (e.g. transport, consumption, energy use);
- role of arguments and use of comparisons, analogies, metaphors ("it's like…", "it reminds me of…", "you can think of the planet as…");
- sources of authoritative knowledge, how are arguments/statements justified? ("I saw an expert on the TV talking about this"; "There was something in the newspaper"; "The weather is definitely changing… you only have to look out the window").

3) Living sustainably: This category is about citizens' everyday behaviour and its connections to sustainability issues. Participants' sustainable habits will be examined from different perspectives. It starts with depicting the *meaning of behaving sustainably* for citizens, i.e. what participants report as their real practices in areas like energy use or purchasing white goods. Then *driving forces* and *barriers* of a sustainable life style will be highlighted, i.e. which factors make people behaving sustainably or prevent them from doing so? Finally, the analysis turns towards the question if there is a *gap between participants' self perceptions and their real actions*, e.g. claiming to save energy as much as possible but never turning off the standby mode. This relates also to accountability practices people may adopt to justify the gap between discourse and behaviour, e.g. social accounting practices ("I know I'm wasteful but….."), participants' strategies to make themselves appear reasonable and good citizens, or socially shared perceptions about a reasonable and acceptable behaviour.

4) Changes occurring during the STAVE process: As STAVE is organized as a reconvened group experience including intermediate diary processes, it is highly probably that being part of the process will have effects on the participating citizens. We will seek for such changes on the level of both awareness (e.g. becoming self-aware of one's own practices) and behaviour (e.g. adopting new or reinforcing present habits). This will be complemented by other changes like an altered use of arguments or the display of more knowledge.

5) Evidence linked to the country's particular STAVE policy issue: Here the findings of the groups' answers to the questions of the policy partners of project PACHELBEL will be included.

6) Additional evidence: This topic will address all relevant evidence not covered in the above thematic issues.

3. Summary of key findings

This chapter presents the summary of findings of the detailed thematic analyses of 18 STAVE groups conducted in the six PACHELBEL partner countries and key insights achieved from reasoning about policy questions (cf. annex for the detailed evidence).

It starts with a brief contextual overview on **how sustainability is framed in the specific country discourses** followed by a **short description of the policy issues** addressed in each country by means of the STAVE tool. Detailed descriptions of both topics can be found in D5.3.

Next, the section concentrates in summarizing the **key findings obtained through the detailed thematic analysis** carried out at the country level on lay reasoning practices and behaviours related with sustainability.

Finally, key insights achieved from citzen **reasoning about policy questions** are considered.

3.1 Brief contextual overview: Sustainability in the country specific discourses

Most of the national contexts with which the project has engaged are characterized by both serious stated concerns about sustainability, climate change, and environmental protection, and by a societal consensus that coping with these challenges is a high priority task for each individual as well as public authorities, the business sector, and civil society organisations. However, as detailed below, there exist some contextual differences in public discourses among countries that should be taken into account.

In **France**, sustainability and sustainable consumption are important topics. The need to operate a profound change within society in order to preserve the planet and future generations is widely recognized and forms a large consensus among the private and public sector as well as civil society.

In **Germany**, climate change is one of the most important topics of the debate on sustainability issues. Other topics like sustainable consumption, energy savings, transportation, or renewable energies are frequently directly connected to the overall climate change issue. Coping with the challenges of climate change is seen as the responsibility of various actors: individual citizens, economic drivers, and government.

In **Romania,** the climate change issue is not in the first line of public discourse. This is evident from local and general election campaigns processes where the issue was not present. The same applies for the environmental aspects. However, under the influence of the EU integration process some policies are under development.

Climate change has become the main topic in the **Spanish** debate on sustainability and environmental policies in the last years. But after 2008, the significant increase in unemployment levels has focused the debate on the social and economic consequences of the crisis. Despite a lower focus on climate change, energy efficiency and saving are considered key measures in economic development and energy policy by the government and organizations.

Climate change and sustainability issues have a high profile in the general societal debate in **Sweden**. At the local level of the county of Värmland a number of initiatives have been started up linked to the goal of a climate-neutral Värmland in 2030.

The local environmental discourse in the **UK** is mainly characterized by a focus on various "green" measures being promoted by government (concerning e.g. household insulation, energy consumption, road traffic vehicles etc.), often highly contested planning issues (e.g. power stations, possible expansion of London airports), environmental hazards (especially flooding and adverse weather), and climate change and global warming Significantly, such green issues serve social presentational functions, with adherence to e.g. household recycling or purchase of organic vegetables being markers of urban professional-class respectability. The extent to which these areas of public debate have concrete implications for the broad range of citizens' everyday consumption practices is not entirely clear.

Some of these aspects (e.g. a less interest in climate change in Rumania or the well-implemented system of selling and buying second-hand goods in UK) may be reflected somehow in the analysis.

3.2 The "policy issues" and the STAVE tool

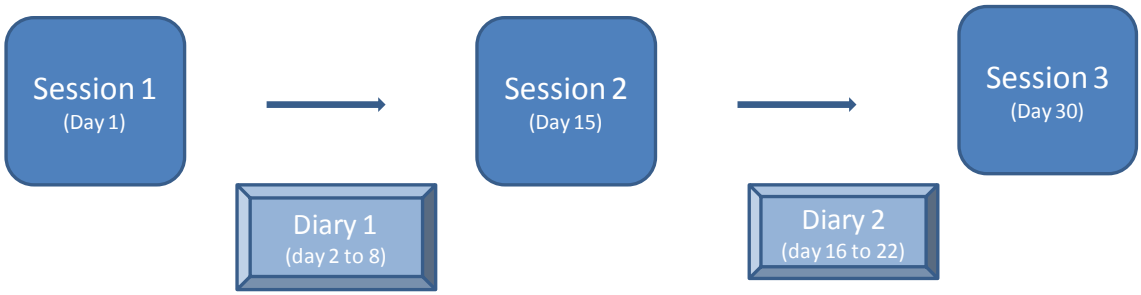
Within this general framework, the specific policy issues addressed in the 18 STAVE groups (attended by 157 citizens) in the six countries are the ones below (see table 3).

Table 3: Topics addressed in STAVE groups

Country	*Topic*
France	- Smart meters and electricy savings
Germany	- Domestic energy use
Romania	- Thermal rehabilitation
Spain	- Energy saving, wastes, mobility (shopkeepers) - Domestic energy savings with/without smart meters
Sweden	- Mobility, consumption, electricy consumption
UK	- White goods in relation to consumers' understanding of lifetimes and shopping behaviour

The STAVE tool generated data that allowed an in-depth qualitative analysis of how groups of citizens make sense of sustainability, as well as the difficulties and constrains that such citizens share when trying to develop pro-environmental behaviors (if they are so inclined). Participants in all the countries engaged with issues concerned with sustainability, climate change and energy consumption, as well as their own habits and behaviors relating to these issues.

Figure 2: Sequence of STAVE meetings and diaries



The group discussions, shaped by the various exercises, and linked to the participants' everyday lives by means of diaries, seemed to provide us with access to grounded accounts of their real-world sustainability-related practices.

3.3 Key findings from the thematic analysis on lay people's reasoning related to climate change

Although the initial design of the project was focused very much on climate change, in practice the process of policy engagement has served to shift our focus in the direction of a more general interest in matters concerning sustainability. The following remarks will provide overall findings on the following thematic topics, as these are the core issues regarding lay citizens' reasoning about sustainability:

- → Talking about and making sense of sustainability
- → Living sustainably
- → The "gap" between self-awareness and real behaviours
- → Changes during the STAVE process

→ *Talking about and making sense of sustainability*

Awareness

Most participants of the STAVE trials demonstrated a clear awareness that (individual) consumption respectively their attitudes and habits as to energy use, mobility, or waste are strongly connected with sustainability in the sense of environmental protection, climate change, nature conservation, or responsibility for future generations. A basic belief in the importance of sustainability could be observed among the members of the STAVE groups, and an awareness of the environmental impact that their own behaviour can generate.

The results of the EVOC-CAPA-SIMI tools captured the existing differences among groups in terms of pro-environmental beliefs and perceived efficacy. A general high importance of sustainable consumption, a high personal concern about the environment and a perceived personal capability to act was found in the majority of the groups. Participants showed some level of awareness of climate change and sustainability issues.

Through the first session of STAVE, participants tended to put sustainability issues in a broad, holistic and political context. The first session of the STAVE process allowed participants' beliefs and reasoning around sustainability to be captured. Through the process, these general beliefs were confronted with the difficulties and opportunities that participants found in their everyday life, as gathered through the diaries and the group discussions. The first session was focused on the following topics:

- → Participants stressed the significance of looking at the whole picture of **ecological consequences** of consumption since producing and disposing goods causes a lot of environmental problems in terms of emitting pollutions or use of scarce resources. In this context people raised doubts if the life cycle assessment of replacing old by new appliances would be positive.

→ Since consumption and production are organized on a **global level,** European and even international thinking and political actions are needed to tackle sustainability issues.

→ Group members discussed the balance between sustainability and **social issues**, e.g. by thinking about the connections between social status and the opportunity to perform a sustainable life style, or the impact of increasing sustainability costs on socially weak population classes. So certain debate in terms of "social justice" emerged at least in some countries (e.g. wealthy people would be able to buy expensive hybrid cars, lower income households not).

→ Participants see conflicts between **sustainability and economic growth**. Reflections here concerned the simultaneous demands to consume in order to support economic growth, and to reduce consumption in order to facilitate environmental protection.

In the UK discussion on shopping decisions about kitchen appliances focused mostly on issues of practicality, price, brand, reliability, and aesthetics. The participants indicated that the purchase of some appliances such as washing machines cannot be constrained by "green" considerations but rather of availability and practicality. There were a number of occasions when the groups' conversations could have turned in the sustainability direction, had any of the group participants felt that this was a relevant matter to raise. In the UK groups a general awareness of debates around sustainability (although not using that word) only occurred after the moderators had indicated that this is an issue that they wished the participants to consider.

Meaning of everyday sustainability

The table below summarized the key notions emerging in the different countries as the "real meaning" of sustainability; i.e. what this notion really means to lay people, The specific policy issue addressed in each country may indeed have an effect here, but anyhow it is interesting to show the range of notions

Table 4: Meaning of everyday sustainability

Country	*Meaning of everyday sustainability*
France	Electricity, paper Water
Germany	Electricity Consumption (clothes, household appliances)
Romania	Electricity Consumption Energy efficiency
Spain	Energy saving, wastes, mobility Energy efficiency Consumption (water, appliances)
Sweden	Sustainable consumption (in a “consumer society”)
UK	Shopping decisions (practicality, price, brand, reliability, and aesthetics) Energy efficiency

There is some evidence of **informal ways of talking** about and understanding practices that has an impact on sustainability. So the Spanish groups 2 and 3 provide clues to interpret sustainability when they talk about their daily practices, e.g. their consumption of energy or water. For example, in their view there exist many ideas for individual *"small acts"* that do not constitute major progress but can serve to "set an example" and move towards sustainable society models. They give the example of keeping the cold water of the shower while waiting for hot water and using it for other purposes, or brushing the teeth with the water tap closed. The Swedish evidence includes some references to everyday sustainability that indicate attempts to define a personal role related to complex issues, sometimes reflecting compromises and even apparent contradictions. Ways of describing everyday sustainability could be in terms of taking personal responsibility or of it being impossible to do everything at once.

Other findings show participants assessing their consumer practices as being shaped (and to a certain extent constrained) by wider societal structures, social norms, or economic limits. This feeling of being “constrained” emerged clearly, for instance, among the shopkeepers in Spain (they felt in the middle of a “sandwich” between suppliers and clients and with little real chances for introducing behavioural changes).

In the UK groups sustainability was not directly mentioned, even when using the notion efficiency participants primarily are thinking about cost-effectiveness and saving money, rather than drawing links to environmental performance. Only the notion of brand can be seen as a term that serves to encapsulate a range of ideas including (energy) efficiency, quality, aesthetics and fashionableness. After green issues were raised in the group discussions, a number of dominant ways of dealing with this challenge to the pre-existing

mode of discussion occurred, e.g. resistance to being seen as denying the importance of green issues, but combined with a realism about whether these considerations were likely to have much practical influence on behaviours ("I would like to do my bit, but it's not a priority"), or green issues were important, once upon a time, but they resulted in positive change, so concerns about these issues are no longer needed ("things are much better now").

The meaning of "everyday sustainability" is mainly based on **one's own life experience**, social contacts, and family context. For example, French participants made reference to the practices of **family** forebears and talked about what they remember of their grandparents. The "family" also emerged in Spain as a key issue both in terms of the "saving" habits of grandparents and the good environmental education that kids are receiving at school. As mentioned above, Spanish shopkeepers referred to their relationships with customers, suppliers, manufacturers, banks, or the City Hall. Beside this, various media (e.g. newspaper articles, internet, television programms, films) were mentioned as sources that influence knowledge and beliefs about sustainability.

→ *Living sustainably*

Real sustainable practices

What do participants report as their real sustainable practices in areas like energy use or transportation?

Behaving sustainably is primarily discussed in terms of making good use of resources, limiting unnecessary consumption, minimizing waste and favouring "good" products and services.

Particularly with respect of **using energy at home** participants noted quite a lot of saving practices, for example:

- → No use – no energy consumption: An important goal of participants is taking care that no energy will be consumed once a device or a room is not used. This relates to things like switching off the stand-by mode, or turning off the lights when leaving a room.
- → Limiting or avoiding the use of equipment: A major topic is to use appliances and sanitary fittings not at all or as short as possible to carry out a household activity, or only for special purposes. That means e.g. hanging out the laundry instead of using a tumble dryer, selecting the short programme of the washing machine, or using the tumble dryer only for towels and bed linen, or other strategies for saving energy while cooking (using the pressure cooker rather than oven).
- → Energy efficiency: Participants reported that they try to use appliances in a way that the energy that is utilized to run a process or device will have the highest possible benefit. That is e.g. to run washing machines or dishwashers with maximum load, to set fridges on low cool scales, or not putting hot dishes into the fridge. Energy

efficiency gains will also be achieved by purchasing energy-saving bulbs or class A appliances, or installing motion sensors to automatically turn the light on or off.

→ Heating: Reaching a balance between "comfort" and energy consumption ("good enough but without energy wastes") emerges as a concern. So they said that they would take care to ventilate rooms by rush airing rather than leaving windows longer times tipped, or that they are prepared to wear warm clothes at home instead of increase room temperatures.

→ Other energy saving practices: candle light in the evenings; going earlier to sleep; using natural light as soon as possible.

Also when it comes to **transportation and consumption** participants have a range of examples of sustainable practices, among others walking, cycling, or using public transport instead of the car, using of the car as effective as possible, buying organic products, fair trade and locally produced food, not buying too much from the beginning, or eating leftovers for lunch instead of buying lunch. Furthermore, the Spanish shopkeepers focus on reducing waste, e.g. through trying not to give bags to customers or by using the computer to handle trade documentation (invoices, etc.).

Motivations

What motivates participants to engage in sustainable behaviours like electricity savings?

There are some hints that participants act energy efficiently or consume less because they explicetely want to **behave in an environmentally sound way**, or to contribute to a better world (*"for the sake of the environment";* "*respect for limited natural resources").*

But in **most cases** the sustainability reason is not the single motive to do so. Often it comes along with the **economic consideration** that saving energy or resources and saving money are just the two sides of the same coin.

Economic issues emerge as an essential motivation for a large part of the Romanian society (the level of incomes is considered to be lower than the prices of energy, goods, and services). But this is also a key motivation in other countries. Thus, in France the financial component is relevant ("*save money", "reduce the invoices", "save resources"*); in Germany, behaving efficiently is frequently connected with economic benefits (*"saving energy is good for the environment and the household budget"; "low power bill and environmental behaviour is always one package indeed*"). In Spain, participants relate to economic compensations when replacing old appliances by new – more efficient – ones. Economical incentives are also relevant in Sweden, although form a slightly different perspective: behave sustainable as a way to avoid extra costs (i.e, not providing free parking to influence transportation choices).

Sustainable practices are also connected with **education** or the objective to be a role-model for children.

Other motivation factors emerging in Sweden and Spain relate to measurability and feedback: the significance of being able to monitor improvements and see actual results. In the UK case, participants' discourses reveal that they were mostly motivated by financial, aesthetics and time-saving considerations in their purchase and reclying of white goods.

Thus, there is multiple evidence that sustainability does not play the main or leading role when it comes to explain why one is doing something which has positive environmental impacts in effect. This finding that sustainability aspects did not occur applies also for some decision situations where one might expect that they would play a role. So issues such as resource efficiency did not come into play when participants make decisions about repairing versus buying, or purchasing new versus second-hand white goods.

Barriers

Barriers tend to be "flip sides" to motivational forces. Thus extra costs, undue complication and discomfort, lack of personal control and flexibility are factors which reduce willingness to adopt sustainable habits.

Some barriers are quite simple matters of *impractical design,* such as when the off-button is at the back of the equipment (e.g. TV) and difficult to reach, or when restarting the equipment is perceived as tricky. Other barriers are more subtle and relate to the manifold demands of maintaining *day-to-day practices*.

Thus, the STAVE groups revealed a lot of factors that prevent citizens to behave in a sustainable way. One can distinguish at least the following aspects:

- → Economic factors, e.g. reducing shop lighting would mean to lose customers; lack of financial means prevent energy saving/efficient investments or purchase of organic food (*"good isolation has a cost"*; *"I cannot afford to equip our household with A appliances"*; *"green or organic products are always more expensive"*). There is clear consciousness that there would be many things to do (to be more sustainable), but financial limitations prevent them from doing more *("I would…if I had the money"*).
- → Limits of energy saving behaviour: "*what more can we do when we already do everything to consume as little as possible?"*
- → Overlapping requirements of everyday life organization. Different family members have different priorities as to energy use; disturbances of household routines causes lack of attention as to energy consumption; lack of time prevents people from using the bicycle.
- → Lifestyle preferences, e.g. people do not want to abandon the "modern" comfort of individual mobility, or feel particular at ease in a room that is well lit *("undue complications and discomfort"; "you should not have to adapt your life too much for it to be sustainable in any way").*

→ Lack of information. Groups dealing with energy saving usually emphasize their lack of knowledge on electricity consumption. Participants perceive that most people are not aware of electricity issues. Participants also believe there is little information on how to save electricity, and on how simple actions could contribute to reduce enery consumption. Sceptical attitudes about the value of certain behaviours or about the accuracy of information from official sources and experts.

→ Lack of suitable public infrastructures, for instance to properly manage wastes and facilitate recycling.

Finally, some participants are anxious not to subordinate their behaviour to requirements resulting from being environmental friendly. They defend their right of not behaving properly in terms of sustainability and not being responsible to "save the planet". For these people, wishing to be free in whatever they do may be seen as a deep-seated sentiment constituting a fundamental tension with the idea of sustainable living. This attitude can particularly be found in the areas of mobility and purchasing and using kitchen appliances.

Self-awareness and real behaviours (the gap)

Against this background, lay citizens' claims regarding being concerned about sustainability issues and behaving properly in this respect need to be corrected to some extent.

It is clear that there is a **gap between participants' attitudes and their behaviour**, a gap between statements like *"I believe I do what I can to save energy at home"* (Germany) or *"What more can we do when we already do everything to consume as little as possible"* (France) and the broad list of preventing factors, some of them structural in nature, some of them representing voluntary decisions.

For instance in one of the French groups, participants show themselves to be rather "savings-oriented" but some contradictions were clearly observed (such as the diaries showing that participants did not try to program their appliances during off hours because they *"didn't have the reflex");* The argument of *"not going to go back to the Stone Age!"* (i.e., renouncing all modern conveniences that consume electricity) was also stated. The focus upon the consumer and what he should do, i.e. consume less, was clearly challenged by a participant during the last session. In Germany there are also clear evidence on the gap between participants' self-perception about the environmental soundness of their behaviour and their concrete daily energy using practices. Thus, they recognize that more or less frequently they do not behave sustainability at home since burdensome everyday requirements or budget restrictions would make them to lose sight of an energy efficient household organisation. Participants also admitted that there are situations in which they purposely will not behave sustainably since they gave other factors a higher priority; or that one will not do some things because one denies that they would have any energy saving impact.

In Romania, the gap between capabilities and real actions is determined by funds (case of insulation of the walls or purchasing new appliances), previous habit, and influence of the society. In Spain, and despite the efforts of most shopkeepers participants in trying to present themselves as concerned with sustainability issues, along all STAVE sessions numerous examples of unsustainable practices appeared. For example, several participants recognize to not properly separating the waste they generate, or at the same time they complain that customers ask them for more bags than necessary, but they demand themselves bags when they go to buy as customers in other stores. The same happens in the Spanish groups 2 and 3, where after saying how they think energy could be saved, some participants recognize they do not always act coherently. However, people tend to justify these gaps talking about some everyday obstacles, as economic costs, comfort habits, aesthetic reasons, family interactions, etc.

In Sweden, participants clearly differentiate between different arenas in their lives, for example between work and leisure, or the everyday and the special occasions (i.e, it is valued as more important that leisure trips are uncomplicated). However, the relation between participants' self-awareness and behaviour in terms of sustainability seems to correlate when it comes to consumption and electricity. In these areas people tend to behave according to their knowledge, even feeling guilt and giving explanations about why they haven't behave "correctly". Finally, in the UK, some participants were aware that their own behaviour was not sustainable, yet expressed little wish to change it: *"It is a throw-away society though, isn't it. I'm quite shallow in that if I was to change the colour scheme of my kitchen I'd think nothing about getting a new toaster and a kettle to match and getting rid of the old ones"* This interesting disparity between expressed sentiments and actual behaviours was concerned with what some participants termed the "throw away society". Participants expressed disapproval for people who threw away perfectly serviceable products because they wanted new, more fashionable, or different coloured etc. ones. Interestingly, both groups knew people who had done this, but no-one admitted doing it themselves.

To conclude, all of this is not to say that citizens would not try to live sustainably. A lot of them really do as the presented evidence shows. But more or less frequently they are – aware or unconsciously – speaking "on a plane of fiction" and acting "on a plane of reality".

Importantly, the STAVE process helped participants to become aware of such gap in their own lives.

→ *Changes occurring during the STAVE process*

The question if and possibly what changes might have occurred in participants reasoning is strongly related to the observation of a gap between group members' perceptions and behaviour. The group discourses and especially the diaries enabled participants to get an **appropriate picture of their actions and provided them with self-created data about usage patterns** of white goods, electronic devices, cars, etc. An effect of these intensive reflections of daily routines was a growing awareness of their **real usage patterns**,

expressed for example by surprise about how long computers or televisions were turned on or how many times the standby mode was not switched off.

Change in awareness

In the majority of the countries, there were some level of change in terms of participants' awareness and knowledge on energy consumption and energy saving strategies. In Germany, there was a shift from claiming that sustainability is already highly integrated into everyday practices of domestic energy consumption to a more realistic view of the things that could be done to behave more sustainable. There was also a growing awareness of the real amount of one's energy consumption. In Romania, a first change in participants' awareness was connected with the existence of a multitude of simple actions that can help to reduce energy consumption. Also in Spain and Sweden, participants were more aware of their electricity consumption as a result of the diaries and the group process, having thought about the subjects discussed, having raised issues with family or work colleagues or being more observant of one's own and others behaviours.

In France and UK, there were fewer evidences of changes in individuals' perceptions and reasoning on sustainability. In France, the group process suggested the importance of collective efforts, challenging the framing of the discussion: individual behaviour associated with the smart meter. In UK, although there is little evidence of changes in the nature of participants' reasoning about sustainability, the STAVE intervention seemed to made individuals realize their energy use.

Change in habits

Although it is difficult to determine to what extent the STAVE process actually led to changes in behaviours, an attentive analysis of the diaries and the group discussions shows that there was an evolution of the motivation to perform changes in habit and behaviours.

In Sweden, individual examples of modification of behaviours were given, and participants exchanged information on new places to shop ecological products, new ways to save energy, etc. In Romania, the majority of the participants reported some changes in their habits. They tried to practice some actions explored during the sessions or suggested by the first diary. All of them said they tried to be more careful when using energy at home or even at work, in transportation by their car or in recycling. Similar results were found in Spain. In Germany and UK, participants reflected on their consumption practices at the end of the study. There were some evidences of changes but also of difficulties to change behavior. In France and Spain, the motivation of participants was clearly enhanced by participating in the group discussion: soon after the group sessions participants were much more likely to have observed their consumption at the smart meter, and prone to comment and reflect upon it. This tendency faded away as the week approached its end. This

pattern shows the extent to which a group activity may be, in itself, a strong motivator for individual actions.

Therefore an important effect of the group discourses might be that quite a few people have become aware that their self-assessement regarding the soundness of their everyday lives in terms of sustainability is different to their energy using or mobility practices.

3.4 Key insights achieved from reasoning about policy questions

Being able to provide meaningful answers to questions raised by policy makers is a key requirement of STAVE. Thus, one crucial topic of each STAVE intervention was to agree on policy questions to be discussed in STAVE groups, and to feedback participants' points of view to the policy officials. The policy questions STAVE groups have dealt with reflect the diversity of substantial issues investigated in PACHELBEL's various national application contexts. Accordingly, findings related to these questions represent a high degree of context-sensitivity. This applies also for the case of smart meters which were investigated in France and Spain – due to different diffusion strategies (constrained vs. voluntary) this tool on the one hand was viewed as intrusive element (France) and on the other hand participants generally welcomed its installation (Spain).

However, all specific results demonstrate clearly the distinct ability of STAVE to organize group discourses that lead to valuable new knowledge for policy makers. In what follows the most important insights achieved from reasoning about policy questions are presented on a country-by-country basis.

France. The STAVE groups in France dealt with the issue of smart meters and electricity savings. The French policy partner were interested in using the STAVE process to explore how this new smart meter (LINKY) was viewed, integrated and utilized by the citizens.

The most important finding with respect to this policy question is that participants' reasoning on smart meters was highly influenced by the fact that LINKY was installed in the households without preliminary discussions and/or agreement by citizens. The STAVE discourses revealed that the participants were not happy in particular with the way the smart meter had been installed with no prior announcement or agreement. Nearly all participants mentioned a lack of communication to introduce LINKY to them as well as a lack of explanation on how to use the smart meter. Participants would have appreciated a participative approach of introducing and implementing LINKY in their households. Because of the lack of such a participative approach, the implementation of the smart meter LINKY is at first sight viewed as an intrusive element rather than an opportunity to learn and/or track/improve one's own electricity consumption.

Thus, a crucial lesson about French citizen's reasoning is that they don't want to be switched off and disconnected from sustainability decisions when it comes to their homes. They are very sensitive about the manner in which things are presented and introduced to them. This aspect is interesting in the sense that there could be a risk that such tools (although they potentially bring sustainability progress with them) could be "boycotted" if

the collective behavioural innovation process is not agreed and engaged. The potential advantages of the tool may not be seen or understood and this can ruin the perceived real or potential benefits of the tool.

Germany. The policy issue of all three German STAVE interventions was domestic energy use in the fields of electric kitchen appliances, electronic devices, heating, and hot water (power and heat). Beside this general interest in gaining knowledge about everyday practices of domestic energy use, the policy makers specifically wanted to know whether and to what extent citizens would accept policy measures aiming on reducing households' energy consumption. A selection of six measures was determined to be discussed in the STAVE groups, four in the field of energetic refurbishment of existing buildings, two aiming at reducing the energy consumption of electrical appliances. In each group each policy action was discussed along the topics "positive elements", "negative elements", "questions to policy makers", and "implementation suggestions".

The most important finding is that STAVE was able to generate valuable policy relevant insights to all discussed measures, thus convincingly demonstrating its capability to provide policy makers with useful knowledge. The following example will give an impression of the scope of the messages participants wanted to communicate to the policy makers. So, how did participants evaluate the idea "oblige home owners who want to carry out a refurbishment to realize a reduction of the energy use of the refurbished building by 50 % compared to the law in force"?

- → Pros in the participants' view: a) measure would secure that refurbishments will be carried out according to the state of technology; b) policy focus on refurbishment of existing buildings is absolutely necessary in order to achieve significant energy savings
- → Cons in the participants' view: a) measure could be counterproductive – strong requirements may discourage homeowners to start refurbishments, small building alterations would trigger large investments; b) financial overload of citizens – requirements are not payable for homeowners, tenants will be burdened with higher rents, financially weak families cannot afford to purchase a house; b) homeowners right of self-determination will be curtailed
- → Question to policy makers: is diminishing the energy use of buildings by 50 % indeed an achievable objective?
- → Implementation suggestions: a) combine increasing legal requirements with financial incentives for homeowners and make them cost-neutral for tenants; b) no make-or-break, rather allow step-by-step refurbishment projects

Romania. The Romania policy issue was to investigate citizens' perceptions on sustainable energy consumption with an emphasis on the rehabilitation of condominiums (insulation of the walls) in connection with the National Thermal Rehabilitation Program.

The policy makers' questions were mainly concerned with the citizens' motivations to postpone insulation investments.

STAVE was successful in detecting the most powerful barriers of engaging in domestic insulation actions, e.g. hoping for more financial support in future, fear of being tricked by a bad quality insulation work, lack of the interest for common spaces in condominiums, or great difficulties to produce a decision at the level of a condominium because of residents with great differences in incomes, habitudes, information and education.

Spain. The policy issue of the Spanish **STAVE 1** was the implementation of the Agenda21 in Barcelona (i.e, the "Commitment towards Sustainability"), and the potential role of shopkeepers in this context. The policy makers particularly learned from STAVE how to engage and integrate shopkeepers in their Agenda21 activities towards sustainability. For instance, although shopkeepers reject to attend "training courses" potentially offered by the City Council, they would be willing to exchange experiences in the context of shopkeeper associations or courses on best practices conducted by entities that are carrying them out and/or have special knowledge about it (e.g. electricity supply companies). Thus, STAVE provided the policy maker with clear and specific strategies to engage shopkeepers in the A21 measures. In addition, STAVE identified the key expectancies, concerns and capabilities of an – up to then – unknown collective.

The **second and the third Spanish STAVE interventions** dealt with energy savings of households and the potential role of smart meters in supporting energy saving behaviours. Among the most useful policy findings, the following ones are to be highlighted:

- → The smart meter has a significant impact on attention, awareness on electricity consumption, and behavioural commitment.
- → Previous pro-environmental motivation and the STAVE group effect seem to be moderating the impact of the smart meter.
- → The "temporary effect" of the smart meter: after a couple weeks the impact of the smart meter, both in terms of awareness and behaviours, decreases significantly.

These findings were specifically valued as they provide relevant basis for decision making linked to the distribution of smart meters in the city of Barcelona. The "group effect" (i.e, the combination of installing the meters and participating in STAVE) was also highly valued as it supported the policy assumption that "without social support the technology does not work".

Sweden. The substantive policy issue of the group discussions in Sweden was related directly to the development of policy for climate-neutral Värmland by 2030 (specifically in the areas of transportation, consumption in general, electricity consumption). Policy questions concerned the general need to know more about incentives, motivations and opportunities for influencing behaviours among citizens. Important answers to these

questions generated by STAVE appear relevant with regard to the relationship between policy makers/policymaking and citizens. Examples here include:

→ Expectations of policymakers being consequential in their actions. This theme reflects the expectation that authorities promoting sustainable alternatives should also adher to the same principles themselves.

→ A related theme might be termed reciprocity. When efforts are made to introduce what are perceived as good measures to support citizens people can feel some obligation to adopt these measures.

→ The role of policymaking in simplifying choices in everyday life could be identified as a further underlying theme. Participants gave examples of the many choices to be made in everyday life – which product to choose in the shop, trade-offs between different values, etc – and there was some consensus that consumers needed help in doing "the right thing". This might take the form of independent trustworthy sources of information, but also the acceptability of more paternalistic "nudging" policy measures came up in the discussions.

UK. In the UK, the policy issue was consumer understanding of kitchen appliances lifetime, i.e. their expectations of the durability of the products they purchase. The policy makers' aim was to improve consumer confidence in product durability and reliability of both new and reused products, thus aiming to help minimize the impact of manufactured goods on the environment. In STAVE four policy options around white goods were explored, generating hints for policy makers where interventions might be promising:

→ *Quality marks in second-hand products: information that can increase consumer confidence.* In relation to quality marks, the participants' discourses reflected a high reliance on brands as an index of quality for both new and second-hand white goods. Second-hand white goods were considered reliable if the brand was an expensive or trusted one. A second source of confidence in buying second-hand white goods was trust in the seller. With respect to policy, it could be argued that the two important indices for quality, brand and trust in the seller's motives, are not amenable to intervention by policy makers.

→ *Service histories for second-hand white goods as a way to reduce uncertainty.* These were somewhat linked to "quality marks" and to issues of trust in the brand and in the seller. The participants were generally in favour of service histories being provided especially with large appliances. The policy option "encouraging the provision of a logbook with a service history" was less popular than others for bulky white goods.

→ *Lifetime information: providing information for consumers about how long a product is expected to last.* The policy option "making it a requirement for manufacturers to provide information on the expected lifetime of appliances" received general support from the participants. They were in favour of this policy for both small and large

kitchen appliances. But STAVE 3 participants argued that this initiative would be vulnerable to cheating and criminality, and so worthless.

→ *Standard warrantees: agreed simple formats for warrantees and their conditions.* Participants were in favour of manufacturers providing at minimum of 3 years warranty on both bulky and small kitchen appliances. The participants were also in favour of the policy: “making it a requirement for manufacturers to publicly report the statistics on their warranties”.

To sum-up all the above specific results demonstrate clearly the distinct ability of STAVE to organize group discourses that lead to valuable new knowledge for policy makers.

4. Annex: Detailed thematic analysis on country-by-country basis

This annex will present the thematic analyses of participants reasoning related to sustainability on a country-by-country basis.

4.1 Sustainability in the context of country-specific discourses

FRANCE

In France, sustainability and sustainable consumption are important topics. They both form priorities within a large community: government, scientists, the private professional sector, NGOs and CSOs, education professionals, and citizens. All these institutions and actors are active in addressing advances and/or concerns in various dimensions of sustainability i.e.: climate change, natural resources, energy efficiency including household insulation, sustainable production, consumption and transport, waste management and recycling. Sustainability – in all its dimensions – is very often connected with an attitudinal dimension: awareness about sustainability has grown very much in the last decade. The need to operate a profound change within society in order to preserve the planet and future generations is widely recognized and forms a large consensus among the private and public sector as well as civil society.

A sign of this is the large consultation process organized by government in 2007 called the "Grenelle de l'Environnement" (both PACHELBEL policy partners and STAVE participants referred to this historic consultation). The goals of this process included: to deal with ecological issues at the national level as a way to support the international action of the French government; to put environmental governance into practice through involving all actors towards achieving a shared goal; to apply environmental governance as proof that a democratic and participative process can be efficient. The program was led by the Ministry of Environment (our policy partner within PACHELBEL). Six working groups of about 30 persons each were put into action. Each group worked on one of the issues previously defined by the involved stakeholders: the State, local authorities, business, trade unions, environmental protection organizations (NGOs). These issues were: Climate change and energy; Biodiversity and natural resources; Public health; Sustainable production and consumption; Ecological democracy; Green employment and competitiveness.

This consultation experience was not universally viewed as a success. Several environmentalist NGOs left the process in protest to what they considered to be insufficient advances. Another type of opposition appeared from the conservative side. (Critical comments were heard from some PACHELBEL STAVE group members, indicating that even after Grenelle “sustainability” remains an empty word, fashionable but without real political engagement behind it.) However, the Grenelle dialogue between stakeholders remains a positive experience. Some observers point out that results cannot be evaluated as long as the implementation phase (transposition of proposals into law or decrees) is not

fully completed. Some decisions have been stepped down in ambition, due to the pressure from the economic and financial crisis. As a follow up, a 2011 report from an expert committee has investigated the feasibility of three different transition pathways to a low carbon France by 2050.

The French media are generally quite active in reflecting all concerns, initiatives and advances about sustainability, making it a public and visible stake. But the media also reflect the controversies, battles and occasional blockages within the various communities, in particular in the political sphere. This generates a high sensitivity among citizens and the civil society about actors, roles and responsibilities and how these should be shared. These issues and discussions – about roles and responsibilities – come particularly to the foreground when disasters happen. The Fukushima nuclear disaster has created much emotion/anxiety all over the world and of course also in France. The issue of nuclear power (currently about 75% of the national electricity production) appears in discussions. However, this remains a rather mild issue, even though it emerged as a theme in the presidential elections of May 2012 which have been under preparation in France since October 2011 (thus concomitant with our STAVE groups).

Within the PACHELBEL project and the STAVE process, it was decided in France to gain evidence of lay people's reasoning on domestic energy savings as one means of sustainable production/consumption and climate protection. This choice was made in liaison with two policy parnters, council representatives of the CGEDD (General Council for environment and sustainable development) at French Ministry of Environment.

A smart meter (named LINKY) has been implemented by the national utility in 250,000 households in two French regions (a rural region in the Center of France, and Lyon, a large city towards the south-East of the country). This smart meter is currently in a "test" sequence before the equipment is generalized across the territory. Our French policy partner and officials were thus interested in using the STAVE process to explore how this new smart meter was viewed, integrated and utilized by the citizens. STAVE was also seen as offering an opportunity for collecting information about citizen behaviours in energy conservation and sustainable consumption in general.

At the time of the urban STAVE groups, France encountered unusual climatic conditions (very low temperatures in December and January) that generated electricity consumption peaks, highlighting the problems of over-consumption and their (potential) consequences in terms of costs, pollution and possible black-out. The media reported cuts in electricity and showed distressed households. The public electricity utility released messages about the peak hour phenomenon (about 7 pm), asking citizens to lower their consumption so as to avoid cuts (or use of fossil fuel, or import of electricity). This specific issue became of interest to our policy partner, and we developed an ad hoc questionnaire to stimulate group discussions in the two STAVE groups in Lyon. The questionnaire was mailed to each member of the first STAVE group which had terminated a few weeks earlier, and all participants returned it. As we thanked them for this extra effort, one of them commented that this additional piece of research and thinking was reassuring: the issue the groups tackle is so important and complex that it needs further investigation.

Another specific uncertainty for the policy partner regarded the actual temperatures inside the homes. So we provided the two STAVE groups in Lyon with individual thermometers to measure the temperatures of the various areas of their living interior.

Finally, participants mentioned that ERDF proposes a paid service to monitor precisely one's consumption of electricity. ERDF subsequently informed us that this service is useful for homes using electricity for both heating and water warming. In each STAVE group, two volunteers accepted to test this system and report upon it, in exchange for our paying ERDF for the service (35 € for one year).

GERMANY

In Germany, climate change is one of the most important topics of the debate on sustainability issues. Other topics like sustainable consumption, energy savings, transportation, or renewable energies are frequently directly connected to the overall climate change issue. Coping with the challenges of climate change is seen as the responsibility of various actors:

- → Individual citizens can contribute to climate protection through behavioural changes (e.g. saving energy) and by exerting pressure upon industry to modify its economic models. In this context the strong capacity of action at the local and regional levels to address the global climate change issue is being stressed.
- → The economy needs to start a transition towards renewable energies and green technologies and to break down the existing industrial power structure which threatens more sustainable sectors (such as organic food and organic textiles) and prevents them from developing.
- → The government should implement aid policies particularly centred upon energy and home electricity, but also supportive actions to help families to save energy (through educative action), especially the most economically modest families.

After the Fukushima nuclear disaster the German energy sector was faced with a radical turn. It was decided to abandon nuclear power until 2022 and to increase the share of electricy produced from renewable energies to 80 % by 2050. To support this transition to a renewable energy system, energy consumption should be reduced e.g. through an improved energy efficiency. This applies not only for industrial processes, but also for using energy at home. With other words: citizens are expected to contribute even stronger to energy savings respectively climate protection.

ROMANIA

In Romania, the climate change issue is not in the first line of public discourse. This is evident from local and general election campaigns processes where the issue was not present. The same applies for the environmental aspects. However, under the influence of the EU integration process some policies are under development. One of them entitled

"National Strategy for Sustainable Development of Romania – Horizons 2013 – 2020 – 2030" includes in section 3 the chapter "Crucial challenges – Climate change and clean energy" devoted to define objectives and measures to reduce the impact of the energy sector on climate change. Topics like energy savings, transportation, or renewable energies are directly connected to the climate change issue in the policy.

Some responsibilities are assumed by the Romanian government in the European integration process. The Directive 2002/91/CE (related to energy performance of buildings) and the Directive 2006/32/CE (efficiency of energy and services using at end-user level) are translated and introduced in Romanian law. There is a general consensus about the necessity of national measures to stimulate improvement of buildings' insulation both for old and new ones.

During the winters Romania is dependent on the natural gas import from Russia. The security of energy supply, maintaining a reasonable price of the heating, important pressure on local budgets to sustain subsidies in order to help the poor families during winters, exigencies imposed by European Commission to improve the energetic performance of the buildings create a political context characterized by coherent political declarations. No political colour is important in this field.

At the level of common citizens the perception is that Romanian society seems to have not enough time to think deeply about sustainability. A very simple and direct motivation consists of the powerful pressures of the everyday life, for example other factors (e.g. jobs, food, salaries, time) are perceived as more important than sustainability issues. Very pessimistic persons say that the present society did not reach an appropriate level of civilization to think about sustainability. A systematic education for sustainability is perceived as a compulsory action if we want to reflect correctly on the future of the society.

However, extreme weather phenomena occurred in Romania in the last years such extensive droughts, floods, tornadoes or heavy snowfall has induced the idea that we face consequences of our previous actions that have deeply hurt the nature. It is not clear if there are approaches able to mitigate these phenomena or if the society will be able to adapt to the new climate. Romanians prefer to leave the worries and the actions to God.

Generally there is a perception of an indifference of the public opinion related to many issues including sustainability like energy saving, for example at the level of public lighting or other municipality consumption. Also there is a lack of confidence in the result of personal actions of common citizens. At individual level the sustainable consumption is seen as a rational consumption motivated by the lack of resources (as a limitation of available funds to have everything, or as a limitation of the natural resources).

It ought to mention that there is a difference between rural and urban areas. People from the country side have more time to be in a direct contact with the nature, on the other hand the technology development is not a great pressure for them, and also the behaviour did not suffer major changes in the post-communist period. In this context one of the policy assumption may be formulates as "however in typical rural settings, people respect nature and resources".

Based on STAVE discussion, we may say that there is an awareness of investigated lay citizens about sustainable consumption mainly by the means of the contrast with “the present irrational consumption”, but this issue is not in the first line of their concerns. This “irrational consumption” is perceived due to the fact that our leaders are not interested in the issue or the economic efficiency is more important, for the moment, than the sustainability.

SPAIN

Climate change has become the main topic in the Spanish debate on sustainability and environmental policies in the last years. The Spanish Office on Climate Change was established in 2001 to coordinate the national strategies on climate change mitigation and adaptation. The main impacts and vulnerabilities of Spain in the context of climate change were summarized in the 2005 report Preliminary Evaluation of Climate Changes Impacts in Spain. Spain is likely to experience the negative consequences of rising temperatures such as reduction in water resources, changes in ecosystems, coastal damages, soil erosion, and impacts on agriculture, tourism and public health. The Spanish Strategy on Climate Change and Clean Energy was developed by the government in 2007. The main goal was to achieve a reduction in greenhouse gases emission and to promote the development of clean energy production technologies. Energy saving and energy efficiency have been considered the key measures to achieve emission targets, along with the development of renewable energy. Despite the strong development of wind and solar energy in Spain, greenhouse gases emissions targets have not been met in the last years, due, in part, to the significant economic growth in the 90’s. Only after 2008, with the economic recession, CO_2 emissions have declined in Spain.

The Spanish Office on Climate Change and various environmental organizations have been actively promoting environmental attitudes and behaviours through information and awareness campaigns. Public opinion surveys have shown high levels of environmental concern among the public. The majority of citizens in Spain are concerned about climate change, which is generally considered the first environmental problem. Knowledge on climate change and energy issues is more limited among the population. A part of the population is still not able to differentiate between climate change and environmental pollution. The majority of people are aware of the need for recycling, saving energy and water.

Climate change has been a central topic in the public debate between 2006 and 2010. But after 2008, the significant increase in unemployment levels has focused the debate on the social and economic consequences of the crisis. Despite a lower focus on climate change, energy efficiency and saving are considered key measures in economic development and energy policy by the government and organizations. In 2011, the National Energy Efficiency Action Plan was published, as required by the EC, to promote the increase in the energy efficiency of all the sectors in Spain. A special attention is paid to consumers’ information and awareness on energy saving, as well as sustainability topics requiring

individuals' behaviour modification such as: motivating public transport use, efficient driving, energy saving at home, etc.

The (limited) media analysis carried out for D4.2 illustrates the more local discourse on sustainability and climate change. Results of our media analysis (Catalan newspapers) shows that individuals seem to lack civic-mindedness or indulge in self interest. In addition, technology is considered as a key solution to the environmental problems (thus, citizens need not change, and government should support technological development). While there are a number of calls for government institutions to take responsibility, a smaller number of articles argue that "sustainability is not only an institutional task but also a social one. Authorities reaffirm themselves ('we are already doing our job'). There is a need to increase citizen awareness."

Finally, the discussions in PACHELBEL groups reflected substantive differences in the consideration of sustainability among participants. Participants in Group 2 were more reluctant to talk explicitly about sustainability. The discussion was generally framed in terms of the economic benefits of "saving" energy. Participants tended to justify the lack of pro-environmental behaviours arguing that there are many everyday obstacles, as economic costs, comfort habits, family interactions. Climate change was not a main topic for them. On the other hand, the majority of participants in group 3 were concerned about sustainability in general terms. They were concerned about the environmental impacts of everyday behaviours and economic processes, the use of energy in society, sustainable consumption, greener life-styles, and future generations. Some of them were willing to develop pro-environmental behaviours, perceived as a part of the solution to the problems of resource depletion and environmental degradation.

SWEDEN

Climate change and sustainability issues have a high profile in the general societal debate in Sweden. At the national level this is reflected for example in the sixteen environmental quality objectives adopted by the Swedish Parliament, describing the state and quality of the country´s environment assessed to be sustainable in the longterm. As an overall objective of environmental policy a "generational goal" has been set. This defines the direction of policy in this area, and is intended to guide environmental efforts at every level in society.

At the local level of the county of Värmland (PACHELBEL policy partner) a number of initiatives have been started up linked to the goal of a climate-neutral Värmland in 2030. This has been publicized in local media and is prominent on the county administrative board website. Initiatives have included manifestos involving high profile figures in the county and public hearings and information seminars. The delta landscape around the main city Karlstad is highly susceptible to flooding and awareness of climate-related effects is high also among the citizens. At the level of individuals and families the county has run several projects to promote and publicize efforts to adapt to more sustainable patterns of behaviour (such as the "111 families project"). Individual initiatives such as the

"purchase stop" idea (cutting personal consumption to a minimum over a longer period of time) have also been picked up in the media and publicized.

UK

The local environmental discourse in the UK (as evidenced e.g. in the media analysis, in the deliverable D4.2) is mainly characterized by a focus on various "green" measures being promoted by government (concerning e.g. household insulation, energy consumption, road traffic vehicles etc.), often highly contested planning issues (e.g. power stations, possible expansion of London airports), environmental hazards (especially flooding and adverse weather), and climate change and global warming. Significantly, such green issues serve social presentational functions, with adherence to e.g. household recycling or purchase of organic vegetables being markers of urban professional-class respectability, in contrast to typical working class sensibilities and practices. In relation to the specific policy issue – consumer understanding and purchasing practices of white goods, with particular reference to the lifetime of the products – there is a widespread practice of selling and buying second-hand goods, which is largely socially accepted. This is reflected in the healthy trade associated with second-hand shops and websites such as *ebay*, *freecycle*, *gumtree*, etc. There is little if any social stigma attached to buying second-hand kitchen appliances. However, it was unclear at the outset of the STAVE process to what extent individual purchases of second-hand goods have regard to considerations of sustainability.

4.2 Talking about and making sense of sustainability

FRANCE

Awareness on sustainability

All French STAVE group participants showed great interest and awareness about sustainability and about the impact their own behaviour can generate. They raised many sustainability topics going beyond the sustainable consumption issue chosen for the group discussions (i.e. LINKY and electricity savings).

A first indicator of their concern about sustainability is the results of the EVOC/CAPA/SIMI1 questionnaires. These show that group participants are highly sensitive to sustainable consumption, although we can observe some variations in the level of this sensitivity among the groups. STAVE 1 participants (our oldest citizen sample, living in a rural region of France) show the highest sensitivity in regards to sustainability: participants of this group declare that sustainable consumption is an important stake (5.37/6 vs. respectively 4.9/6 and 4.8/6 for STAVE 2&3); that they feel personally concerned about the impacts of consumption (5.0/6 vs. respectively 4.9/6 and 4.6/6 for STAVE 2&3); and that they personally feel capable of acting in favor of sustainable consumption (4.75/6 vs. respectively 4.1/6 and 3.4/6 for STAVE 2&3).

[1] See PACHELBEL D4.4 on "Stimulus Materials" developed for the group-based process.

Participants spontaneously associate “sustainable consumption” with the following aspects:

→ *Resource conservation, energy savings, natural resources, renewable energies, future and future generations, respecting the environment, reduction of CO_2 emissions, organic agriculture, the need to change, the need to consume in a better way.*

Furthermore they connect “sustainable consumption” with the following dimensions:

→ *Local capacity for action, consumption of products produced locally, recycling and reduction of waste, reduction of CO_2 emissions, protection of biodiversity.*

A particularity of STAVE 1 was that these rural participants view public transport as a very central and strategic issue linked with sustainable consumption. Participants of this group live in a rather isolated small city which can explain this particular concern about transportation (i.e. the need to use private rather than public transport). They explained at length how Chateau-Renault, their city, is 30 km from Tours (the regional capital) and of Vendome (the city with the high speed train).

While moderators particularly framed STAVE discussions on the chosen policy issue “LINKY and electricity savings”, participants nonetheless repeatedly introduced several other sustainable consumption issues, showing that they had ideas and opinions to share and that they wanted to take the opportunity of these group discussions to do so. They placed the issues in a broad, holistic and political context.

“Day-to-day sustainable actions and behaviours are not enough anymore. Today it is important to think wide and long-term” (G1, S3, P4).[2]

“Sustainability is of course a matter of making individual efforts <u>but</u> it is also – and perhaps above all – a matter of collective effort” (G1, S2, P1).

“*Without coherent European and even International Community thinking and political strategy, efforts will be in vain”* (G1, S3, P7).

"[Electricity savings] is a national and political issue" (G2, S1, P9).

"O.K., we can vote, but that isn’t new. Nowadays, citizens are sensitive to the environment, sustainable consumption, sustainable environment, and they want to influence that [more directly]" (G3, S1, P4).

Group discussions highlighted awareness that both ecological and behavioural issues are related with subjacent interdependent phenomena:

"About nuclear power plants, if we consume less, by extension we should produce less (...). If we save electricity, this allows us to save on other things and to reduce CO_2 emissions. All is related and as all is linked, ecological respect is there in the sense that

[2] The code in brackets will be used to clearly assign quotes to groups, sessions, and participants. The key is: G = Group Number (G 1,2,3), S = Session Number (S1,2,3), P = Participant Number (P 1,2...).

electricity savings would allow indirectly to reduce CO_2 emissions, to build better insulated buildings and therefore indirectly save energy" (G3, S1, P1).

"If we had to pay the ecological footprint of our air transportation, there would be fewer passengers (...) Today there is no ecological tax to take into account the fact that flying from Paris to New-York is like, say, cutting 200 trees" (G3, S1, P6).

Participants made connections between energy conservation and sustainability:

"The idea [with installing Linky] is to allow us to save money and, on the ecological side in any case, to overall consume less electricity" (G2, S1, P2).

"If we make the effort to save, it should be sustainable, it should have an impact upon the future" (G2, S1, P3).

The oval mapping exercise provided content relating to sustainability in most answers to the topic about the participants' *motivations* for conserving electricity:

G2, S1

→ Environmental protection

→ Ecology / Save money for the future

→ Ecology [two more participants]

→ Avoid waste of resources / Energy and money savings

→ Environment / Avoid wasting resources / Future generations

→ Environment

G3, S1

→ Citizen gesture

→ Ecological footprint

→ Ecology

→ Reduce consumption to respect environment

→ I do it by respect for the environment and for the next generations

Critical comments about the sustainability concept, and its meaningfulness in the French context, appear as well:

"It is the term 'sustainable... consumption'. Yes, the two words. Consumption, but there is also production. Why only 'consumption'? On one hand, each consumer is a citizen... On the other hand, 'sustainable', pfffff, it is an easy shot, politically correct, an easy one" (G2, S2, P9).

"It is fashionable" (G2, S2, P4).

"There we are. It is sustainable development. It is sustainable and ... we do not really believe it. At least, personally I put nothing behind that word. The problem is that concretely there is nothing behind that word, politically speaking. It is empty" (G2, S2, P9).

"If I may say so, as we are talking about controlling one's CO_2 consumption, for me it is a message which is not very clear" (G3, S1, P2).

"I do not believe that the Grenelle of Environment has become real" (G2, S1, P9).

Meanwhile, the dangers of climate change are mentioned by a participant. When the moderator stresses this point, the participant relates it to everyday weather reports:

G3, S2, P7

"P7: (...) I do not see how we can make savings as a group [of co-owners of their housing]. Each of us does it individually because we are aware of it and of the danger which will threaten future generations.

Mod.: What is the danger for future generations?

P7: Not necessarily with electricity, but I am thinking about pollution - Madame Météo [television weather commentator] piles it on every evening, but finally what she is talking about is real."

Meaning of "everyday sustainability"

Among the French participants of STAVE groups, the meaning of sustainability is based principally on one's own experience, and cultural or family context. Reference was made to the practices of family forebears: how they lived and what they did. Here some participants talked about what they remember of their parents/grandparents. For example one participant recalls that his grandfather collected rain water and he too does so today (G1).

Given that the focus of the French STAVE groups was upon Linky the new smart meter, and electricity savings, most expressions about sustainability relate to that focus. However, participants offered varied information about their involvement in ecological issues, mentioning the aspect of education in particular.

G3, S1, P2, 3, 7

"P7: I am strongly involved around two issues: electricity and paper. So I am very careful to turn off the lights when I leave a room, and as I have two kids (aged 3 and 7), I have to police them all the time.

P3: It is important to educate the kids. I think it is done already in the classroom. There are books for children about energy savings.

P2: I also think about education because I have a godchild. His father is kind of an extremist, he turns off the light even when you are in the room! I go to the toilet, I step out of the toilet, and I find myself in the dark! And his son says to me: "why did you

flush the larger water reservoir of the toilet, you only went for a leak"! So I conclude that there an impact upon his kid's behaviour."

Participants insist on their lack of understanding for the rationale associated with Linky. Information about the meaning of this national program is lacking.

"When Linky was installed, it sure was not very talkative ['smart' meter translates in French as 'communicating' meter], it was learning to speak!" (G2, S1, P9).

"I find it almost frightening, as it is written [in the stimulus material provided by the PACHELBEL team], that the meter has been installed without knowing the full extent of its uses. (...) Explanations are lacking (...) They [the utility] seem to be saying 'help us, we have installed it, but we do not know what to do with it!'. Something seems to be missing upstream" (G2, S1, P2).

"It looks nice, a good looking green box in the entrance hall! So you can navigate [online, where you can] see your present consumption, the maximum and so on, but it is true that I have very little information about how to use it" (G2, S1, P7).

"I never saw Linky. I did not go [outside my apartment] to see it. I did not see the person who installed it. It might be interesting to save with it, but I cannot see it and I do not pay very much for my electricity bill, so I will not try to save more" (G2, S1, P3).

Participants are interested in saving with the new meter, but they consider it serves mainly the interests of the electricity company (ERDF).

"With Linky, I pay less. And I do not feel I consume less. I bought a new television. I do not know if it is related. If we could see our consumption, see at what moment of the day it is cheaper, that would be interesting" (G2, S1, P5).

"I have my bill and I see what I consume. What else to say? Well the new meter will limit frauds (...) it is pure benefit for ERDF" (G2, S1, P9).

Participants can be critical about the consumer society.

"It is true that nuclear energy, it serves us right, because it must be said that we consume like mad, therefore we have to produce like mad" (G2, S1, P4).

More comments introduced nuclear energy, most often in a critical way. One motivation to conserve energy cited in the oval mapping results of G3, was being "anti-nuclear".

Feedback appears needed to bridge the gap between each individual action and the global impact of all actions together.

"The question is, (...) if we all do a little thing more [electricity savings] shall we reach a real benefit, globally speaking? Nobody tells us" (G2, S3, P2).

The above comment can be related to participants stressing the need to involve all parties in electricity savings, and not only the lay consumers. This was common to all three STAVE groups, and grew from one session to the other. We develop this point further in 4.6.

Several participants mentioned that savings were not mandatory, and it might need to become so if we want to be sure everyone changes behaviour. However, in the resource allocation exercise, the option to set a legal limit to heating at home with fines in case of overheating (in analogy with speed limits), was strongly rejected.

The two sets of comments above (me vs. all involved, and a little thing vs. big impact) implicitly question the link between the individual way of life and collective life. Insight about this link will be developed through reporting a group sequence (see 4.5).

GERMANY

Awareness on sustainability

From the very beginning of the group discussions it has become obvious that participants are aware that energy use is strongly linked to environmental issues and climate change. So it was not contested that efforts are necessary to reduce energy consumption, not least on the level of household energy use (no rule without exception: one participant denied the existence of climate change). Given this basic understanding, participants usually addressed sustainability topics spontaneously when reasoning about their ideas and behaviour pattern with respect to domestic energy consumption. That sustainability related reasoning has been triggered by the facilitator was an exception.

Environmental-friendly consumption

Participants were able to deliver a rich picture of their everyday energy use at home including motives and barriers to save energy (cf. below). And again and again they looked beyond their household practices and put energy consumption and environmental protection into a wider reference frame. So participants stressed the significance of looking at the whole picture of ecological consequences of consumption since producing and disposing goods causes a lot of environmental problems in terms of emitting pollutions or use of scarce resources. Thus, conscious purchasing behaviour would be at least as essential as being aware of one's household energy use. In this context some people raised doubts if the life cycle assessment of replacing old by new appliances would be positive. Some suspected that public funding for purchasing energy efficient devices would have more an economic promotion background than that it will be good for the environment. Other participants were not that sure that replacement acquisitions will not make sense in terms of ecology, but in general there was a high uncertainty among participants how to behave, e.g. what the proper time is to purchase a new washing machine, fridge, etc.

Globalisation

In the context of reasoning about the sense of replacing old by new devices the globalisation issue occurred. So it was said that it would be bad in terms of CO_2 emissions

to purchase new appliances that had been produced abroad, e.g. in China. As counter-argument, one person doubt that consumers will be willing to pay the higher prices for equipment and replacement parts that completely were made in Germany or Europe. Furthermore, participants worry about the fact that old devices will be sold as second-hand goods in Easter European countries, thereby thwarting the environmental advantages of new appliances by relocating CO_2 emissions. On the other hand one participant argued that *"devices that consume much energy according to our standards will be energy efficient appliances in the context of these countries"* (G1, S3, P1). Overall, participants agreed on the necessity to address energy efficiency on a European and global rather than national level.

Rebound effect

Furthermore, it was interesting to see that the rebound effect was put on the agenda in relation to the replacement of old household equipment by new energy efficient appliances. Participants recognized that this could have the effect that the latter will be used more intensively and that this would counteract the intention that energy-saving appliances will lead to decreasing domestic energy consumption. One participant said: *"If I purchase energy-saving light bulbs and let them turned on the whole day I will also have a high energy bill"* (G1, S3, P2). Another person compared energy saving with quit smoking: "*In the beginning you say ‚This money goes to the savings accounts of my son and daughter.' Then some day you go out for dinner with the family, and later on it will be trickled away on shopping"* (G3, S1, P18). And it was said that regulators should be aware of the rebound effect e.g. when implementing financial funding for the purchase of energy efficient appliances. For some participants to think about impacts of energy efficiency in this manner was an eye-opening experience: *"Up to now I have never think about… if I purchase a new fridge… what I am going to do with the saved money to remain ecologically balanced?"* (G2, S1, P15).

Social aspects

Another major topic that goes beyond reasoning about energy use at home in a strict sense is the question of the social aspects of sustainability. So there were interactions about the connections between social status and the opportunity to perform a sustainable life style: Some said that people with a high income are in a better position to think at the environment than those who have less money, e.g. wealthy people would be able to buy expensive hybrid cars, lower income households not. Others are convinced that to have available only little money forces people to live environmental-friendly because for them consuming less energy would be a significant contribution to their household budget. But there was also the idea that awareness is the decisive factor for the environmental impact of a person or household: *"I do not believe that it makes a difference whether someone is rich or poor. I think it depends on awareness"* (G2, S1, P12).

Among participants the fear occurred that rising rents for energetically refurbished flats will result in a general price increase at the housing market. So in their view it might be that tenants who live in a refurbished flat will benefit from lower energy costs, but other groups might suffer from higher rents without benefiting from modernisation measures. This would specifically be affect economically weaker social groups.

Finally, the question of social justice appeared in the context of the idea that the provision of comparative data of one's own energy consumption with that of similar households would be very helpful for detecting possibilities for energy savings. Some participants went a step further and wanted to combine this comparative approach with scaled energy prices so that households with consumption above average would have to pay higher prices and vice versa. Others rejected this idea for it may affect mainly socially weak citizens and thus would be a mechanism that will not meet the requirements of social justice.

Meaning of "everyday sustainability"

There are only a few passages where participants explicitly talked about the sources that influence their knowledge and beliefs about sustainability, and on which they rely when it comes to make or justify behavioural decisions. One participant told that she was shocked when she had learned by a newspaper article how much water is needed to produce a pair of jeans. From this she drew the conclusion that taking care of sustainability when purchasing goods is maybe more important in terms of environmental protection than to save energy at home. It has also been reported that exchange of experiences is sought with friends and acquaintances in cases that one is about to purchase a new household appliance, e.g. a washing machine. *"I have purchased a new washing machine and in the run-up I have talked with friends and acquaintances, 'What model do you have?', 'How much water and energy does it use?', 'What is its energy efficiency class?', 'Are you satisfied with the quality of the wash cycle?'. You need to consider these things carefully, and that is why one talks with others about them"* (G1, S1, P3). Moreover, attending the STAVE groups drove most of the participants to raise the discussed topics in conversations with family members, friends and colleagues.

In the diaries one can find scattered hints that newspaper articles or TV programmes about e.g. energy saving light bulbs or the importance of saving energy at home have been perceived.

ROMANIA

Awareness on sustainability

For all groups there is a connection between consumption, especially for energy consumption, and environmental issues althought the majority of the citizens are worried only by the direct consequences of their consumption i.e. spending a lot of money from their incomes. There is a clear willigness to reduce energy consumption at household level and also at municipal level (such as public lightening when it is no necessary), but there is

no a very clear connection with the climate change issue. Only some citizens expressed their concerns about extreme weather phenomena observed in the last time in the country. The discussion on sustainability was centered on the effects of the actual consume on the resources and environment and the moderator intervention was needed to keep the issue in the focus and to follow the initial plan of the debate. The topics of discussion were structured along the three meetings as follows:

Session 1

- → Sustainable consumption in Romanian society; possible actions/measures to enhance sustainable consumption;
- → insulation of the walls for condominiums (perception of the current situation, perception of benefits);
- → possible measures to accelerate National Thermal Rehabilitation Programme.

Session 2

- → Existing or potential strategies to support sustainable consumption;
- → the role of public involvement in decision making process;
- → difficulty resulting from the condominium living.

Session 3

- → The role of small and big actions in supporting sustainable consumption;
- → the National Thermal Rehabilitation Programme – needs and perspectives.

Despite policy maker expectations the participants were active and very interested in the debate. The topics were not introduced explicitly at the start of the discussions.

Work technique was based on questions asked by the moderator, with an attempt to involve all participants in the debate, including those who tend to stand aside and just listen or to intervene only sporadically.

Below an example of raising sustainability issues is presented based on the transcript of audio-video recording for group 1, session 1. The Moderator has introduced the idea of energy-saving without any connection with sustainable consume. He awaits some ideas from the participants. The discussion started from a general point of view of energy consumption at the level of each household.

G1, S1, P1

"Mod: I start from very general idea of saving energy ... Do you find this as an important issue for us, for our society… or is it a marginal problem? Or only a problem of developed societies? ... and it is not our problem. Who wants to start?

P1: May I start? It is very important and it is normal to save... in a society like ours where everything is consumed at a time... without keeping in mind anything. It seems... that someones have no limit, at least in cutting forests... I have something with this issue...

Mod: So you see that action of consume as an action on the environment... Yes?

P1: Yes"

As it may see, the moderator tried to put the debate on a planned way, but without a major perturbation or by introducing new concepts.

"I come from an area where my neighbors cut the forest… so... without limits, they have to heat their homes... and I tried to explain to them that a lot of heat is lost due to the walls, windows, and so on... but they say... we need heat... you need, but you need to think you consume some logs of wood during the winter, you pay a sum of money... and you destroy the forest... do not you think that you could do something... house refurbished, to insulate the walls" (G1, S1, P1).

However moderator tried to summarise each participant intervention by a simple sentence/conclusion.

G1, S1, P4

"Mod: Yes... I think it's a good idea to note that one of consumption as an attack on the environment.... Another idea... Let's see... Who else can say? Your every day experience…

P4: I see… in terms of sustainable use of resources, we have... individual or national resources... when you eat too much..."

We may note that P4 introduced in the discussion "sustainable use of the resources". The moderator tried to stimulate the participant to explain more, to introduce clarifications both for the purpose of the construction of the dialogue between participants and also to deeply investigate the understanding of the speaker.

G1, S1, P4, 8

"Mod: So… your opinion is that consume has an effect on resources... and these resources are limited... I want to tell me how you see this fact? Do you see… in terms of the present generation or you think at what will happen with our children or the children of our children ...

P4: I think at what may happen in future…

Mod: Thus do you think from the perspective of future? Yes?

P4: Yes… We need to ensure comfort, nothing to say about it... but we must think, we need care for the future... and for this we need education, understanding... habitudes…

Mod: Vincentiu introduced another idea, we may note it… but let's everyone to say something... So he introduced the idea of education, education for consumers... Can education do something tangible, very practical... How do you see things? Can anyone say ...? What education, in family, parents teaching their children, in schools?

P8: Of course education in family is important... but first… high-level awareness would be important… to push the ideas to all citizens… Each of us is forced to do certain things, as she says... one has to heat the home... This initiative of insulation was taken

for the urban areas, and it is limited to the towns... but also the country side need similar programmes… Also, for example, in a certain area, local authorities may help to reduce consumption by acquiring high performance districtual heating...

Mod: We recorded again an idea that policy at national level is only oriented to urban areas... Is it correct?"

Another example is the introducing of the sustainable consumption in session 1 of group 2 (young people). We may see that the actual consume is connected with pollution, depletion of the ozone layer, depletion of the mineral reserves.

G2, S1, P1, 2, 3, 6, 7, 10

"Mod: I want to start with very general problem of consumption. I would like to ask how you look the consumption in relation to the environment, society, and our future development? You may think at energy consumption, for example... Who starts?

P1: I think that the idea of insulation… I don't know who had it… is a very good one...

Mod: So we go directly to the discussion about house insulation.... OK!

P2: I tried the idea on my skin... let's say so... I insulated a room... but the inside part of the walls, not outside... with polystyrene of 5 cm, we did that in a village and saw that the consumption of wood in a stove was significantly lower after insulation… in summer is cooler… in winter the room is warmed quickly... and it is maintained longer.

Mod: The next thing I noted is that the efficiency of insulation is real… Yes?

P2: Yes, really.

Mod: Let's return to general.... Consider the problem of consumption as a problem of the society, of our society?

P7: Sure... Sure it is... In a short time, in 20, 30 years the ozone hole has greatly increased…

Mod: So pollution associated with consumption... Yes?

P7: Yes, very much...

Mod: Anything else?

P7: Consume reduction helps to protect the environment.

Mod: Let's go on this idea… Claudiu, did you tried to say something?

P10: Yes, on deforestation… as an aggression to the environment.

Mod: Mainly, how you see this aggression? Only as by the destruction of forests?

P10: Yes... but also related to Earth, the ozone layer...

P7: …forest remains a source of fuel...

Mod: When you think about consumption do you consider other items... such as the consumption of minerals...

P4: Yes, including drinking water, flora and fauna...

Mod: What do you think about what maybe will happen in the future? How do you see the consumption after 50 years, 100 years? Who can answer?

P4: When you have a minimum level of civilization you can think about the future... we need to reach this level to think about.

Mod: More specifically, our consumption is a threat to future generations?

P6: Yes, it's a danger…

Mod: And then practically we should have a different attitude towards consumption? Because it may affects our descendants...? You can change this through education?

P3: Re-education...

P1: Re-education... yes, it is, I live next to the former prison of the town (general laughing of the audience).”

The last example is the introducing of sustainable consumption issues in the case of session 1 of group 3 (disadvantaged persons). Consumption may affect the environment by pollution and an irrational consume is explained by human greed to have more and more, to obtain a rapid profit. Technological development introduced some drawbacks and also accelerates the irrational consume.

G3, S1, P3, 4, 7, 10, 11

“Mod: What about consume? Talking about consumption in general and in particular on energy consumption…

P3: I do not think we have something to protect... Forests, for example, were destroyed...

Mod: But forests are destroyed as a result of consumption?

P3: Yes... certainly is a result of irrational consumption.

Mod: The irrational consumption affects our environment therefore?

P3: Yes... now after all these years we think if we can recover something ...what we could recover?...

Mod: Another opinion?

P11: Generally the consume deteriorate the environment, transform clean in dirty...

Mod: You are reffering to the wastes, right?

P11: Yes! And that happens at the individual level and at the general...

P4: The environment has become polluted mainly due to our innovations... for example 20 years ago we used glass bottle for each liquid… now the PET’s have multiplied so much that we have a problem... affects the environment… we need systems to solve the problem... to recycle... More clearly, some technological developments have accelerated environmental pollution.

Mod: But did these technological developments accelerate the consumption?

P4: Yes, I am sure! Advertising also have accelerated consumption.

P10: …and accelerated business... for example forests...

P1: Yes… cutting forests, this comes from human greed, the desire for quick profit....

P4: Not only those who have forest cut the trees, but also those who have not, stealing wood and selling them… so they can live...

P7: Irrational cutting of forests leads to big problems... to the many floods...

P1: …and landslides...

Mod: We may say that it affect the climate?

P7: Yes, it affects climate and give rise to floods, landslides... affects people...

P10: Of course..".

There is a clear difference between the self-awareness of sustainability. Even the term is not quite clear, at least for the beginning, Romanian lay citizens have a perception of sustainability consumption as a rational consumption. Most of them are aware about the limitation of the natural resources and also about the irreversible phenomena produced by the civilization. There is a connection with climate change especially with extreme phenomena such as flooding, drought, very hot summer in Romania.

G3, S1, P1, 7

"P7: Irrational cutting of forests leads to big problems... to the many floods...

P1: …and landslides...

Mod: We may say that it affects the climate?

P7: Yes, it affects climate and give rise to floods, landslides... affects people..."

Technological development accelerated the consumption and also introduced other pressures on the environment.

"I want to return to what she said... about the technology… development has led us to an irrational consume... mmm… technology development, in my opinion, was natural, since man appeared on Earth... We were looking to have much comfort… It is true that in the present stage, in my opinion, it is not enough to have new objects and services... It is important to make available information about the good news in technological development and also the disadvantages appeared... But this never happens, nobody says about negative consequences or somebody says much later... after a very long period, when there are repercussions on our life" (G3, S1, P1).

Also there is a great concern about the environment deterioration produced for example by deforestation.

G3, S1, P3

"P3: I do not think we have something to protect... Forests, for example, were destroyed...

Mod: But forests are destroyed as a result of consumption?

P3: Yes... certainly as a result of irrational consumption."

On the other hand, some of the citizens recognize the difference between villages and towns, between old traditional families and new ones, between old sustainable style and the consumerism.

"I am thinking to the family of Nicolae Moromete… Perhaps all of us saw the movie 'The Morometii'…. Those people were sustainable as possible! If they had they ate, if they hadn't they didn't eat. ... They heated their houses in a traditional manner consuming as minimum as possible….it was sustainable live! But now the problem is that the comunist regime put the Morometii and the whole village, in towns and block of flats… they are obliged to live in other context… non-familiar…" (G3, S1, P5).

Meaning of "everyday sustainability"

The main resources participants' deploy when it comes to sustainability issues derived from their life experience:

"I tried the idea on my skin... let's say so… I insulated a room... but the inside part of the walls, not outside... with polystyrene of 5 cm, we did that in a village and saw that the consumption of wood in a stove was significantly lower after insulation... in summer is cooler… in winter the room is warmed quickly... and it is maintained longer..." (G2, S1, P2).

"Mainly it is very important the reduction in the bill for heating. In my case a reduction with 50 % is great…" (G3, S1, P1).

"I am personally confronted with a situation of pressure from my neighbours, at the moment… there are only 3 apartments connected to the centralized system and others force us to cut off..." (G3, S1, P4).

"I have the same problem myself. We are only 10 apartments and only my flat is remained connected to the district heating system... They came to the door to sign a document that the block should be disconnected... I hadn't the glasses and I signed it, but I did not know for what I signed…" (G3, S1, P8).

"I think about water heating … in the summer, I hope to buy solar panels to reduce the gas bill ... summer … is stupid to burn gas for hot water ... solar panels on the block somewhere, I think is possible to have it for all the families in the block ..." (G1, S1, P2).

On the other hand, few citizens introduced in discussion ideas that have a different source, probably their lectures, discussions with friends, or media articles.

"Yes ... thinking about the fact that global warming is very dangerous… and daily irrational consumption is a negative factor…" (G1, S1, P2).

"I believe that, for many years, there were so many theoretical discussions about this topic and… theoretically most of the people are prepared to accept sustainable consumption, reduce it, to use more natural food, to recycle, to .... I think that each individual's duty to his home is to introduce these concepts in their children's education ... for our generation ... already, I'm determined to save energy, to turn-off the lights and the appliances …" (G1, S1, P6).

„I want to return to what she said ... about the technology... our development has led to irrational consumption ... technology development, in my opinion, was natural... but since man appeared on Earth we are in a continuous development ... We are looking to feel better, more comfortable... but any development, any innovation has drawbacks... like we saw in the cartoons about mobile telephony, ... these drawbacks should be balanced by correct information about the technology and alternatives…" (G1, S1, P2).

"I see sustainable consumption in terms of resources we have, local or national ... consumption to be considered from the perspective of the future ... what we transfer to our children and grandchildren ... This is important to look to the future education, education for rational consumption ... to protect resources ..." (G1, S1, P4).

Generally, most part of citizens came in the first session with no clear ideas about sustainability and the connection between daily consumption and sustainability or climate change. However, after the first STAVE session lay citizens had become more sensitive to the sustainability issues and they noted some other resources in their diaries for example:

- → they discussed with family members, with friends and work colleagues about STAVE experience and the problem of sustainable consumption;
- → they mentioned some internet resources to advice about energy savings;
- → they revealed aspects presented by different TV and radio channels on sustainability issues.

The influence of this discussion and sources it is not very clear for the moment since it was not a direct objective of STAVE process.

SPAIN

Awareness on sustainability

G1: Shopkeepers Group (policy issue: A21)

Participating shopkeepers (Group 1) tend to show a positive predisposition towards sustainability. It should be noted that these participants were recruited through a local "trade association" that is a signatory of the Commitment towards Sustainability (the A21 program promoted from the City Council). This may imply certain bias among participants in favour of environmental concerns.

However, it should be noted that most participants ignore the program A21 and they decided to participate in STAVE 1 just because they believe that the subject (sustainability) is interesting for them.

In some cases, their interest is justified by appealing to family reasons. For example, one participant claims to be very conscious because his son has studied sustainability issues.

> *"Well, I'm very aware, or believe that I am conscious, and I like to participate in anything having to do with sustainability. In fact I have a son who has studied, (...), he is in Holland and well, he studied engineering, but also mechanical, power production and distribution, and all that"* (G1, S1, P9M, 109/115).

Several participants' expressions indicate that their attitudes appear to be influenced by the family context. Thus, they refer to how young children learn at school sustainable behaviours and then transmit such sustainable habits at home. In fact, some participants expressed knowledge on certain "good sustainable practices" thanks to the child pressure (even if they are surprised that children have learned them, because they tend to perceive this attitude as being a bit eccentric).

> G1, S2, P1, 3, 4
>
> *"Mod: Do children influence this?*
>
> *1M: Yes, fully.*
>
> *4F: Yes, yes.*
>
> *1M: Because schools continually plague all such things.*
>
> *3F: Yes, yes.*
>
> *1M: It is transmitted. I've been amazed, I have a granddaughter, two years old, and if you give a paper to her she will throw it into the correct trash, true, true. She throws it into the trash or goes away with it. (…) No, no, is that I have been amazed. How many times have the teachers insisted to them eh, at school. Imagine a child, so small, they have been told to go to the trash a lot of times..."*

The participant`s feeling of surprise by the fact that children are carrying out sustainable practices can be an indicator of the distance between the environmental awareness of the participants and their (perceived) actual daily behaviour.

From the outset, sustainability relates mainly to three issues: waste, energy and air pollution, with special emphasis on the first two.

Somehow, they tend to consider waste generation as a sign of activity (economic, productive, etc.) as "anyone who does not generate waste does not exist."

There is an interesting discussion on what is environmentally-friendly and natural. Most participants are sceptical, and even argued that it is mainly a sales pitch to sell more expensive products (even if suspecting that there are many rogue).

G1, S3, P4, 9

"9M: Yes, I am working in cosmetics, natural cosmetics, I know that customers are influenced a lot when you generate a product that is not tested on animals, which is environmentally-friendly, such publicity influences…, what is true is that there is also a great picaresque behind all this. There is no legislation, no legislation… I do not know, I think not. Then perhaps this is an area where much can be done, not only in the cosmetic issue, in any, the subject of manufacture or the subject of product development through legislation. I think is the only way, it would have to do not know, or… I do not know which but is the only form of regulation or the power to become more ecological or greener more effective in the field of energy but as it is more expensive, is generally more expensive, because some or many suppliers or manufacturers use the picaresque and put you there any label medium-rare and they do well and correctly is more expensive so there is an audience that is willing to pay for this, but most of the public is not willing to pay the price, so we always go to the economic problem. And if there were an economic problem, surely there would be an ecological problem. Everyone is conscious, I think, one is for the work.

4F: What conclusion you reach, what conclusion you get out of this?

1M: Economics.

4F: The majority of things they do are ads to sell more expensive, and why it is more expensive than mine? Oh is that mine is more ecologic…"

One shopkeeper explains how he manufactured his products (ice cream) and why they have higher quality than industrial production, due to the materials used, time spent, the price, etc. Although he has chosen a business strategy of differentiation of his products as more "natural", he has not raised that this action will be more sustainable (and indeed he distrusts about people who do that).

G1, S3, P1, 4, 6

"4F: The majority of things they do are advertisements to sell more expensive, and why it is more expensive than mine? Oh is that mine is more ecologic…

Mod: But it's true or not true?

1M: I think not because I, for example, I speak from experience, I sell ice-creams, are artisans but… what is called artisan? What is done by hand, handcrafted, but… and the products. Is that you cannot (…) Well, but the product that you put into, where did they came from? You've got to buy it, it's the same with most of these things will, or the artisan, the artisan quality or the quality of paper or that which is natural, what natural means? I when I say, no, it's a natural product, I do not know what to say. What do you mean by natural?

6F: Well there are many (murmur)…

1M: Has fallen from a tree or what?"

In some ways, sustainability is often perceived also as a kind of "fashion" that is attracting more and more people.

> *"What is clear is that it is a term that many people are joining because… well, because that is what takes over now, huh? Organic, natural, well seen and I think I mentioned the first day I went shopping in a large supermarket and there was a sector that everything was organic, right? And there was a tray, several, good right? But they were like, a banana, an apple, an orange and other fruit I cannot remember what it was, and it said green product, origin Chile, see, 10,000 kilometres…, ecological, in Chile, but an orange and a banana are not in the same place either, before arriving here… how many kilometres… organic? What a joke"* (G1, S3, P8F).

G2 & G3: Householders (policy issue: domestic energy use)

In the case of Group 2, participants were more reluctant to talk explicitly about sustainability, and they prefer to use the concept of "saving" energy and money. Nevertheless, the term "sustainability" appeared when discussing about the building features and arguing for "the need of a more sustainable architecture". On the other hand, in Group 3 participants presented themselves as people aware of the environmental concerns of contemporary society and most of the time showed a positive attitude to frame their behaviour in terms of sustainability. Some of them were very concerned about sustainability and environmental topics. They were all concerned about the use of energy, sustainable consumption, greener life-styles, and future generations. Various topics were raised spontaneously by participants regarding the structural, individual and infrastructural elements causing resource depletion.

Although the explicit references to this issue are few in these groups, along the STAVE sessions some emerging expressions relate sustainability to climate change, to the "CO_2" problem and to global pollution. For example, one participant states that *"the blue planet is our home and we are becoming a dunghill"* (G2, S2). Or someone is talking about the fact that children will not know the landscapes that they knew. Participants put several catastrophic examples (pollution, nuclear accidents, etc...) in order to conclude that *"we are spoiling the planet"* (G2, S2).

In general (according to results of EVOC and its subsequent discussions), participants tend to associate sustainability with nature, environment and "energy" (especially with "renewable energy"), in addition to waste reduction (including CO_2) and recycling. In addition, a key concept that for these people marks the relationship between sustainability, energy and waste is "saving".

Energy

All participants tend to associate sustainability with "savings" (or more precisely with "paying less"). However, they explicit the idea that energy saving by itself is not the most relevant, but it is just a means towards a more important goal. As one participant says: *"I*

am perhaps a bit utopian, then the likely reason for these meetings is the subject of energy saving, but I find that these are tools for a useful purpose and that what we find above all, is biodiversity, environment…" (G2, S2, M).

Pollution

Sustainability is also related to pollution, mainly to the one coming from large industries. For example, some participants are talking about cases they heard about in the media, such as the Fukushima nuclear accident or pollution of the oceans due to excessive plastic waste dumped there. In addition, pollution is related to the occurrence of diseases (with particular impact on children, young people, and future generations). They expressed doubts about households polluting more than industries and companies. They feel blamed by those who say so, despite recognizing that households and individual behaviours play a role in pollution (but always low).

Efficient technologies as a new business

Sustainability is interpreted as a selling point. The promotion of ecologic products and technologies is perceived as part of a corporate strategy to open new market niches, as one of the participants said after his visit to a business congress: *"Decorators are plumping for greener products, (...) even in the luxury market. It's a business case"* (G3, S3, M).

Sustainability is also related to the development of "more efficient technologies," although many participants consider that the current visibility environmental and sustainable concerns' has more to do with potential business (economic) than with possible exhaustion of energy resources. In the STAVE sessions, for example, some participants talk about the desirability of putting solar panels, and there were discussions about why this technology has not become widespread. They think that solar energy should be profitable, but they do not understand why it has not been fully developed, and conclude that it must be "because it does not matter" ("there is always an interest behind" these things).

Moreover, it is said that many of the new efficient technologies to reduce energy consumption, mainly having to do with climate change, are copies or adaptations of traditional technological solutions (which have existed for many centuries) (curtains, blinds, drafts, etc. since the Paleolithic, from the Arabs, etc.), and they conclude that perhaps in our society we have to do things without taking into account previous experiences).

Obligations / sacrifices

Sustainable consumption is related to obligations to citizens (for example, on recycling household wastes). In fact, there is some skepticism among participants, because they perceive an imbalance between what is required from citizens and what is required from companies (manufacturers of appliances, for example) and of those responsible for the collection of residues.

In addition to the obligations, participants warned that sustainability involves performing certain "personal sacrifices" to change behaviour and therefore make some "sacrifices".

G3, S1

"M: There is an environmental social apathy. This would be the subject of values. Personal sacrifice...

M: Yes, I think there is a lack of sacrifice; the issue is a barrier you have to sacrifice things eh. Changing habits ... but you have to do your part.

M: You have to resign…

M: You have to do your part, but no..."

Social segmentation

Participants perceive that not everyone shares the definition of sustainability they are expressing. They believe that there are segments of population not concerned about sustainability, because they prioritize the economy, and the economic development. Resignations appear to them as a social regression. However, they also consider that if they show that sustainability means saving, perhaps some of these people would also favor sustainability.

They perceive that the concern about climate change is fairly recent. They are aware that a few years ago no one complained of impacts on the environment, and instead people are now more aware, even too much (although appealing to something as the NIMBY effect). Someone notes that it may be a way of not worrying about more important things. In addition, they also suggest that the sacrifices should be asked to energy intensive, large polluters, etc., and suspect that common people are neither the most pollutants nor the most energy consumers.

In short, they seem to feel compelled to say they are concerned about the environment, but they also feel that the social priorities are different, or at least the circumstances in which they have to worry about are not the most favorable for coherent actions in that concern.

Meaning of "everyday sustainability"

Informal ways of talking about and understanding practices that has an impact on sustainability

G1: Shopkeepers Group (policy issue: A21)

Participants in group 1 (shopkeepers) talk about their practices alleged impact on sustainability. These are mainly related to energy, waste and mobility. Here are some examples:

Energy

Participants consider that lighting is vital for small business. It is noted that a number of shopkeepers have installed energy efficient lighting, while others want to do it but cannot for economic reasons. According to them *"although low consumption power would be ideal, this requires a very large investment, unaffordable in many cases"* (G1, S1, M), so they are continually claiming for more favorable subsidies, building regulations, etc. In this sense, some people who have applied for grants to make modifications to change electrical installations say they have been slow to collect them (some have not yet done, after several months or even one year since the application).

Sometimes shopkeepers are aware that they are making excessive energy expenditure, but cannot avoid it because of contracts with other companies. For example, a person with a phone store in franchise mode, explains that a certain number of lights on are required (since the lighting is vital for them, as mentioned above). But this same person said that *"when I can I turn off almost half of those lights, because I believe it is excessive energy expenditure, the store is well lighted without so many halogen lamps"* (G1, S2, F). Even so, she knows that if someday an inspector of the franchise would see it she may be fined for not having all the lights on.

Waste

Some retailers say that a City council service collects the cards and papers generated several times a week. Others say they do not know such service, and prefer to throw everything in the generic waste container (no selecting at all). They talk about the discomfort of store and move large cardboard boxes to containers, and they do not classify it properly. But in any case they know they should do it properly.

G1, S2

"H: And to you they will pass through to collect?

M: To us yes, they pass it to pick up every Tuesday, Thursday and Saturday. At eight and a half in the evening

H: But to me it does not work, I produce little ... residue, I have at most one box and not very large, every day, then it does not worth it...

H - The cardboard is spent to collect.

H: And if they are not sending them an email and they will answer and come the next day and they will apologize."

Some people say that the cardboards generated are left in the street to be picked up by special collection service for businesses. It is noted that due to lack of space, some businesses cardboards are left it in the street several days in advance, and often these cards scattered on the sidewalk just because of the antisocial behaviour of some citizens. So, as who cannot keep them until the right day, he prefers to throw the paper to the usual

containers. Although it is said that these containers are subject to numerous robberies (more and more people who take the paper and board them).

Some people say that, even though they know they should select their household waste, in practice they do not always act correctly.

Participants also referred that many products have more containers than necessary. Sometimes it is because they require legislation (set the example for drinks or food, which must be individually wrapped and clearly labeled on food security issues). However, there are comments that other products (such as ink cartridges) have too many wrappers that could be reduced. However, some suspect that even these products, if they have been packaged, it will be because either there is no choice (legislation) or because it's like leaving them more profitable. They refuse to accept that *"if they can put less packaging, companies are willing to pay more than necessary. Does not seem logical at all"* (G1, S3) In this regard, reference is made to the importance of advertising, branding, which is transmitted through the wrapping.

Mobility

Although it seems that mobility is not an issue they worry too much about, some of the participants show that they attempt to walk to work. Some are even ostentatiously, as if to show their commitment towards sustainability. In addition, participants discussed the use of public transport. One of the topics listed is the people who poured into the subway. On the one hand, some say that if everyone paid the ticket price could be lower, but others believe that will decline. They note that more and more control over these attitudes is increasing.

G2 & G3: Householders (policy issue: domestic energy use)

Throughout the STAVE sessions and the diaries, participants provide clues to interpret sustainability when they talk about their daily practices, especially its consumption of energy, water, waste management, etc., with particular attention to appliances.

Consumption (Water)

For example, participants relate sustainability with their water consumption (for example, when showering), and emphasize that since they open the tap until the hot water arrives a few minutes are spent and during that time much water is wasted (again the idea of saving).

> *"Since I give to the faucet and the hot water comes out, there is a consume and liters of cold water are lost ... if there were opportunities to build a sewage system to keep it in the tank…, this is what I meant, it could be instant…, when opening the tap …immediately ... hot water"* (G2, S1, M).

In their view there may be many ideas for individual "small acts" that do not constitute big savings but can serve to "set an example" and move towards sustainable society models. They give the example of keeping the cold water of the shower while waiting for hot water and keeping it for other uses, or brushing the teeth with the water cap closed. They also intend to adopt strategies such as connecting the hot water to the washing machine or dishwasher:

> *"I have direct hot water… It takes the water that is in the heater and… directly to the dishwashing machine… and then consumption is very low" (G3, S1, M).*

Consumption (Energy): Use of appliances

Participants tend to say that *"energy saving is achieved through daily small gestures"* (G2, S1, M), and therefore suggest the desirability of adopting more sustainable habits in the use of appliances (citing cases from the washer, the refrigerator, the microwave, etc...). They suspect that the fridge should be the appliance with the higher expenditure (since it is all day on), and it is observed that one cannot reduce its consumption. Instead, they believe that consumption can be reduced with the washer (increasing the load, or by running at certain hours, but at this point there is certain confusion as to whether the electricity is cheaper at night or not).

They refer to the stand-by phenomenon, and they are worried about the possible unnoticed power consumption, although it is considered that new technologies will help to reduce such hidden consumption.

Among participants there is some speculation about whether the computer spends a lot of electricity or not. Some participants believe so, but nobody seems to know how much. Finally someone says "it spends what it has to spend" (as a way of, taking advantage of their ignorance on this issue, showing that there is no willingness to change habits to spend less).

> G2, S1:
>
> *"F: Is the computer spending lots of energy?*
>
> *M: Yeah, it spends.*
>
> *F: Spends.*
>
> *F: Turn off the computer!*
>
> *F: Turn off the computer! From today already!*
>
> *M: The question is when children are doing homework and they have to go to dinner, what is better? To disconnect it and after reconnecting it again?*
>
> *M: Does it?*
>
> *F: The computer ... that if it spends a lot...*
>
> *M: And does it spend a lot?*

M: Spends."

M - Spends what it has to spend. "

Repair items, appliances, etc.

They lament that most appliances cannot be repaired or repair is not cost effective (it cost almost as much as a new one). This means that when they get spoiled you have to throw them and replace them with new ones. Participants complain bitterly about this.

It is said that the current economic crisis may be a good opportunity to move us towards more sustainable behaviour, especially as people try to repair damaged things, etc., Still, they doubt that the existing appliances can be arranged (they deduce that they are not designed for it).

Consumption (Energy): Climate

According to participants, "sustainability" relates also to the isolation of doors and windows, as well as the orientation of buildings, whether the sun gives light or not, to have a house more or less heated and, therefore, to justify a higher or less energy expenditure. In this sense, for example, one participant says he feels uncomfortable when he sees buildings insulated with glass walls, as supposed to have excessive energy expenditure. He is concerned because it is an indication that there is no awareness among "the people" (architects, builders, companies, etc.).

Role of arguments, lay logical devices

G1: Shopkeepers Group (policy issue: A21)

Among the small traders (group 1) we observe a series of logical reasoning that appear several times throughout the discussions STAVE:

One of the things they emphasize is the need to protect the small urban commerce. The reasoning is to make an association between the benefit of small businesses and the benefit of the whole city.

G1, S3

"H: The City Council is the first to benefit if the small business works, because if it works on small businesses, run their coffers, does the social network of people and runs the entire town's economy.

H: And there is light in the streets thanks to the illuminated shop windows…

H: If the small business does not work well ... City Hall is impoverished and the city becomes residential area."

It is argued that sustainable practices are often more expensive. This is an idea repeated several times during the sessions, and it serves to justify that traders have to prioritize the profitable business before than sustainability. Therefore, to move toward sustainability they tend to perceive many economic obstacles.

> *"Good practice, yes, there are good practices, that the bag that said this woman ... from the paper bag. I do not know if there ... but perhaps is 3% of shops in Barcelona to give paper bags instead of plastic bags. Why? Well do not know. First, because you might not manufactured in the same way or with the same price to be as affordable or as easy to make, etc. All that makes you buy what you resolve the problem quickly. Maybe something else is cheaper ... because I do not know, 100 plastic bags you are worth the $ 2 or 3, and if those 100 are paper bags cost you 8 Euros. The choice is, you say ... Please let us in these things, enter into this elsewhere because it is what we are now, we are currently saving. If the savings we also contribute to improving the environment, the better, but I think that to me one ... not for nothing, I like the environment, I am of a people and what happened there divine, but I say that I have to contribute to the environment, but meanwhile I will not have anything to eat .. . Look let you hear the environment ... because I have to settle with what I have here, right? (*G1, S1, H).

Interestingly, also in the above extract other semantic correspondences can be detected. Some participants make a kind of automatic link between "being from a small town" and the idea of "I like the environment," as if it could not be otherwise. Thus, the speaker avoids giving justifications for their little sustainable behaviour because he is essentially sustainable due to his "small town" origin.

G2 & G3: Householders (policy issue: domestic energy use)

As mentioned above, participants relate sustainability to energy saving and waste reduction. An example of this reasoning is found in their observations about how the car advertisement has changed: at first, cars were showed to be very potent, however today publicity shows fuel saving cars, electric cars, etc. It is considered an indicator of change in the social climate towards sustainability.

> *"Let's see, for a long time we've seen "muscle" cars on TV, but today most of them are green cars, low consumption... Awareness and needs. What sells now are not so powerful cars"* (G2, S3, M).

From this example, we also see how they illustrate the relative fatalism related to the concept of sustainability (for its perceived reliance on an adversarial context). For example, they say that once we all have a car, then the policies to restrict their use arrived: *"We have spent the money on the car and, now they say, please do not take the car"* (G2, S3, F). In the session, participants were discussing about the origin of these changes in values, without apparent response.

The car metaphor is also used to refer to the installed electric power in households (by the participants who already had installed a smart meter, and then they discovered they were paying for more power than necessary):

> *"A lot of energy that I do not need… It's like if you go to buy a car and you want an electric car that spent few… and they say to you, no no, you gotta get this of 3000 cubic centimeters, a powerful one"* (G3, S3, M).

One of these participants that were able to visualize the real consumption of all devices in his home (thank to the smart meter) decided to call "monster" to the appliance consuming more energy (usually the dryer or the hover), and "ant" to the one consuming the lowest (G3, S2, F).

Besides, to justify why they keep on following predominant consumption patterns, the topical idea "we cannot go back" is argued (G2, S2, F). That is, reducing consumption may mean going back socially; going against the history of “progress”. They insist that "we cannot renounce all that science has given us", but we would have to “consume well". Somehow, "to consume well" equals to "sustainable". There are evident contradictions between their desires and behaviours, so participants talk about the feeling of being victims of a certain "demagogy."

> G2, S2
>
> *“H: The attitudes of ... every day we buy 50,000 products ... too many ..*
>
> *H: Sure, but then we are going into what you say quite rightly…, that it is demagoguery… Because we need to write, we need a paper, we need to wash our clothes, we need a minimal power consumption to operate the machine… So, we can not to return to…,or, to give up all that science and technological advances have given us. We need to consume energy. But, consume well.”*

Generational Perceptions

Participants consider themselves as part of the “more aware” generation about sustainability, while observing that older people or youth / adolescents are not so (children aside). However, they recognize that they are prisoners of a series of routines difficult to change, so such awareness is not always reflected in their daily actions.

Participants consider that older generations are skeptical; not believing that acting sustainably serves for much. They are not reluctant, but sustainability and what it means is not credible to them. From their point of view, children are best suited to the priorities of sustainability. They learn it at school, and that gives them a significant advantage if compared to other generations. In addition, participants maintained an idyllic vision of children, tending to think that children have a more clear and simple views, and therefore (deduct) more sustainable attitudes and reasonings.

> *"(…) they have a capacity to synthesize and simplify… for example, if you ask them, sometimes I do even intentionally... How would you improve the world? I have asked*

my son sometimes… And the answers are of the type: 'with less cars, more bikes…' It is super-easy, but that is what should be done. How would you improve the neighborhood? They say 'having more forests, because I wish there were more forests, hopefully…' I mean…" (G3, S1, M).

It is noted that, although it is true that children learn it in school, then at home if they see that parents do not behave in a sustainable manner, they do not do so either. And all participants agree that teens tend to forget about sustainable behaviour (even if during their childhood they were highly aware at school).

To argue that the small acts of each of us are not useless and can be effective in the long run, participants refer to the long march of Mao ("Mao's long march began with one step"), referring to how great historical events begun little by little. For them it seems important to contextualize their perceptions within some collective and historical dimensions.

"The Long March of Mao began with one step. So us in our homes, each of us can take a step, and perhaps, millions of steps, for (...) separating plastics here, organic there, papers over there..., and this is a step you can take, a step, a step that the others.., and then something is done, something will be achieved" (G2, S2, M).

In addition, they also expressed their worries concerning how their savings could serve to facilitate others to continue wasting. Still, they try to be firm when saving energy, since even very small savings works: *"every step counts, as the March of Mao"* (G2, S2, M).

Other phrases

They use the saying "it is not better to clean a lot, but not being dirty" to rebut a bit the concept of "recycling". Thus, participants prioritized not generating waste before recycling. *"I think that rather than cleaning up it is preferable to avoid being dirty"* (G2, S2, M).

Sources of authoritative knowledge, how are arguments/statements justified?

G1: Shopkeepers Group (policy issue: A21)

Participants of this group articulated their speeches mainly through personal experiences. Continually they give examples based on their relationships with customers, suppliers and manufacturers, banks, the City Hall, and so on. They also mentioned family and domestic relations.

Only sometimes they refer to items, ideas or images they have seen on television, but these are usually topics not related with their shopkeeper activities. For instance, they tend to consider that there is no guarantee that things that are sold as organic are actually so. They cite a case they showed in the television news where a farmer could not cultivate an environmentally-friendly crop due to contamination from neighbouring fields.

"Anyway... I remember a TV report last year where a man grew... I do not remember now what crop... He had a non-transgenic corn field and was mowing and burning it all

because the next door neighbour had transgenic corn and... I think that now there is no guarantee that a field has been contaminated or not, or that… I do not know... that is, I do not know how far you can trust the green things..." (G1, S3, P7M, 486/490).

Participants in group 1 make references to television commercials, radio or newspapers advertisements, etc. Theses advertisements promised, for example, changing the old cell phone for something (money or other phone models). But participants tend to consider that these advertisements are often misleading promises. They distrust them.

G1, S3, P3, 7 (636/645)

"7M: Advertisements... It's a kind of recycling, the return of objects... I've seen it in ads. Is it true? When they say 'bring your phone and we will change it by I do not know.' There is an advertisement where a guy comes and gives 200 Euros for a phone...

1M: Yes, the Internet…

3F: Yes 200 Euros… But you just take them for an iPhone.

7M: No, they changed it by a very tiny cell phone. In the advertisement…

3F: But advertising is misleading, do not tell me you do not know it. It always does."

Another issue on which participants relate to television images is the background of recycling and garbage collection. Participants say they have seen reports on television where they observe that there are companies engaged in waste recycling, so it follows that there is business in it. This gives rise to thinking that it is a profitable business. Hence they call for some form of compensation (for the neighbourhood) when actively participating in the selection of waste and recycling.

"The company that recycles... I saw the other day a story of a company that is dedicated to recycling waste, which is around Catalunya, the containers that come, or whatever... with the trucks and dump them there. Then, they make a separation, if there is some mixture... and cardboard to one side, the other thing to the other way, so that everything is going to a different site. And products are manufactured according to where they end. For the company that works. And that makes money. Now who pays and how? That's not what they said in the report. So..." (G1, S3, P1M, 735/741).

G2 & G3: Householders with children (policy issue: domestic energy saving)

Personal experiences

Participants of groups 2 and 3 talk mainly about personal experiences (for example, when walking through the street they saw how public or private institutions are spending too much electricity). For example, one participant commented how, while walking with her young son, they found some bikes generating electricity for a concert (G2, S3, M), or other explains how some public buildings he visited *"do not stop wasting energy, every time I go to the CAP [health service], if I go in summer it is so cold that I die, and if I go now I have to remove all my winter clothing"* (G3, S1, M). Sometimes they are referring to indirect

experiences, stories of people they have met. For example, someone says that a friend of him was in the U.S. and *"he said in the U.S all day the lights were left on everywhere and that her sister, wherever she went, was leaving the lights on"* (G2, S2, F). Other participant says that *"in Ushuaia (Argentina) people not always turn off the gas"* (G3, S3, M). Another participant spoke about the type of recycling in the town where her parents live: *"They have been recycling waste much more than us, because the city council open the bags to see if they've done it well"* (G2, S2, F).

Media

Sometimes participants referred to things seen or read in the media, mainly television. For example, one participant said he had seen the case of the Tsunami in Japan in the news, and the related problems of the Fukushima nuclear accident, to illustrate how in technical decisions there is a significant degree of uncertainty (G2, S2, M). Other participant explains he saw a TV program *"about the upturn in business activity of the firms working in fixing household appliances"* (G2, S3, M). Another one saw a TV report on *"a new technological system to improve the collection of municipal waste by satellite monitoring"* (G2, S2, M). There is also discussion about the TV and the press ads paid by the electricity companies in order to show the (supposedly) ecological origin of the energy they sell.

One participant referred to the documentary "No Impact Man," which was recently discussed in a neighborhood social center. (G2, S2, M). Related with this, a participant also speaks about the presentation of a study on energy consumption in the consumer cooperative to which he belongs (G3, S3, M). In fact, from time to time some participants refer to a scientific study that has been seen in the media. (e.g., one on why consumers do not pay the real cost of energy in Spain, or another about why public buildings expend more energy than private ones). In the discussions it is clear that some of this information is obtained through the Internet.

SWEDEN

Awareness on sustainability

Participants in all three groups showed strong awareness of climate change and sustainability issues. The results of the EVOC/CAPA/SIMI tools similarly reflected that participants attached high importance to sustainable consumption, felt high personal concern and also personal capability to act.

In discussing the specific areas of transport, energy and private consumption participants tended to emphasize the holistic perspective and the need to take a broad approach in tackling these different problems. Trying to grasp the overall picture could also raise difficulties in everyday practices due to awareness of the complexity and linked nature of different societal and individual measures. This was for example apparent in a recurring

discussion on the global effects of use of ethanol in cars, "*much of the ethanol comes from Brazil, and land which should be cultivated for food is instead used to grow fuel*" (G1, S1)[3].

Although awareness appeared high, a number of statements referred to the real problems lying in the future, more likely to affect future generations: " …*of course, it may all happen more quickly than we think. And yet it does feel as though it is happening quite slowly, so that maybe it is our grandchildren who will see the effects of how we consume and exploit the planet today*" (G3, S2). A related theme concerned the view of Sweden and Swedish society in relation to sustainability. There was a tendency that participants regarded Sweden as less severely threatened than other countries / areas in the world: "…*Sweden does not have such an extreme climate, like, extreme natural forces and such. So it kind of feels, that not so many dangerous events occur here*" (G3, S2). Some comments forwarded the view that Swedes were quite far advanced in thinking about sustainability, while others also warned against too much complacency: "… *but surely this is something which is rather ... typical of Sweden? All the time, we want to be ahead, we want to influence when it comes to the environment, but then on the other hand we say ´it is not so bad here anyway, because we have already done a great deal´. But we want to be able to do more*" (G1, S2).

The discussions in all three groups were also clearly linked to views on the nature of the "consumer society" and the possible conflicts between sustainability and economic growth. Some reflections here concerned the strong forces encouraging people to consume, the difficulties in resisting, and the fact that consumption was not necessarily the road to happiness in life.

Meaning of "everyday sustainability"

Talking about everyday practices could be related to different motivations, of which promoting sustainability could be one. Other motivations were related to specific interests and lifestyles, background and life experiences ("*I was brought up to* …"). Some references to everyday sustainability indicate attempts to define a personal role related to complex issues, sometimes reflecting compromises and even apparent contradictions. Ways of describing everyday sustainability could be in terms of taking personal responsibility: "… *but I think that if we want to have a calmer society, then I think one must start with oneself. It has to be the individual level*" (G1, S2) or of it being impossible to do everything at once, "*I take one step at a time*".

Participants referred to a number of different sources of information in the discussions. These include newspaper articles, (in particular in local media regarding issues in the county), television programmes, and films. These sources were in several cases directly linked to changes in behaviour, such as ceasing to eat chicken after watching a programme with the British chef Jamie Oliver, or being more careful with chemical

[3] We have not put personal number on our participants in our transcription or diaries. Priority has been given to producing transcripts reflecting the flow of dialogue rather than tracing the inputs of individuals. Because of this it is not possible here to number (e.g. P18) on the participant citations/quotes from transcripts and diaries.

products after seeing a much-debated Swedish film about chemical build-up in the human body ("Underkastelsen"). Several comments also picked up on articles or information which had proved erroneous, for example: *"… a while ago it was claimed that if everyone in Sweden shut down their standby equipment this would correspond to the heating of tens of thousands of homes, but then it turned out they had calculated completely wrong…*" (*laughter*) (G1, S2). All sources of information were not immediately regarded as reliable, thus some expert opinions could be exemplified as suspect or biased:

G1, S2, M1, 2

"M1: I studied environmental science in Stockholm and I experienced there was some bluff actually. The teachers wanted to reach certain conclusions, because they want to get research funds or something like that…

M2: Yes, one can always adjust the statistics."

UK
Awareness on sustainability

STAVE 1

In the first UK STAVE group, the participants rarely raised the issue of sustainability spontaneously. The discussion on shopping decisions about kitchen appliances focused mostly on issues of practicality, price, brand, reliability, and aesthetics. The participants indicated that the purchase of some appliances such as washing machines cannot be constrained by considerations of sustainability but rather of availability and practicality:

"I have been in Comet before and Curry's and said what washing machines are available for me to take away now because mine's broken, and I've made my choice based on what they'd got in stock" (G1, S1, P7).

"I buy for quality and I won't be hurried and I would do without until I buy what I want and that's why I think things last longer if you put the money towards them" (G1, S1, P6).

"I go a lot on size because I'm really restricted in my kitchen and I bought a dishwasher which was supposed to fit a 600 hole, but it had a trim that was like a tiny little bit larger than the hole and it wouldn't fit in. (…) It's got to be the right colour stainless steel appliances, you don't want a white one, do you?" (G1, S1, P2)

"Hand blender looks a little ugly and might replace it with a nicer one, if I can find one that's not too big for kitchen counter" (G1, D1, P5).

The participants' discourses and diary entries also contained emotional tags attached to their domestic appliances, in particular the female participants: *"I LOVE my hoover because it does such a good job and is so efficient"* (P7); *"I absolutely love my iron"* (P2); *"I enjoy my washing machine"* (P6). Such emotive tags arguably indicate the value attached

to such appliances as means of facilitating housework and reducing time that is usually spent on chores.

Sustainability was not directly mentioned, but only indirectly such as in terms of energy efficiency. Price and brand were also mentioned and constructed as indices of reliability, which it could be argued were indirectly linked to energy efficiency and thus to sustainability: *"You'd never buy a cheap hoover, would you?"* (G1, S1, P2). There was consensus among the participants that reliability and trusted brand were important:

G1, S1, P2, 5, 7, 8

"P8: Reliability.

P5: And make.

P2: Trusted make.

P7: I wouldn't have a Candy or a rubbish choice either. I was quite for brand I wanted a brand. If they'd only had a cheap one in stock I wouldn't have had it."

In the first session, the newspaper stimulus article stimulated virtually no discussion of sustainability. Instead, the participants continued to discuss issues such as practicalities and value for money, e.g. *"I like the idea of the trade off before your appliance has actually fallen apart that way you might get a reduction of 50 quid or something off the next item you purchase, than rather wait until it's fallen apart and you have to drop it in the dump and still pay the extra 50 for something else"* (G1, S1, P6). Similarly, the aesthetics of kitchen appliances seemed to matter more than sustainability, as the following exchange illustrates:

G1, S1, P4, 6, 7

"P7: It is a throw-away society though, isn't it? I'm quite shallow in that if I was to change the colour scheme of my kitchen I'd think nothing about getting a new toaster and a kettle to match and getting rid of the old ones.

P4: But they're cheap, aren't they?

P6: It's not necessarily us as consumers that are fault, though, it's the availability of these things […] We're told to recycle this that and the other all the time, so the manufacturers can easily recycle equipment or go back to the producer or the steel works whatever and they could recycle the stuff. They don't seem to do it. They don't seem to be bothered. So I'm just surprised the Government hasn't jumped on it and said we ought to do something about this, but I just find it amazing."

As the last exchange illustrates, the participants were aware of their impact as consumers on the environment but chose to deny responsibility and instead blame society and market forces for unsustainable consumption practices.

STAVE 2 and 3

Turning now to the STAVE 2 and STAVE 3 groups, neither displayed very much in the way of awareness of the relevance of sustainability issues to purchasing domestic white good appliances. These considerations did not arise spontaneously. There were a number of occasions when the groups' conversations could have turned in that direction. The simulated newspaper article, for example, provided a number of cues that might have prompted discussion of sustainability, had any of the group participants felt that this was a relevant matter to raise. Sustainability issues did not occur on the oval map that was collectively generated by the groups, and which provided a cumulative map of issues relevant to white goods and their purchase throughout the three-meeting process of each group.

Towards the end of each of these two group processes, we invited participants to complete the EVOC (eliciting ideas related to "environmental friendliness") and CAPA (eliciting measures of the extent to which participant felt enabled to act in sustainable ways through their shopping behaviour) devices. The nature of the discussion subsequently changed direction, with the EVOC-CAPA serving to "remind them" about "green" issues. The gist of this new direction was "yes, of course we would like to be green in our shopping behaviour, but not if it's going to cost us more". So both groups displayed a general awareness of debates around sustainability (although not using that word), but they only felt this was a relevant matter when discussing consumption after being reminded of it, and after the moderators signalling that this was an issue that they wished the participants to consider, and take seriously.

Meaning of "everyday sustainability"

STAVE 1

Sustainability did not feature explicitly in the participants' discourses. The only proxies for sustainability were the considerations of energy efficiency when purchasing white goods and of reliability indices such as brand, price, and warranty. The participants talked about saving time, energy and money, but such discourses were not directly embedded in considerations of sustainability. There was little evidence of reflection about the impact of consumer practices on the environment, and many participants viewed their consumer practices as being shaped (and to a certain extent constrained) by wider societal structures such as manufacturers, retailers, consumer support, social norms, etc., e.g.: *"I think we've become conditioned to realise that things don't last, so we're quite... most of us are happy just to replace them after three to five years"* (G1, S2, P4). Considerations of price seemed important to the participants when buying second-hand items in particular small kitchen appliances like toasters and kettles. For such cheap items, the participants agreed that it seemed not worth it to buy them second-hand:

G1, S1, P2, 3, 5, 6, 7

"P2: Because they're cheap, you can buy them cheap.

P3: If you can afford to buy a new one that's all right.

P6: I think Sainsbury's do their value range for about £4 you can get a toaster £4 or £5.

P5: Tesco's as well they do them.

P7: I wouldn't have wanted anybody else's crumbs.

P2: And I think things like toaster and kettles people don't really get rid of them you know.

P3: Until they break.

P6: It's the sort of thing that just lives in the kitchen."

The participants discussed the ways in which they maintained their kitchen appliances, such as descaling their kettles and shower heads, or using Calgon to make the washing machine last longer. The participants discussed these practices as extending the life of their appliances and keeping them efficient, without however linking these practices to sustainability:

G1, S2, P1, 2, 5, 6

"P5: Remove the scale in the shower head and in the kettle because it's quite a hard area, isn't it?

P2: Yes, we're a very hard water area.

Facilitator: As in, it won't work as well?

P6: It furs up, doesn't it?

P5: Yes, it furs up quicker.

Facilitator: Okay. So is this to do with making the thing last longer…

P5: No.

Facilitator… or is it for another reason?

P2: To make it more efficient or keep it as efficient as it should be.

Facilitator: But do you do anything that you think might extend the lifetime of your things at home or...?

P1: Well, if you descale a kettle it'll extend the life of it, obviously, because you let it fur up and fur up, it'll just give up the ghost at the end of the day.

P5: It just won't work, will it; it'll take longer for the element to heat up.

P1: It's a common sense type thing, really, at the end of the day."

As the exchanges above illustrate, maintaining one's kitchen appliances was considered common sense by some of the participants (at least in the case of the participants from STAVE group 1).

Another factor that influenced the participants' considerations of purchasing second-hand kitchen appliances was the trust they could have in the seller, be it an individual, a shop, or a manufacturer. Thus, considerations of sustainability were trumped by the need to have trust in the reliability of the item. It could be argued that for the participants the white goods were valuable only insofar as they fulfilled their role and met the needs for reliability and energy efficiency:

G1, S2, P2, 3, 6, 7

"Facilitator: so we're simply, let's say, buying off eBay or something like that; what would make you confident?

P6: I think if somebody like Curry's actually had a section where they had taken machines from other people that were in good working order...

P2: Or if I knew the person who was selling it second hand.

P6: Definitely.

P2: If I knew the person, like, I knew them...

P3: You'll see where it comes from, where it used to live.

P2: Yes, and I know them, then I would buy that, but not from somebody I didn't know. Unless it was really cheap and then...

P7: Yes, I actually don't care. It's the price for me. I actually don't care where it's from or what it does, you know. I don't care. The toaster, I wouldn't buy second hand because they're so cheap to buy new. But a fridge, a washing machine, you're talking, like, £200, £300, to £70 second hand, I'd take my chances if I was broke and pay the £70."

The participants in STAVE group 1 agreed that buying second-hand appliances was a necessity and not a choice, thus few considerations of sustainability underpinned their everyday practices relating to shopping decisions around white goods. However, it could be argued that the participants used rhetorical devices such as the need for warranties to justify why they would be inclined to buy new instead of second-hand:

G1, S2, P2, 7

"P7: Well, of course I'd buy new every time. There'd be no, you know...

P2: Because you get the guarantee with it as well."

STAVE 2 and 3

The discourse of the STAVE 2 and STAVE 3 groups was very similar to that of STAVE 1 in terms of a focus on practical matters concerned with cost and function. Before we put

green issues on the agenda by the use of the EVOC-CAPA devices, two main rhetorics were deployed in order to account for dismissing green issues, or simply ignoring them:

→ "The government sorts it out" (in other words, this is a matter that is addressed through government action/regulation, which makes the action of individual citizen irrelevant).

→ "All machines these days are highly efficient, all products are 'much of a muchness'" (meaning that all product designs are now 'green', with little to choose between them).

There was also some hostility to green issues, which although not contradicted by others in the groups, failed to elicit a widespread sense of antagonism. These negative sentiments took the form of expressions of a sense that green issues were a fashionable trend, or perhaps a fad that now felt a little old-fashioned.

We should note that the notion of **efficiency** did figure in the conversations, but primarily linked to ideas of cost-effectiveness and saving money, rather than its impact on environmental performance. The notion of **brand** was also very important in how the participants in both groups reasoned about the relative merits of different products. Brand served to encapsulate a range of ideas including efficiency, quality, aesthetics and fashionableness.

Brand played an important role in the participants' reasoning about purchasing second-hand goods, where it was a useful shorthand device to allow potential purchasers a means of quickly assessing the likely value of the object that was on offer. In this sense, the desirability of goods with highly-regarded brand offered a possible link to purchasing high quality, efficient and environmentally-friendly products. Of course, the correspondence between brand and sustainable performance is not a perfect one. Importantly, the reasoning was rooted in issues around money and acquiring desirable goods, and not about sustainability. Whilst there doubtless exist people in the UK who would find environmentally-friendly product performance a selling point, and something they would find desirable (even if somewhat more expensive), they voice was not present in the STAVE groups. Indeed, there seems little evidence that manufacturers of white goods regard environmental-friendliness as an especially important feature that they seek to highlight in order to make their products more attractive in the market place.

After green issues were raised in the group discussions, a number of dominant ways of dealing with this challenge to the pre-existing mode of discussion occurred:

→ "I would like to do my bit, but it's not a priority" (in other words, a resistance to being seen as denying the importance of green issues, but combined with a realism about whether these considerations were likely to have much practical influence on behaviours)

→ "Getting 'silly' about the environment" (green issues as a somewhat trendy, rather impractical, way of looking at things)

→ "Bacteria left because washing at too low a temperature" (a news item latched upon as an exemplar of the possibly damaging consequences of a fashionable adherence to green practices)

→ "Things are much better now" (green issues were important, once upon a time, but they resulted in positive change, so concerns about these issues are no longer needed)

→ "These issues are not so fashionable" (once upon a time it was socially necessary to be seen to support green values, but now only extremists are interested)

These rhetorics may be seen to provide resources for social accounting practices, in which the participants were able to justify their lack of interest in, or practical engagement with, issues concerned with sustainability.

4.3 Living sustainably

FRANCE

Meaning of behaving sustainable

Participant's real practices were explored in regard to domestic electricity savings (the policy issue chosen for STAVE in France). Citizens were asked the following question: "What do you do concretely to save electricity at home? Give examples". They were asked to put their answers on a big oval post-it before the moderators gathered all answers in common for discussion. Below is the compilation of their responses.

G1, S1, P1-9

"Switch off the lights in the rooms when there is nobody and do the same with the heating".

"Improve insulation; use economic bulbs; switch off appliances and do not leave them in sleep mode".

"Use low tension bulbs; buy class A appliances; cook with pressure cooker".

"No sleep mode for appliances. No excessive home heating".

"Reduce heating; switch off lights; use economic bulbs".

"Less lighting".

"Close windows and doors properly".

"Temperature at 18°C at night and when there is nobody at home. Otherwise 20°C and use wood heating as a relay".

"Use appliances during off hours. Avoid lights and sleep mode that are on for nothing".

G2, S1, P1-9

"Turn off all equipment in stand by position when I leave for more than a day."

"Avoid using washing machines (laundry and dishes) unless they are full".

"Turn on lights as little as possible."

"Use the low consumption hours/no heating/Turn off lights in unoccupied rooms."

"Avoid using too many electrical appliances at the same time."

"Cut off electricity when I leave."

"Defrost the freezer regularly."

G3, S1, P1-8

"Turn off the lights/Wait until my PC and phone are completely discharged before charging them again."

"Energy saving bulbs (2 instead of 3) / Filling up the washing machine / Avoid lighting."

"Energy saving bulbs almost everywhere/Make sure to turn off lights and electrical appliances."

"Candle light on the evenings [reported as an actual and usual habit every day] / Turn off the heating at night."

"I turn on the light very locally / I turn down the heating by 1°C and I delay the heating period."

"Turn off heating and lighting in empty rooms / Use appliances with better energy efficiency."

"Turn off TV (not stand by)."

"Heating only when I am in the apartment."

We will see in section 3.4 "Changes occurring during the STAVE process" that some new actions were implemented by some participants.

Furthermore, during this exercise, some participants took the opportunity to mention some other sustainable behaviours (not directly related to energy savings):

→ Consume local and organic products

- Associations of local organic producers are mentioned here.

→ Change habits and needs

- One participant tells us that she even went to sleep earlier in order to save electricity.
- Another participant questions the sophistication of market products and says that such sophisticated products are not always needed. *"Today it is almost*

impossible to purchase simple products (she refers to mobile phones and cars). I am retired and I don't need such products" (G1, S3, P9).

- Another one mentions carpooling.
- Avoid readymade food, packaged goods.
- "When it starts to get colder, I do not turn on immediately the heating. I try first to get used to the cold."

→ Prefer clean energies and alternative energies

→ Reduce CO_2 emissions whenever possible and use public transport

→ Household waste sorting

Driving forces

An oval mapping exercise explored French participant's motivations in regard to electricity savings (policy issue), asking them to respond to the following question: "What motivates you to engage in electricity savings?" Results were discussed and the participants' driving forces can be summarized as follows.

The financial component is important, in particular for STAVE 1 participants (middle and lower status, rural area): *"make financial savings"*, *"reduce the electricity invoice"*, *"save money"*, *"for the cost"*.

Other motivations deal with saving resources such as: *"save heating"*, *"save water"*, *"save lighting"*.

Motivations in regards to the environment are mentioned several times, especially by STAVE 2 and 3 (our younger sample, living in an urban city): *"Protection of the environment"*, *"Ecology"*, *"ecological footprint"*, *"reduce consumption to respect the environment"*.

A few more altruistic/societal motivations were mentioned: *"preserve the planet"*, *"for future generations"*, *"avoid wastefulness"*, *"less pollution"*, *"Education"*, *"It seems natural to me. I do it to respect the environment and the future generations"*, *"Citizen action"*.

Finally, 2 participants were also concerned about the national dimension of electricity savings: *"Reduce National expenses"*, *"National and political stake"*.

Barriers

During the oval mapping exercise, participants responded to the following question: "What barriers do you encounter that prevent you from saving electricity?"

For STAVE 1 participants (Middle and lower status, leaving in a rural area), limited finances represent the major constraint to sustainable consumption and has been mentioned several times all along the 3 sessions of this group.

"Good insulation has a cost" (G1, S2, P1).

"Our house is 40 years old. The budget for the work would be huge" (G1, S3, P7).

"I'm aware that it would be good to equip our household with class A appliances but I cannot afford them" (G1, S3, P3).

"We have only a few solar panels and they only heat water, from April to September" (G1, S2, P1).

Furthermore, participants of this group told us that consuming organic products is sometimes too expensive in comparison to non organic products they purchase in supermarkets. Although there is a willingness to consume in a sustainable way, the lack of financial means is often pointed out to explain the impossibility to go beyond the habits and behaviours already implemented. This is seen in two ways:

1. *"What more can we do when we already do everything to consume as little as possible?"*: this sentence was a veritable leitmotiv during the 3 cycles of this STAVE group.
2. Consciousness that there would be many other things to do (to be more sustainable) is well established in the mind of the participants, but financial limitations prevent them from doing more.

Aside from these financial constraints, the majority of the Group 1 participants said that they encountered no barriers. When barriers were mentioned, they dealt with the following aspects: "heating and water", "habits and constraints", "bad insulation" (of the household that ruins the saving efforts that are made). In other words, participants tell us that it is difficult for lower income families to make electricity savings because they consume very little. Further savings, e.g. through better equipment or insulation, has a cost they cannot afford. We reach a paradox: saving electricity produces gains, but saving electricity is costly.

In STAVE 2 and 3 (our younger sample, higher status, urban region), different barriers were mentioned and dealt with the following aspects:

→ Barriers related to lifestyle preferences: *"modern comfort"*, *"(the need for) light", "I feel particularly at ease in a room that is well lit", "my personal comfort", "I get chilly easily".*

→ A lack of information on how to make effective savings: *"I don't know how to save electricity. OK to make savings but could we have some information on what we can do exactly", "I lack information on how to make savings"*.

→ Inadequate design of modern devices: *"Devices are not encouraging", "sleep mode", "High Tech equipment", "Function mode of certain devices", "Video and internet devices".*

→ The stand-by function of home electric equipment leads to a struggle: impossible to turn it off! Participants have to unplug the equipment. *"I do not want to crawl under my desk to unplug the device"* [from diary]

→ No alternative, lack of time or particular sensitivity to climatic conditions: *"I don't have any other alternative", "be cold and not see anything », "I'm cold, I turn the heat on", "Access to polluting transportation modes", "lack of time".*

Relation between self-awareness and real actions in terms of sustainability

In STAVE 1 group, participants show themselves to be rather 'savings-oriented'. When describing their behaviours and conservation practices, they claim to act for sustainability reasons. On the other hand we can also observe some contradictions.

→ One participant for example admitted that he did not turn off the sleep mode of his appliances *"because the plug is hidden behind the furniture (for aesthetic reasons) and thus it is not accessible"* (G1, S3, P1).

→ In the diaries, we also could observe that participants did not try to program their appliances during off hours because they *"didn't have the reflex"*. Yet some others did switch to off hours.

Finally, another one said *"we are not going to go back to the Stone Age!"* (i.e., renouncing all modern conveniences that consume electricity).

The focus upon the consumer and what he should do, i.e. consume less, was clearly challenged by a participant during the last session:

> *"From the beginning of this study, I find the position of being a consumer... not very interesting. To be reduced to a consumer, I do not find that interesting. I do not picture things this way. All the questions asked about our Linky, our EDF... I am not personally concerned. There is my personal life and here, I am a consumer. We are like children. We need a father and a mother who tell us how to consume, that we must turn off the lights when we leave home and so on" (G2, S3, P9).*

In contrast, hopes are pinned on technical innovation [also Linky was not mentioned in this category]:

> *"In my opinion, solution will come out from innovation. The day when someone finds a way to stock electricity, there will be much less problems. It is a good thing to sensitize the public, but savings will be made through scientific innovation. We already do it. The low energy bulbs, that is what makes us save energy" (G3, S3, P4).*

GERMANY

Meaning of behaving sustainable

As we will see below, to live in a sustainable way is a major challenge for participants. One can describe it as daily new attempt to match energy husbanding requirements with temporal, financial, and social demands of organising a private household. This matching is related to various fields of action in the domain of energy use:

→ No use – no energy consumption: An important goal of participants is taking care that no energy will be consumed once a device is not used. This relates to things like switching off the stand-by mode, or turning off the lights when leaving a room.

→ Limiting or avoiding the use of equipment: A major topic is to use appliances and sanitary fittings not at all or as short as possible to carry out a household activity, or only for special purposes. That means e.g. hanging out the laundry instead of using a tumble dryer, selecting the short programme of the washing machine, or using the tumble dryer only for towels and bed linen.

→ Energy efficiency: Participants reported that they try to use appliances in a way that the energy that is utilized to run a process or device will have the highest possible benefit. That is e.g. to run washing machines or dishwashers with maximum load, to set fridges on low cool scales, or not putting hot dishes into the fridge.

→ Heating: With respect of heating participants are concerned with creating a comfortable room climate without wasting heat energy. So they said that they would take care to ventilate rooms by rush airing rather than leaving windows longer times tilted, or that they are prepared to wear warm clothes at home instead of increase room temperatures.

Driving forces

Why do participants do all these things? Often they refer to environmental issues in order to explain their motives to behave in an energy saving way. *"For the sake of the environment!"* (G3, S2, P21), or *"I frequently think of the environment, doing that way I do not harm my environment very much"* (G1, S2, P3) are two examples of this kind of reasoning. Sometimes it comes along with strong moral claims whereupon to protect the environment by energy saving habits belongs to one's deep convictions. So one person said that it is important for her to have a clear conscience about *"what my contribution was in this life"* (G3, S2, P19), whereas another participant said: *"It is a matter of decency not to run the heater when the windows are open"* (G1, S2, P2).

To contribute to environmental protection, though, is just one factor among others that make participants try to integrate energy saving habits into their everyday lives. To behave energy efficiently will frequently be connected with economic benefits. *"To save energy is good for the environment and the household budget"* (G1, S2, P4) said one person, and another stated that a *"low power bill and environmental behaviour for me mentally is always one package indeed"* (G1, S1, P7). But there is also evidence that participants think only in economic terms: *„I save energy to save money, it is that simple"* (G2, S2, P16).

This focus on savings as driving force for using less energy will sometimes characterized as expression of the intention to lead a thriftily lifestyle, i.e. to be not squandering as an attitude to life. This applies both to energy and money and is frequently related to one's own education: *"There is a lot of education in it, and starting from this I have developed a*

special awareness, and that it is why I am doing this in that way" (G1, S2, P6). Someone else argues that it does not feel good to waste things: *"I am not keen on doing useless things. One becomes aware that one is squandering energy, and that is not fun. One does not feel well when acting stupid like that"* (G1, S2, P8). Another participant highlighted the positive emotions of doing the right thing: *„Being aware of energy savings makes me feel good. I then do not think that I am a better person, but it feels like as if I have behaved properly and have been doing something which is useful for the community"* (G2, S3, P11).

Parents often said that through keeping an energy saving household they would seek to give their children an example of right living. Some told that they want to be a model for their children's environmental awareness and ability to cherish things.

Another bunch of motives for saving energy at home deals with household equipment. One the one hand, there were people who are highly interested in technical innovations. These people expressed a great willingness to replace existing appliances or devices by new ones if these perform better in terms of energy efficiency and improved features. On the other hand, some participants focused not on replacing devices, rather their approach was to use equipment in a gentle manner in order to prolong its useful life.

Barriers

As shown above, participants are aware of various opportunities how to lead a life without wasting energy. And another important fact is that they indeed are highly motivated to effectively adopt energy saving behavioural patterns. So participants reported quite a lot of examples of what they do with respect to efficient energy consumption. But they also talked about that day-to-day requirements and circumstances often prevents them from sticking to sustainable habits when it comes to actually carry out household activities. In the following these topics will be specified in greater detail.

One major topic to explain why a sustainable household energy use is not possible are the various, sometimes overlapping requirements of everyday organisation. On the one hand, people behave not energy efficiently because this conflicts with their objective to run their daily businesses without too many frictions. Thus, in their efforts to save time and ensure a clearly arranged daily routine, participants accept a higher energy use. The following quotes and diary entries may illustrate this:

> *"I always use the tumble dryer, this is just an organisational thing. It you are outside home all day you cannot hang out the laundry, indoor there is not enough space. So I turn on the washing machine in the morning, and when I come home in the evening the laundry is washed and I put it into the tumble dryer. One hour later it is dry and I can put it in the wardrobe"* (G1, S2, P7).

> *"The idea 'I need it again in a couple of minutes', electronic devices, turning off the computer or the light… When I know I will soon continue to use it or go back to that room, I will leave it on"* (G1, S3, P6).

"July 6, 2011: Thought about if for environmental reasons it would be better to switch off the router before I go to bed. At the moment I abandoned doing it because it always takes a while till everything works after switching it on. July 7, 2011: Have not decided yet whether I should switch off the router in the evening. I have concerns that I will forget to switch it on again in the morning and miss phone calls. July 8, 2011: Now I have decided not to switch off the router in order not to miss phone calls" (G2, D1, P12).

On the other hand, precisely because something has mixed up their carefully organised daily routine, participants were not able to stick to an energy efficient behaviour. Such disturbances could be caused by time pressure, forget about to do something, or unexpected events.

"When I have time pressure…, for example switching off the plug bar to which diverse devices are connected…, shutting down the computer…, I look at my watch, the bus leaves in a couple of minutes, I know the computer is shutting down but I need to go and the plug bar is still on" (G1, S3, P6).

"If I am distracted because the telephone rings…, I go to another room, the call becomes very long, the lights are on here and there" (G1, S3, P2).

Another crucial factor of unsustainable habits are different attitudes about domestic energy use between life partners, spouses, parents and children, or other people who are living together. So some participants reported that in order to avoid permanent domestic dispute they would in some cases, and contrary to their own beliefs, refrain from insisting on energy saving. This applies particularly with respect to behavioural patterns of teenagers whom participants often describe as being not aware of environmental issues:

"The considerably reduced energy consumption since my son is on a school trip is apparent. He is the one of the three of us who handles energy most carelessly" (G1, D1, P8).

G1, S2, P2, 3, 7

"P7: The greatest energy user at home is my son. Once he is back from work the laptop is on, TV is on, and five minutes later he falls asleep. The things then will run till all hours. I think this is a problem of these affluent children… My son is 19 years old, he grew up at a time when saving energy was not important. (…) This generation takes things like TV or computer for granted, only when they get their own electricity bill they will start thinking, I think the practical experience is crucial. When I preach 'turn off that thing' I am talking against a wall. I think this is something others experience too.

P2: I wanted to say I recognize myself a bit in the behavioural pattern of your son. I also often turn the notebook on and then watch TV, write an email alongside und again watch some TV and so on. I am a bit like your son.

P3: That's what they nowadays call 'multitasking'. You do everything at the same time, my son also, audio equipment, TV, mobile phone in the hand and notebook. Then I

always say 'Achim, you cannot do everything simultaneously', but he just replies 'of course, that's possible, it's multitasking'".

Another problem for energy-conscious parents arises from limited capacities to observe and control what their small children are doing.

"The kids often run from room to room, switch on something, then to the next room, turn on the light, then they jump to the living room, turn on our electric piano, and I am doing something in the kitchen" (G1, S3, P5).

Some participants said that they would like to purchase more energy efficient devices and products but could not afford it. *"LED light bulbs would be worth consideration, I would be convinced of it, but the price is throwing me away, they are too expensive"* (G1, S3, P3).

In other cases participants rely on factors such as well-being, convenience, laziness, or individual freedom in order to justify inefficient energy consumption by e.g. taking long hot showers or not turning off the heating while airing.

"Sometimes I am too lazy or tired to get up and shut off the light in the hallway" (G1, S3, P6).

"I like fluffy towels, and that is why I use my tumble dryer even in summer, I think that is well-being" (G1, S3, P4).

"I am not an Eskimo, I pay my rent, and that is why I would like to have it warm in my flat and will not wear clothes like an Eskimo" (G1, S3, P3).

"I think it is comfort if one sometimes does not turn off the water while one is soaping oneself under the shower. This could get unpleasantly cold. Actually you should turn it off, but you think 'It is just so nice and warm', and then you let it on" (G1, S3, P4).

A few people raised doubts if activities like using energy saving light bulbs and replacing household appliances really will have energy saving effects, or, yet more radical, if energy saving at home makes sense at all in terms of climate protection. *"I consciously do not turn down the heating while ventilating my flat some minutes since I am not convinced that this saves energy"* (G1, S3, P7).

Finally, a lively discussion started when a member of group 1 (P6) said it might be valuable to install laundry rooms in tenements where people can jointly use washing machines and tumble dryers. The group members' reactions reached from amusement to disgust, no one tried to make sense of a shared use of household equipment in terms of sustainability. Obviously washing ones clothes and those of ones family belongs to activities people want to keep private and protect against real and imagined bad habits of others.

G1, S1, P2, 3, 4, 5, 6, 8

"P5: There is a lot abuse with this kind of shared use.

P4: Yes, I also do not want it.

P5: If you see this in student hostels…

P6: But when the landlord provides it, what should happen with it?

P5: People throw dirt into the machine and don't clean it properly, the laundry stays for 3 days in it and starts to mould.

P2: Really?

P5: Yes.

P4: And then this will allocated to the tenants and the washing behaviour of each of them is different. For example, someone uses the washing machine every second day, you cannot check that, and than all will have to pay the same.

P2: Another problem is… when there are many people and there is only one washing machine, everybody wants to do the laundry at the same time, this could cause problems with scheduling and can turn into a war.

P3: I would not take my laundry out of a machine where ten others do also their laundry. I don't want to have the underpants of my neighbour in it.

P2: No, that's not good.

P3: That's not cool. (…). We live in a house with 16 households – 16 households should use one washing machine? No! There are also old folks who are – to put it this way – incontinent. And that smells less friendly, if I only pass their door I think oh no. He would also have his things in this washing machine, that's impossible.

P6: Maybe it works for tenants who do many things together, who practise a collaborative living concept. Then you would have a specific attitude from the very beginning.

P3: Yes, but not everyone has such an attitude, I think most people don't have it. At the end of the day everybody says 'I have my own fridge, washing machine', I'm not interested in living communities, I'm not longer at the age of 20 or 25 years. That's my opinion.

P8: And the number of people doing this should be limited.

P2: I think it's O.K. for a living community, but I think sharing a fridge or a washing machine won't work with children.

P3: That's completely impossible.

P2: And if you've got litte kids you may need the washing machine immediately…

P3: Or the machine is dirty, or you would like to use it and it's occupied, or laundry from the previous day is in it. No.

P5: There are great scenarios.

P8: Or half of your laundry is missing."

Relation between self-awareness and real actions in terms of sustainability

The above presented evidence shows that there is a gap between participants' self-perception about the environmental soundness of their behaviour and their concrete daily energy using practices. According to some participants' self-assessment, organizing everyday life in a climate-friendly way can be taken for granted. These participants claimed that they have already achieved a high level of sustainable energy use:

> *"I believe I do what I can to save energy at home"* (G1, S1, P5).
>
> *"We are carrying out small things like turning off the shower while soaping the body for such a long time that they are not a problem anymore"* (G1, S1, P7).
>
> *„I think we live together in our household and have already thought about energy savings and I do not see any big opportunities to save even more. Thus, I think we do not have any reason to change our behaviour"* (G2, S2, P13).

Participants were able to list a broad spectrum of things which they can do and are already doing in order to avoid to waste energy. They do not say that it is easy to act in an energy saving way, on the contrary the interactions made clear that a high degree of attention and commitment is necessary to keep track of sustainability in everyday life. But in the first place most of them are more or less convinced that they are got used to take care of the environment. Self-critical statements like the following quote are rare: *„I already do a lot, however, I would be able to improve some things or could work on them more intensively to achieve improvements"* (G1, S1, P2).

Obviously, the latter attitude is a more realistic description of participants' everyday practices. So, if we look at the obstacles for a reduced energy use it becomes clear that participants often fail to apply energy saving habits. Regarding the mismatch between self-perception and behaviour one can distinguish three approaches how participants makes sense of it.

First, they concede that upon closer consideration they more or less frequently do not behave sustainability at home since burdensome everyday requirements or budget restrictions would make them to lose sight of an energy efficient household organisation. This reasoning relies on "objective" circumstances and will be justified with reference to concrete situations and decisions where participants were supposedly forced to behave in an unsustainable way, e.g. to cook without a lid in order to have fewer dishes to wash, or not using LED light bulbs for cost reasons.

Second, participants admitted that there are situations in which they purposely will not behave sustainably since they gave other factors a higher priority. Examples of this pattern of behaviour are to use the tumble dryer since it makes towels fluffy, or to turn on the heating on a cool summer day because it belongs to individual freedom to do that instead of wearing warmer clothes.

Third, there is the reasoning that one will not do some things because one denies that they would have any energy saving impact. People who argue that way e.g. said that they will not turn off the heating while airing a room, or will wash the dishes by hand instead of

using a dish washer. A few participants even questioned the idea of domestic *electricity* savings with the arguments that compared to the challenge of climate change the amount of energy that can be saved by e.g. switching off the standby mode is negligible, and reduced electricity consumption would have only minor economic impacts:

> *"I have recognized a growing insight that it completely does not matter if the washing machine runs one or two times, it simply runs, the same with the dishwasher. It is a tiny part of what you can achieve with heating, hot water, or changed traffic behaviour"* (G3, S3, P19).

> *„Why should we save energy? Why should we save about 100 Euros per year? One almost does not feel that, it is 8 Euros per month, that gives me no reason to change my behaviour"* (G2, S2, P9).

ROMANIA

Meaning of behaving sustainable

For most participants behaving sustainable means a life in harmony with the environment, a rational consume, a lifestyle closer to the nature, more traditional than modern, more rural than urban.

Behaving sustainable is directly connected with energy consumption:

- consumption as necessary for a normal life, without excess, without waste of resources and unnecessary use;
- reducing the electricity consumption by using high efficiency appliances, and avoiding the use when it is not necessary (e.g. using daylight as much as possible instead of artificial lightening; turning off the TV, computer when we go out, etc.)
- use the public transportation instead the car, or going by car toghether with colleagues;
- insulate the houses to avoid heat leakage during the winter and air cooling during the summer; use reasonable comfort temperature for automatic heating (around 20 ^{0}C);
- use automatic devices to turn off after use.

On the other hand sustainable behaviour means:

- respect for limited natural resources, raw materials, minerals, water, etc.;
- removing impulses of greed, and to consume like rich people;
- desire to leave something behind you to increase the richness of nature, for example to plant trees, to eliminate sources of pollution.

Energy saving seems as very normal actions, habitudes of Romanian lay citizens. These actions are noted in the diaries as in the following examples:

→ power reduction of the bulbs by decreasing the number of bulbs in the room and replacement of classical bulbs with economic ones;

→ the use of natural light as long as possible;

→ lack decorative lights for household;

→ limiting unnecessary use of equipment;

→ avoiding the use of hot water;

→ limiting car us, driving non-aggressive.

Driving forces

In Romania the main driving force for energy saving is the economic situation, more clear the low level of incomes compared with the prices of energy, goods and services. Generally the lay citizens are obliged to treat very carefully the problem of consumption. But the connection with the sustainability issue seems to be very fragile. The main objective for a family is to reduce the monthly bills at heat, electricity, natural gas, water, wastes, etc. The prices are at levels comparable with western European countries, but the salaries are 5-10 times smaller. Therefore, for a large part of the society saving energy is an important issue, but the sustainability issue is not in the first line.

G3, S1, P1

"Mod: I want to return to the household level... How do you feel the energy bill issues? Where found to be the biggest pressure?

P1: Heat and electricity.

Mod: How do you see in this insulation?

P1: Beneficial… beneficial and aesthetic at the same time... Mainly it is very important the reduction in the bill for heating. In my case a reduction of 50 % is great" (G3, S1, P1).

"… cost of the heat…. I see a very difficult situation for me… and other people like me…". (G3, S1, P8).

Another driving force is the traditional behaviour, mainly in the rural areas. Due to the traditional respect for natural resources citizens from country-side tend to have a rational consume, eliminating excess. Another effect is induced by the communist period. Especially citizens over 50 years old limitate their consumption as a habit of the previous constraints. But this effect acts (for a part of citizens) in opposite direction since they feel some frustrations to save energy or generally to reduce their consumption.

"… our parents consume less because it is their habit from the previous period when no supermarkets, no goods and sometime no electricity or heat…." (G2, S3, P1).

The believe that the environment is affected by current consumption is a motivation to act towards a sustainable consumption for some of the citizens: *"… Production of waste*

naturally affect our health ... and quality of life... waste is something that pollute ... we need to consume less to reduce the wastes" (G2, S1, P3).

Another driving force is derived from the actions of friends, colleagues or neighbors:*"… if a friend of mine bought a new appliances… and he has a good experience in saving money I try to do the same… of course if I'll have the money to pay…"* (G1, S2, P3).

Barriers

The discussion with lay citizens revealed a quite good understanding of the importance of the issue at the level of Romanian society and also at global level. They understood the importance of the energy class parameter in purchasing decisions, but sometimes they cannot follow the rationality due to financial restictions derived from their low incomes. On the other hand people with over average income are very attentive with the energy class parameter in purchasing decisions.

In order to separate the effects (mainly the influence of the financial restrictions on the behaviour) we tried, in session 3 for all groups, to group the actions for energy saving into two classes: small and big actions. Small actions means actions without investment or with negligeable investment and consequently with no influence of the financial factor. Big actions, such as the domestic insulation, purchasing efficient appliances, require significant investment. For "small action" the main barriers acting against sustainable behaviour are:

- → Lack of information about many simple actions contributing to the reducing of energy consumption, e.g regularly defrosting the fridge, cleaning windows frequently to take best advantage of day-lighting, using the economizer cycles of your appliances; limiting the use of stand-by mode; keeping foods covered tightly to reduce moisture build-up in the icebox.
- → The fear that a reduction of the consumption will produce an increase of the prices on the market, which is a common reaction on the providers of utilities in Romania.
- → Lack of time (ride a bicycle or walk to work when the weather is temperate; use the public transportation instead of own car; checking water system for leaks and repair them properly; inspect periodically for leaks; etc.).
- → Lack of appropriate organization at the level of the municipality and generally of the society (paper, aluminium and wood recycling).
- → Previous habits and comfort (reducing the temperature of the programmable thermostat at home by a few degrees after going to sleep; increasing the temperature for cooling during the summer; using the own car instead public transportation; keep the TV and computer in use all day).

For "big actions" the main barrier consists of the lack of funds for the specific investment. Also the difficulty to have a decision for an investment is another important barrier. For the

specific case of our investigation (domestic insulation) there are some other important barriers:

- → great difficulty to produce a decision at the level of a condominium determined by the mix of family with great differences in incomes, habitudes, information and education;
- → fear of being tricked by a bad quality work for insulation;
- → hope that the authorities will provide more financial support in future;
- → lack of professional persons for the administration of the condominium;
- → distrust of neighbors initiative;
- → lack of the interest for common spaces in the condominium;
- → lack of confidence to do something in common;
- → the tenants are not interested to insulate.

Here are some quotes to these issues:

"the financial issue is the most important, not the attitude ..." (G3, S1, P4).

"... saving electricity, water or gas is in my blood... from the past... but I am wondering if this saving helps me or it is against my interest.....since the companies will increase the price if I'll reduce the consumption..." (G1, S2, P5).

"after the revolution maby administrators of condominiums have stolen money .... from the budget… Now I have no confidence in their actions or intentions…." (G3, S1, P1).

"I'm a little skeptical about ... mister says: pay as much as you consume! Here the problem is, because we don't care about the guy next to us! See … if he falls in the street ... it is not my job,… because I am selfish. I pay all, all the daily fees, but I don't care if somebody cannot … or fall in the street" (G3, S1, P2).

"Yes, so are we .... characterizes us .... and that the great majority care only about themselves, and not others. In other words, self-interest" (G2, S1, P3).

"Rent the apartment to obtain some money. I have no interest to insulate it....."(G3, S1, P5).

"I live in a building with 4 floors and we have the same problem. People are in different social groups, different income .. different generation ..." (G2, S1, P1).

"... rent the apartment but they want no investment in insulation...." (G2, S1, P2).

"... Information too weak… For example, I do not know, why should I isolate my apartment. I do not know the price! Before reading this article, I had no idea how much such isolation… I thought, in any case it is very expensive…." (G2, S1, P8).

"So the main factor… in the family… and the civil society comes from the lack of an systematically education in this respect…" (G1, S1, P6).

"Some constructors work very bad. Put some 'polenta' ... As long as it's not organized, they are quick to take our money and go away ..." (G1, S1, P5).

Relation between self-awareness and real actions in terms of sustainability

Participants included in their diaries a lot of activities oriented to save energy most of them already performed in the dedicated weeks and some planned to be implemented as a consequence of self-awareness after the participation in the group sessions.

"I am interested in any way to reduce my energy consumtion. The bills… for electricity, gas, heat and water … are too high compared to my salary… Now I'll try other ways … it was useful to hear about…" (G3, S3, P5).

For some actions like purchasing a new and efficient appliance, or insulating the house there is a gap between the self perception and a real action to implement the intention.

"… I know I can reduce the bill for the heat… but now it is very difficult for me to find the money… to insulate" (G3, S2, P7).

Some of them admitted habits in competition with the desire to save energy:

"… it is important to save energy and we try to do this as possible… for exemple to turn off TV and computer when their use is not necessary, but I recognize sometimes it is impossible … for me… when I arrive at home from my work prcatically I turn on computer, TV… or CD player even I stay in the kitchen to cook… it is in my habits… I am aware it is wrong, but my reasoning is to hear about what is new in the country, TV is always on a news channel…" (G2, S2, P4).

"…but… in no case …leave the lights on in all rooms… never" (G2, S2, P5).

"… usually I forget to set the programmable … for heat .. when I live for 1-2 days at my parents at country side… although I have in mind this action…" (G1, S2, P4).

"… I don't like to waste energy… and my money…but … not always I have time to be so careful…" (G2, S3, P10).

"… very often I think to walk in the morning to the work, but rarely get up on time so I can do that rarely .." (G1, S2, P5).

We may note critical opinions about society. The participants are aware that a solution to have sustainable consumption is to work in the direction of a general awareness of the society on the issue.

"In any case, … people do not think too much about the future ... when they decide to consume, to buy…" (G2, S1, P1).

"… sustainable consume is connected with the fact … to respect you and respect the others ... our society is not on this way…" (G2, S1, P3).

"… it's a general lack of attitude of us… because we see on our left and our right that all do the same and ... we go away… who cares…" (G2, S1, P3).

However the individual effort is appreciated as important to work as an example for other citizens: *"My opinion is that if you try to change yourself, this change acts next to you, on your neighbor, or friends…."* (G2, S1, P4).

The role of the school and family is appreciated as extremely important to obtain sustainable habits.

> *"And the school ... education ... is extremly important…to teach children and to practice to have correct attitude related to energy and consumption…"* (G2, S1, P7).
>
> *"But you see…, if you tell them… to school, in one way and goes home and his father throw garbage out the windows ..."* (G2, S1, P4).

Concluding the gap between capabilities and real actions is determined by funds (case of insulation of the walls or purchasing new appliances), previous habit, and influence of the society.

SPAIN

Meaning of behaving sustainable

G1: Shopkeepers Group (policy issue: A21)

As the group 1 participants are all small shopkeepers, they maintain a somewhat ambiguous behaviour in relation to sustainability. Thus, for example, they try to have sustainable behaviour in various ways (though not always succeed):

Trying not to give bags to customers (in order to reduce waste)

During the talks the shopkeepers claim to know that more sustainable behaviour leads to give fewer bags to customers, especially to reduce plastic bags. They are convinced of the need to reduce them, but there are clients who request it. Besides, shopkeepers consider that alternatives to plastic bags are too expensive.

> *"Yes, no, I went straight to what I was saying the issue of plastic bag… but hey, I have a tremendous rage having to use plastic bags. I use it when I have no choice but I take the trouble, clear the paper bags are expensive, not buy…, (…) Sometimes costumers say, 'do not have a bag?' Well, my answer is 'take the bag you take'... and when they ask me directly I give it. I'm very sensitized to the issue of plastic. I give the bag, the bag bought at the Chinese shop and…, but I encounter a ... it seems that I get a tear every time I give a plastic bag. I would love to make paper bags but the price you cannot. I mean, I hardly know it costs pennies, 50 cents, and if you sell a product of 3 euros you will loose an important part of benefit"* (G1, S1, P8M, 242/262).

Reduce use of paper by using the computer to handle trade documentation (invoices, etc.)

Among the participating shopkeepers there was a debate about whether informatics trade management can help them to save paper (to produce less waste, etc.). It is recognized that sending invoices online is more convenient, and saves on envelopes, stamps, etc., but on the other hand, it is said that this sometimes requires to print and spending a lot more paper. From the point of view of shopkeepers it is a technology that has its positive and negative side, and for them is not easy to know how to use it efficiently.

G1, S2, P1, 3, 8 (704/746)

"Mod: According to your diaries you said: On the one hand, we spend a lot of paper invoices and delivery notes, and would be a good thing being able to electronically manage, however, it is much more complicated. There should be some kind of software support. Today I decided to send a series of scanned documents by email to client, in order to not have to spend so much paper. But at the same time, with computers we still generate more paper and when you have a bill, whenever you need to print it again rather than go get the file.

8F: The latter is not, eh.

1M: Saves paper only the sender, but the other part most of the time he has to print it, to print it again and again, bringing...

8F: Well, you can save to a folder where you have customers.

3F: Yes, but you have it on your computer.

1M: Yes, yes, you have it, but you have to print it. (…) Actually printing occurs, you have saved yourself... but not the receiver…

3F: Internet is fabulous. But now you must print it, of course, the paper to print..."

Someone said you can try to spend less paper, such as printing paper bills of smaller sizes, but the other participants are resistant to do so, since they have already done with the routine and change the paper sheets for each type of operation seems like a waste of time (and unnecessary).

G1, S2, P1, 3 (753/764)

"3F: I have asked my computer expert to reduce by half the size of my bills, instead of DIN A4…

1M: Because you have that kind of thing already, and then... but when you normally use the DIN A4 paper great and do little, for it still the same, because pulling out and getting walking papers from the printer different size... do not think it is so easy. Unless… of course, you're very aware. But I am and... no joke. No, you give there, period."

Instead of using private transport the shopkeepers tend to walk or take public transportation

This issue is developed mainly in the diaries, but scarcely during the STAVE face-to-face sessions.

> *"The usual. I've been walking home from work, I'm back home for lunch, I went back to work and now at night I go home on the subway. Normally the trip back home as I always do on subway because at that hour of the night (between 10 and 11h) I do not like walking down the street. Also going with my wife. So we're going underground"* (G1, D1, P1).
>
> *"I walked. I always come home on foot, because luckily I live close, four blocks from here"* (G1, D1, P3).
>
> *"Whenever I walk from home to work, each shift is 10 minutes. I spoke to a mate about this issue of living very close to work, you have very positive things but also some negative, as you are not walking much"* (G1, D1, P5).

G2 & G3: Householders (policy issue: domestic energy use)

Acting sustainably, as we have seen, is interpreted by participants of groups 2 & 3 mainly as a way to save energy and resources. In relation to the electricity consumption (policy issue), participants expressed a range of behaviours related to their daily lives, mainly related with the use of household appliances and facilities. According to the diaries data, the most used appliances are the cooker and the microwave, and the shower (hot water). On the other hand, the higher daily consumptions are lighting and television, followed at some distance by the 'laptop' (mainly by the school-age children use). As days passed it is observed that participants tend to increase the use of certain appliances (mainly the stove or heating, as winter was coming).

From this point of view, sustainable behaviours are reflected mainly in saving measures that participants intend to carry out in their daily lives. They use different types of solutions for each topic.

Lighting

Technology Solutions: For example, one participant explained that in his second home (out of the city) he has installed a motion sensor that turns the light on and off automatically. It is discussed, with little agreement on whether to use such devices. Although it is considered useful, most participants perceived it as "too modern" (G2, S2) and far away from their everyday reality. Another participant has bought a lamp with a solar energy battery, and he says he is very satisfied with it. He recognizes that he bought it by mistake, not realizing about its solar charging, but with very good results (G2, S2).

Another of the 'sustainable' solution that participants practice is the use of 'low consumption light bulbs'. It is observed that changing ordinary bulbs by low consumption is

usually done by taking advantage of special occasions (when melted, when they renew the decoration, when moving from one place to another, etc.).

> *"We took advantage when we moved to a new flat… changing all the light bulbs. Now we have all low energy" (G2, D2, P15)*

They seem to believe that the social trend is moving towards the use of this technology. Some participants said that their houses had low consumption bulbs, but after filling the diaries they acknowledged it was not true (G2, D1).

Participants in the group with smart meters (G3) focused more on things like the electric power installed in their flats, the type of meter they have, etc.. Some of them have even been tested to disconnect all devices from their home to see the 'residual use', which has led to multiple reflections on how difficult it is to avoid certain energy consumption (for example, they refer to the modem, to the refrigerator, to the digital clocks installed in the ovens, etc.). Among them, there are some who would like to change some lamps considered too expensive in terms of energy consumption [smart meters effects].

Appliances

Participants expressed a general feeling that there is an abuse in the use of certain appliances. They believe that could be used much less (and therefore save energy). One participant recommended to turn-off all household appliances before going to sleep. He has created a routine or habit on this. The discussion concludes with the statement that if people want to save energy, they must be methodical and well planned (the food, weather, etc.). If not, it is really difficult.

Some participants have recently purchased appliances choosing high energy efficiency (e.g., a washing machine that calculates the load with a sensor to adjust the amount of water and spin speed) (G2, S2).

> *"Today we put the washing machine; we use it quite loaded. It is also a very efficient machine because it calculates by weight the amount of water to spend" (G2, D2, P12).*

According to them, they consume less electricity, and have also received a small discount from the government (subsidy). However, most participants do not seem to bear this in mind, because they tend to complain that these appliances are more expensive than others.

The consumption of the fridge concerned participants because they perceive it is an appliance that cannot be turned off ever. Still, they consider that the refrigerator can be managed more sustainably (through "small actions") eg:

> *"the distribution of food in the refrigerator can lead you to save a little more or a little less, because if you put tomatoes here or there… you will spoil them or not. You can even scale the fridge when the weather changes."* (G2, S1, M).

Stove / oven / microwave

It is observed that the induction cooking and the oven raise a lot of concerns due to its high energy consumption. For example, participants in group G3, being able to measure the power consumption through the smart meters, were very worried about their excessive consumption to the point that some have decided to change their cooking habits:

> G3, S2
>
> *"F: Seeing [the smart meter]... it made me raise the oven use...*
>
> *F: Yeah, and me.*
>
> *F: Me too, I had put the chicken or whatever… When I realized the consumption I turned off the oven and scrubbed it. And I changed it by grilled meat..."*

Some participants say that, in order to save, they often try to use the "waste heat" from the oven, turning it off before the end of cooking (G3)

Participants use other technological strategies to save energy while cooking, for example:

> *"Using the pressure cooker for cooking is faster and uses less energy and therefore money" (G2, D2, P10).*
>
> *"I use a wok and cast iron pans. Cooking is best with them and thanks to its composition they have great heat retention, so that when I'm cooking I turn off the heat before finishing, because the accumulated heat is enough to finish cooking. I noticed this for how long it takes to cool down ... so I had to wait a while to scrub" (G2, D2, P12)*
>
> *"For several months, Friday before the dinner is the 'hour of the oven'. We make the cake (for breakfast on weekends), loaf of bran, oats and wheat (for breakfast weekdays) and pizza or foccacia for dinner. It maximizes the energy used to heat the oven" (G3, D1).*

Taps / showers

There is also talk about using buttons or taps with diffusers, as it is believed to save water. Another strategy is to plug the sink when washing dishes by hand (while recognizing that not all participants use to do it). It is also said that it is appropriate to take a shower with cold water (perhaps only at the end of the shower) in order to save energy (though some say they do it, others recognize that they dare not).

> *"Adjusting the temperature of water in the shower at a suitable temperature and closing the tap while soaping. I usually give the final rinse with cold water, it is advisable not only to the skin and blood circulation, but out of the shower I did not feel cold and I can moderate the temperature of my apartment" (G2, D2, 12).*

They reiterate the idea that *"keeping the cold water coming out of the shower while hot water arrives, could be useful to other uses (watering plants, scrubbing, throw it on the toilet, etc.)"* (G2, S3).

Air conditioning and heating

While making STAVE sessions (November / December 2011) most participants had still not set up the heating. Temperatures in the city were still quite soft. Participants in group G2 (no smart meter) reiterate the idea that "we cannot do anything to spend less energy." For example, they explain how they wear a jersey or are covered with a blanket while being at home (wandering or sitting on the couch), instead of turning up the heat. However, at the same time they recognize that very often "for convenience" they do not always follow that practice. They comment other practice related to home weatherization, such as closing the heating in rooms not used (yet, again, it is not clear that all do it).

Some participants say they close the blinds at night to save (keep warm). But others say they do not because then it's hard to upload them again (as they weigh too much), which refers to the problem of poor quality building materials and the need for money to change them. One person also warns that if he closes the blinds, then he should turn on the lights (especially in summer).

> *"At home, I close the blinds and the curtains (especially at night) to conserve heat in the house (as long as possible)" (G2, D2, P14).*

Driving forces

G1: Shopkeepers Group (policy issue: A21

A common attitude among traders is to seek some compensation for those (merchants or citizens) who have "good practices", for example through a tax credit, etc.

> *"No, but if there, if you do, you have good practice in recycling, you reduce the price of waste collection rate. But now we all pay the same and throw things around the container and others do a proper collection, some are concerned about the issue, others not, and we all pay the same collection rate, right?"* (G1, S3, F).

With respect to shopkeepers, they defy the idea of sustainable "good practices". They tend to interpret them simply as reasonable ways to not waste resources, to not generate waste, etc. (to save money, in short). Therefore they tend to equate "good practice" to "have fewer expenses", which according to them is what shopkeepers "should always do."

> *"They tell us that if we save water or energy it is a good practice, which is that of good practice, they say... But that is only paying less, having fewer expenses. Saving energy, having fewer expenses..., if I have more without gaining a penny I would have to close. That is neither good nor bad practice, that's what you have to do as a shopkeeper, saving, there are no best practice here"* (G1, S1, P1M, 188/192).

Traders note that what can help them is financial assistance (by the municipality or other public authorities) to make changes to their stores and install more efficient technologies.

Another thing that helps them is the awareness. In this sense, they feel that since the large stores force consumers to pay for plastic bags, customers are accustomed to it. Consider

this fact, along with awareness campaigns; have achieved a certain change of attitude on their customers, who now no longer call as many bags as in the past.

G2 & G3: Householders (policy issue: domestic energy use)

Among the driving forces that appear in groups 2 and 3 we can select the following:

On the one hand, the idea of contributing to a better world is present in much of the discussions, albeit indirectly (but with many references to 'I do care what world we are leaving to our children', 'we cannot continue wasting energy ', etc.). This is more clear among members of group 3 (with smart meters), who regarded electricity consumption as clearly related to sustainability. When discussing about how to save electricity, some participants seemed to be motivated by their commitment towards sustainability. They were concerned about the impacts of their behaviours on the environment and willing to reduce their energy consumption.

On the other hand, participants mentioned several concrete things that help or can help in the way towards sustainability. For example: awareness, economic factors and technological factors.

Awareness

It is important to be aware of what is consumed at home (energy consumption of appliances, etc..). This is something that participants in group 3 know thanks to the smart meter, but it is not so easy for those in group 2. In this sense, it is considered that reaching greater public awareness helps to perceive how much you and whether it is more energy than would be necessary (for example, with the air conditioning or heating of households). Although they believe that so far awareness has worked not so bad, since, for example, they have learned recycling through awareness campaigns *"and not at home because our parents they did not"* (G2, S3).

Economic factors

Participants discussed about some bonuses they have received for changing old appliances by new - more energy efficient – ones (although they are considered scarce). In addition, participants have also been talking about the price of efficient appliances, and although it is still too high, they consider it will gradually decrease and certainly (they hope) in the future it will still be cheaper (and therefore more affordable).

Members of these groups tend to think that electricity has a high price ("price of gold") and in the future it will even be more expensive. They perceive a tendency to increase its price history, although facilities are increasingly efficient. Besides, they are wary of discount rates offered by power companies. This is interpreted as a stimulus to advance towards sustainability (but it can contain a low distributive justice level).

Technological factors

In addition to an important series of light bulbs and energy-efficient appliances and new construction technologies providing more insulation, etc., participants seem to rely on technological innovation. For example, they speak of *"a phosphorescent paint that reduces electricity use inside the houses"* (G2, S2), or about *"a fan that runs on solar power"* (G2, S2). They believe that people should be able to know these options, in order to choose them if they would be profitable.

Sometimes the choice of energy efficient technologies seems to occur by chance, without previous intention:

> *"Recently, (by mistake! I chose it because I liked the design) I bought a table lamp with solar battery (when unpacking I realized that it was solar and I thought... uff). Now I see that it is highly recommended. The base is removed and placed for several hours in the sunniest window, and then provides light for 2 or 3 days (this is very useful if there are blackouts or power outages)" (G2, D2, 13).*

According to the "resource allocation" exercise developed in the third STAVE session (in both groups), the prioritization of measures (ideal) made by the participants is as follows:

→ "Subsidies to neighboring communities" (to improve insulation, facilities, etc.).

→ "Awareness campaigns and information to citizens" (on the importance of individual and household energy behaviour.

→ "Aid for the purchase of energy efficient appliances"

→ "Tax relief for neighboring communities to make improvements."

→ "Energy consultant/advisor going to households, to assess household consumption and how to improve it."

→ "Disseminate best practices; publicize success stories in other neighborhoods or buildings."

These would be the main things that, according to them, would help to improve the sustainability in terms of electricity consumption in households.

Barriers

G1: Shopkeepers Group (policy issue: A21)

Despite their positive predisposition towards sustainability, there is among participants a concern that it is not too important in their daily lives. It is argued that sustainable practices are often more expensive, and that people have to prioritize the profitable business or saving money before sustainability. Therefore, the way to move towards sustainability is perceived full of many economic obstacles.

> *"Good practice, yes, there are good practices, that of the bag that she speaks here… of the paper bag. I do not know if there will be, but possibly there are a 3 % of shops in*

Barcelona to give paper bags instead of plastic bags. Why? Well do not know, first because maybe they are not manufactured in the same way or with the same price, they are not so affordable or so easy to put on, and so on. All that makes you buy what you resolve the problem quickly or maybe it's cheaper because you do not know, 100 plastic bags you are worth the 2 euros or 3 and if those 100 bags are paper cost you 8 euros. The choice is… Please let us in these things, go into this other section because it is what we are now, we are currently saving. If the savings will also contribute to improving the environment, the better, but I think that to me in particular, there is nothing… I like the environment, I am from a village and there it was divine environment, but I'm told I have to contribute to the environment but in the meantime I will not have anything to eat" (G1, S1, P1M, 227/240).

But the speech that "ecologic behaviour results more expensive than the normal one" applies just to the present moment, because they predict that in the future to be non-sustainable will be as expensive as the ecologic behaviour (but during the discussion they also abound in economic difficulties to make the transition).

G1, S1, P1, 4, 8 (278/291)

"8M: It is clear, but if I sell a product of 60 euros or 100 euros, but of course, I'll put a cloth bag and not even tell me, but then, when selling tiny products I have to look…, I have to think it is a real budget.

4F: It is as inversely proportional, that is, which is environmentally friendly, green, what is this, is more expensive than it pollutes, say.

8M: Exactly.

1M: At the moment, for now, that's what we pretend that it was just cheaper, that is, always, if you go to buy a vegetable, organic fruit that says organic, it would be seen but possibly true, has worse presence and second, is more expensive. Then, until this, does not fit, it is very difficult to talk about the ecological and the other, when we are in a time of price adjustment."

Throughout the conversation, the participants reiterate that "sustainable" products are usually more expensive, and therefore, are aimed at consumers who prefer to pay more. This is not usually the case of any of the participants of group 1.

Obstacles when trying not to give bags to customes

One of the obstacles is that there are customers who require a bag, but the merchant initially do not give it.

G1, S2, P3, 4, 622/630

"4F: Customers ask for a bag.

3F: Ask bag, bag demand.

4F: Even for a repair. I bring an alarm clock with no bag, the costumer take it out of the basket he carries on. Then I fixed it, I repair it there, I said it cost 3 euros or whatever, and he said, 'please give me a pouch'. To take it. He brought it in his basket and then he asked for a doggie bag. And this example applies to almost everything, eh."

Throughout the various sessions, several shopkeepers explain how industrials and distributors often provide them with too many packages. They believe that this bothers them (because it is not sustainable) but cannot do anything about it, which causes them discomfort that may influence the fact that sustainability is not treated as a priority in their daily life.

G1, S3, P1, 4, 7 (892/906)

"4F: Today I have received a big box with two rings inside. With two rings. First I thought it was material to the window, or catalogs. When I opened it I saw that there were many bubbles, and then in the center a package so tiny... Tiny, with the two rings inside.

1M: Doesn't make sense...

7M: Of course.

4F: To mislead…

7M: But… if they send you a packet so small, someone could put it in his pocket, however this big...

4F: These are rings, but I feel the same when I receive watches and so on. There are too many packages."

Obstacles re electrical energy consumption (by lighting)

There was strong consensus in discussions of the shopkeeper group that, from the standpoint of the shopkeepers, store lighting is very important and cannot be reduced. Reduce the lighting would entail a huge risk of losing customers because stores must be fetching to attract people, and lighting is a key element.

G1, S2, P1, 3, 4, 5, 7, 8 (406/437)

"Mod: Did you see if to have more or less light influences the customers?

8F: And so much.

3F: Yes, yes.

4F: The lighting is a super important aspect.

Mod: You said in the diaries that you turn on and off the lights when you think to save, have you realised if you get less clients when you've turned off the light?

3F: Well… but I put them out only on sunny days, the days I do not need all the lights... but of course I do I've noticed that when they are all on, the store is visible from afar,

when I come to my store and I see all the lights when they are given, is that it emphasizes…

7M: It shines like a diamond.

3F: This is the intended effect of the franchise company, so we had to put so many lights, what happens is... you see… today I forgot to turn off the lights, because of course on a sunny day... but of course when my husband comes, he turns on all the lights again…

5F: It is vital to have light.

8F: It is really an investment that cannot be reduced.

1M: Yes, yes.

3F: It is the way to draw attention from afar, from the opposite corner, from the other street, there you are, if you are off there is nothing, if there is little light there is nothing, not worth going to within no light, the costumers think they have nothing to buy there..."

In cases they cannot change the lighting to lower consumption, they attributed it mainly to economic difficulties. It is difficult to get funding to change the lighting system.

G1, S3, P4, 5 (358/362)

"5M: Doing a visit to my bank I have probed the possibility of a loan to replace the lighting in my business. The office manager has not given me much hope.

4M: It can happen to anyone, sure."

On the other hand, the participants say that they do have some possibilities to save energy (e.g. regulating air conditioning), and therefore save money. But they warn that not everyone is aware of it, because it is necessary to be willing to monitor it and figure it out. The savings through a more sustainable behaviour only seems reached by people very aware and acting in a thorough and systematic way.

G1, S2, P4 (124/145)

"4F: I think so, because it is in our work, it is where we can act... Another thing is at home, but here, the whole issue of recycling and the whole issue of energy… we can. For example, because I've been watching the different bills of my shop, and I realized that since I do not put the air conditioning, at least 6 months ago that I do not put it on 22 degrees or… I have put it on 24 degrees… because 26 degrees are too hot… I have come down slightly consumption… and the bill.

Mod: So you've spent looking at it...

4F: Well, because to me, I am…, I like numbers.

Mod: Do you agree, this is where you can have a more influence?

4M: Yes, I think so."

Domestic relations can influence energy related behaviour in the sense that different family members do not always act with the same priorities in relation to energy saving. The next two extracts show this feature:

> *"Open the blinds to let in more natural light and not have to turn the lights on until my husband arrives (if they are lowered my children turn on the light before)" (G2, D2, 16).*

> *"I usually keep track of the oven 'pre-heat' times, so it can save energy, but my wife not so much" (G2, D2, P11)*

G2 & G3: Householders (policy issue: domestic energy use)

Economic obstacles

In the cases of groups 2 and 3, the idea of confronting sustainability with money is also discussed. Participants discusses long time in all the STAVE sessions about the obstacles that make more difficult saving energy at home, focusing overall on infrastructural characteristics of the buildings and flats (climate insulation, windows orientation, etc.), and on energetically little efficient devices (bulbs, white goods, etc.). They tend to conclude that solving these obstacles has a great economic cost.

> *"I would change the windows, if I could…, if I had money enough to spare the change. I'm sure it would save money"* (G2, D2, P17).

> *"I would like to have good insulating windows, but it cannot be, my windows are aluminium but normal, non-climatic, but as they are so large windows... the substitution would cost a lot…"* (G2, D1, P15).

> *"We have to change the halogens of the dining room. But it's not so easy when the halogens have transformers. It requires changing the installation…"* (G3, D1).

Participants repeatedly discussed the problems encountered to change their appliances, lights and other facilities by others more energy efficient. For example, it is said that the light bulbs are much more expensive, which discourages its use. The same is said about windows of building insulation, it is seen as very expensive. According to them, having greater financial subsidies to better insulate their homes should be considered.

Participants considered positive to install new energy saving technologies such as solar thermal, and are in agreement with the fact that this is mandatory in new buildings. However, they think that in old buildings people do not want to install them because "people who live there do not want to spend more" (suggesting that they equate the new technology effectively to a not always acceptable "cost").

They also refer to the difficulties of installing solar panels in neighboring communities, both for economic reasons, bureaucracy, and for the difficulty to organize a common goal among people with conflicting priorities.

Lack of information

They believe that people does not know their electricity consumption. Or just knows a little about it. Somehow, they feel that most people like them are not aware of it. Participants also believe there is little information on how to save electricity. According to them, professionals (electricians, builders, etc.) themselves do not explain that (or might not know). For example, they talk about the confusion on whether electricity is cheaper at night or not (night rate), and even suspect that the power companies themselves contribute to hide the correct information about it.

Lifestyles

All these factors are framed in lifestyles that hinder the attainment of sustainable behaviour. They talk about the lack of time, the excessive individualism, the exacerbated competitiveness, and so on. They discuss the extent to which sustainable behaviours need to be disseminated, to make people aware through education. They give the example of washing machines with few clothes spending too much energy, but also recognize that many people may not care about it because perhaps they have enough money to pay for it. In this sense, it is recognized that a number of daily routines and inertia hinder sustainable actions systematically carried out, and conclude that, for example, people with enough purchasing power does not easily will change their habits. They conclude that these people cannot be convinced just with arguments about savings, but with other motivations / persuasions.

According to them, older generation is thriftier (more "stoic"). But they also say that *"the dynamics of modern society does not allows…, for example, when an appliance breaks it cannot be fixed"* (G2, S3). They consider this kind of phenomenon as a significant loss of ability of individuals to be more sustainable.

Relation between self-awareness and real actions in terms of sustainability

G1: Shopkeepers Group (policy issue: A21)

Despite the efforts of most participants in trying to present themselves as concerned with sustainability issues, along all STAVE sessions numerous examples of unsustainable practices are appearing. Basically, participants recognize they not always act like they are supposed to do. For example, several participants of group 1 recognize to not properly separating the waste they generate, or at the same time they complain that customers ask them for more bags than necessary, but they demand themselves bags when they go to buy as customers in other stores. So, one participant of this shopkeepers group said that in large supermarkets she has her own bag, but when going to a small shop asks systematically for two bags (then she uses it to separate their household waste).

> *"I tell you one thing happens to me. At home I recycle everything because in the neighborhood is compulsory. Then we need bags, because in the supermarket they do not give you anyone, and to recycle the plastic you need to put waste in a bag. Thus,*

we must or shopping bags or ask for bags in small shops. I say 'please give me bag,' because we have no bags. (...) I'm habituated to go to large supermarket carrying my bag, but in the small shops I ask for two bags" (G1, S2, P2F, 632/650).

G2 & G3: Householders (policy issue: domestic energy use)

The same is happening in the groups 2 and 3, where after saying how they think energy could be saved, some of the participants recognize that they not always act coherently. However, people tend to justify these gaps talking about some everyday obstacles, as economic costs, comfort habits, aesthetic reasons, family interactions, etc. In general, the participants perceive a disconnection between the discourse of sustainability and the way people act.

"Yes, so, they want you to do, but hey. As the priests said, do what I say and not as I do" (G1, S3, P9M, 684/685).

"Sometimes I think that halogen lamps of the hall... I think they spend too much, must spend... but they make very nice light. In the rest of the house we have only low-power, but not in the hall" (G2, D2, P16).

The majority of participants in group 3 were concerned about sustainability. It seemed to be an important topic for the majority of them. They were willing to develop pro-environmental behaviours. In this sense, the participation in the group process was perceived as a way to be more involved in sustainability issues.

There are a number of sustainable behaviours that participants have argued in the group discussions, but eventually they tend to recognize that they do not always act in that way. Thus, for example: Most participants say they are supporters of the light bulbs (because they help to save energy), but their practices are not coherent with that (because aesthetics motives, because it takes longer time to illuminate, etc). Other example: People say to children: do not leave the lights on, but they themselves do not (they recognize that it is easier to give sermons than to lead by example). Or, for example, participants proposed to put the heating on later, or keep it lower, and therefore recommend wearing warmer clothes at home. Anyway, it appears that none of the participants put into practice these tips (quite the contrary, according to their comments).

"Surely we should try not to leave so many lights on. I always tell the kids, but the truth is that many times even I do it" (G2, S3, M).

Therefore, participants recognize that they can do as much as they liked. It is "pure realism", which can be interpreted as an expression of certain fatalism. In order to justify it, participants distinguish between when they speak "in a plane of fiction" and when they do "on a plane of reality". Another way of saying it is differentiating between talking to the head and talking to the heart.

"Not for your explanation ... you can answer this questionnaire from the heart or from the head. If you answer with your heart say, 6, come on. If you answer a little with the head you over rationalize the answer ... and you get a more realistic view" (G3, S2, M).

They recognize that many of the things they say are consistent in terms of fiction, but do not expect people to accept this in reality. Not even themselves in the context of their daily lives.

So when they try to justify and imagine themselves in their everyday contexts, they express a widespread discourse arguing that "we spend it right" "we cannot spend less." Or rather, to spend less would entail having to give up certain standards of comfort or lifestyle. Somehow, it is perceived that although they could reduce their consumption (energy and otherwise), at the end, this reduction will not generate significant benefits to them (perhaps only in symbolic terms, but these are not always a priority).

G2, S1

"F: That we could be more moderate, I think so…

M: I would spend the same, no, I mean... I would know, but looking more or less... When I buy something I look to spend less and such…,but I spend what… I will not be watching what I spend every moment ... I know everything spends or produces pollution, but hey, that plan is not ... I will not turn on the light and break my head in the hallway to save a penny or half penny... I mean…"

For example, they find that every time they have more household appliances, etc., which leads to increased energy needs. They feel they cannot avoid it. However, here participants are divided into two different discourses: While some participants believe that it is possible to maintain such appliances and amenities while consuming less (doing sustainable consumption); others consider that any type of consumption generates pollution and a waste of natural resources, so they have to accept it (being aware that it is a hard "contradiction").

G2, S2

"M: I think there is a lot of demagoguery with this. On the one hand, what can we do? We increasingly have a TV or two washing machines, and all this requires energy. The energy consumption is due to several systems, thermal, nuclear, wind, solar, say ... Well, if on the one hand I'm saying no to the nuclear and on the other hand I need power at home, what I can do? It is a contradiction.

M: But this is called sustainable consumption; we do not have to go back to the Stone Age. We need to consume in a sustainable way…

M: But when you consume, you pollute. Because any of these energies does pollute, one way or another

M: What is the minimum... I discussed it the other day with my son and I told him that these are excuses for a bad payer. He said that if there are plants that are dedicated to separate the garbage and if we split up and on the street, people would be left without work. Excuses… You have to... You have to do, it must be something embedded in your consciousness. (…).

M: But what with everyone does ... you will not get anywhere with that..."

SWEDEN

Meaning of behaving sustainable

Behaving sustainably is primarily discussed in terms of making good use of resources, limiting unnecessary consumption, minimizing waste and favouring "good" products and services. Ways of achieving this include good planning, finding ways to combine sustainable behaviour with other interests and life goals and gaining more knowledge.

Transport

Most people mention that they try to plan the use of the car to be as effective as possible in relation to sustainability:

> *"My partner put in order the recycling goods, so that I could take the opportunity to throw it away on my way from preschool. We never take an extra trip with the car just to throw away garbage. We often have that discussion if there is anything else that can be done when using the car. It feels good when you can do several errands in the same trip. You gain time, money and 'save' the environment"* (G2, D2).

Many of the citizens in our groups were using a car as their main means of transport. However, this picture does not apply to everyone in the study. Quite a few are using their bicycles as much as possible, and seek to influence their family members to do the same. When they for once take the car they have bad feelings about this:

> *" … I felt guilt for not taking my bike"* (G2, D2).

Consumption

When the citizens groups discuss consumption, there is a notable difference compared to transport in how they view their own role in relation to sustainability. Here they seem to be more aware of/have more knowledge of what they think is the best for the environment. They make conscious choices, although the price is important:

> *"Today I did my weekly shopping + for the Saturdays christening. I had many considerations over organic, Fair trade, and locally produced food. Today I bought mainly organic dairy products (the price difference was only a few cents) while the coffee was the usual (the price was actually the deciding factor). I chose Swedish vegetables, but I took the fruit that I wanted without thinking much about where it comes from. The organic baby food I chose not to take because of the price. At least today. I have previously bought organic purees"* (G2, D2).

Food consumption was discussed frequently. Participants freely gave advice how to economically save on food, how they took care of leftovers, they talked about not buying too much from the beginning, the importance to plan their purchase, buying quality etc.

> *"I brought a lunch box from home instead of buying lunch – to use leftovers and generally to reduce my consumption"* (G3, D1).

Some are rather frank expressing that sustainability is not the main thing:

> *"I picked apples from grandfather´s garden so now I'll not need to buy apples for a while. It is more important to me if I know where the apples come from than if I contribute to sustainable consumption"* (G3, D1).

Even if this expression says that sustainable consumption is not most important, it clarifies that this person is conscious and has a certain amount of knowledge about how things are connected. This awareness is common among the participants in the Swedish groups.

Electricity

Also when it comes to electricity citizens in the groups are conscious about what they do or do not do in relation to sustainability. What they do and consider is everyday things, here are some examples:

> *"I switch off the lights after the others in the family. As usual. They must be incredibly afraid of the dark, as they switch the lights on even in broad daylight"* (G3, D1).
>
> *"I have talked to the kids about the use of computers and television. They are switched on even if they themselves are leaving the room. We have agreed to be better at turning off when we leave"* (G2, D2).
>
> "*Still not put a radiator in the second toilet. Cold there, but I'll stick it out for a while"* (G3, D2).

When buying new goods to the home, sustainability seems to be an important factor in the decision, participants evaluate different aspect against each other:

> *"We have discussed the issue (use of (electricity) at the focus group, which always gives a lot of thoughts about what you can do at home. In the evening at home we discussed, again, a new stove but also the washing machine which is really old. We also discussed the choice between to buy new more environmentally friendly machines in relation to electricity versus consuming"* (G2, D2).

Driving forces

A number of different driving forces are mentioned in the group discussions. Economical incentives are important, thus measures such as not providing free parking are regarded as effective in influencing transportation choices. While participants are motivated to behave sustainably to avoid extra costs they also tend to emphasize that prosocial behaviours should not involve extra costs for the individual (i.e. you should be rewarded rather than punished for sustainable behaviours). In a lighter vein, participants forwarded a number of suggestions as to how "good behaviours" could be highlighted in society and rewarded (e.g. "environmentally friendly citizen of the year").

Measurability and feedback are central concepts. Participants emphasized the significance of being able to monitor improvements and see actual results, in fact this tended to be

described in terms of "fun". Different ways of visualizing effects were discussed. Viewing sustainable behaviours as a challenge was another way of increasing personal motivation for different measures, particularly linked to everyday consumption. Challenge and the motivating force of competing are exemplified in the following quote: "*… 'Miser of the municipality', I could willingly take part in a competition to consume least energy in the whole of Karlstad, that would be a kind of challenge. Just the idea, to be rewarded for being careful with natural resources …"* (G3, S2).

Consumption

A trend linked to sustainable development that is growing in Sweden is so-called "purchase stop". Quite a few of the participants talked about and were actually having a period of not buying anything unnecessary, one individual up to one year. The "purchase stop" concept is explained by a participant:

> *"I'm planning a longer purchase stop of 'luxury goods', i.e. things that I already have. Clothes, shoes and so on"* (G2, D2).

When asked by another participant why they (the participant and his family) are having this one year of "purchase stop" the answer is:

> *"It's probably not the economy in the first place, but it's probably a bit environment… or for my partner, I know that it is the environment and such stuff. For me it is probably that I really don't like to spend so much time to prepare what to buy next time (…) and then I find I am not getting super happy anyway when I have bought those things…"* (G3, S1).

This trend also involves other expressions such as that it is more okay today, than previously, to give and receive used (second-hand) clothes (especially children's clothes). People also give examples of that they give away things from their home e.g. books they have read and things they have doubles of as presents when visiting friends.

Yet another trend discussed by participants is that people take care of what nature provides for free e.g. pick berries and mushrooms instead of buying these in the shops. But these activities are not looked upon primarily as doing something good for the environment. Rather it is a sign of "wealth" in the aspect of having time to do these activities, and that people are telling others at e.g. "Facebook" what "good people" they are to be doing this.

Barriers

Barriers tend to be "flip sides" to motivational forces. Thus extra costs, undue complication and discomfort, lack of personal control and flexibility are factors which reduce willingness to adopt sustainable habits. Some barriers are quite simple matters of impractical design, such as when the off-button is at the back of the equipment (e.g. TV) and difficult to reach, or when restarting the equipment is perceived as tricky. Other barriers are more subtle and

related to sceptical attitudes about the value of certain behaviours or about the accuracy of information from official sources and experts. Clearly when it is revealed that previous information has been wrong this has a negative effect on motivation for personal action.

Transport

A number of barriers were discussed in relation to transportation. Although intending to use the car sustainably, when it comes to transports participants do not want to sacrifice the comfort that the car gives them, and they are not so keen to change their behaviour in that aspect:

> *"You should not have to adapt your life too much for it to be sustainable in any way".*

The pressures of modern society are cited as reasons for choosing the car instead of the train, in order to be sure to arrive in time (Swedish rail service has been severely criticized during the past couple of years). Similarly negative experiences of collective ownership, for example in the form of car pooling, encourage people to have their own car. The view is that when ownership is shared no one feels responsible for maintenance.

We have also noticed that the car can be viewed as an extension of one's home. It is a place where you can either have a quiet moment by yourself or a social time with your colleagues, friends or family:

> *"Small talk with your partner is always nice. It is not so often that we have time to talk for 40 minutes about other subjects than the kids and things that we have to remember"* (G2, D2).

Relation between self-awareness and real actions in terms of sustainability

Participants clearly differentiate between different arenas in their lives, for example between work and leisure, or the everyday and the special occasions. There is a difference in how participants view work respectively leisure trips. It is valued as more important that leisure trips are uncomplicated, mainly in view of the time aspect:

> *"When it is my work time, if I take the bus to work and it takes some time, it doesn't matter so much as the day is ruined anyway, I have to go to work anyhow, right? But in my spare time, I will not waste any time standing at the bus stop and waiting, it really cannot function for me, as my free time is really limited."*

Clearly different driving forces emerge for using public transport/cars or not:

> *"To work I **must** go, in my spare time, I **want** to go"*

The relation between participants' self-awareness and behaviour in terms of sustainability seems to correlate when it comes to consumption and electricity. In these areas people tend to behave according to their knowledge, even feeling guilt and giving explanations about why they haven't behave "correctly".

"I turned on the dishwasher even though it was not completely full today! It gave me a guilty conscious, but it smelled bad + we have used all child feeding sponges and bowls… Comforted myself that I almost never turn on a not-crammed dishwasher" (G2, D1).

However, this is not the case with transportation. Citizens do know that pollution from cars is not compatible with a sustainable environment. They still use them, and they are conscious that they are using them far more than is necessary, describing themselves in such terms as "lazy" or "comfortable". This is also an area where compensatory thinking tends to be used as arguments (yes I use the car, but at least I do not do such and such).

Other descriptions of behaviour patterns emphasize awareness of conflicting actions, such as when one participant describes in detail how she avoids using too many hygieneproducts (hair conditioner, etc), buys environmentally friendly products, but then *"… I bought myself a smartphone a while back, so that was just as bad*" (G3, S2).

Regarding social pressures, one group had an interesting exchange as to which areas it was legitimate to raise in discussing behaviours with others:

G2, S3, W1, 2

"W1: Yes, electricity is something you can sit and discuss, - what power company do you have? What are your costs? And so on. But you can´t go to someone and say – oh, have you really bought yet another sweater?

W2: The atmosphere would not be too good" (laughter) (G 2, S3).

UK

Meaning of behaving sustainable

STAVE 1

The participants' discourses indicated that sustainability was socially represented in terms of energy efficiency, and thus it could be argued that energy efficiency was a socially accepted and socially shared metric of sustainability. Energy efficiency did play a part in shopping decisions for white goods, at least for some participants: *"And efficiency, the electricity rating, I look for that"* (G1, S1, P2). For some participants, energy efficiency was more about being economic, saving money and reducing wastage than about being sustainable *per se*:

"You see, I went from a big fridge to a small one because I was fed up with buying loads and loads of stuff and then not get round to eating it. So I've gone down from a huge thing to a little one that goes under the counter and then, I know that everything's going to get eaten" (G1, S1, P4).

Virtually no participants in the STAVE group 1 attached any meaning to behaving sustainably – sustainability was not part of their identity as consumers or as citizens. For

the participants, behaving in sustainable ways meant behaving in ways that saved energy (in relation to their kitchen appliances), time and money.

In discussing the manufacturers' practices in making products not to last, the participants constructed sustainability in terms of products can should be manufactured to last longer. The participants expressed frustration with the perceived low quality of appliances and blamed manufacturers for forcing them to engage in unsustainable consumption. Arguably, such rhetoric served to deflect blame from themselves as individual consumers:

G1, S3, P2, 4, 7

"P2: But it's not in the manufacturers' interest for us to hang onto it, is it? They want us…

P7: They don't last the way they used to.

P2: Exactly! So it's, the manufacturers don't want us to hang onto the goods, they want, they build it to, you know…

P7: It's the throwaway society. Things like kettles and toasters and microwaves – or microwaves to a certain extent – I guess I don't mind but big products like a washing machine or a tumble dryer – mind you, tumble dryers aren't that expensive. But washing machines, televisions are quite expensive.

P4: And they're major inconvenience when they go wrong. And particularly washing machines, television you can almost...

P2: Yes. But everything you buy now, they just make it so much… It's flimsier, a lot flimsier. Yes. They're cutting costs all the time and cutting corners."

STAVE 2 and 3

The STAVE 2 and STAVE 3 groups offered little more than the STAVE 1 participants in terms of any interest in behaving sustainability, other than in tangential ways that seemed to reflect more worldly pre-occupations.

Driving forces

STAVE1

The participants' discourses in STAVE group 1 indicated that, as consumers, they were motivated by financial, aesthetical and time-saving considerations in their purchase and recycling of white goods. In terms of what motivated the participants to purchase kitchen appliances, factors such as brand, prices, and warranty played a part in their decisions: "*Well, I've only got warranty on two products. One is my Dyson because you get five years when you buy a new Dyson, and the other one's a washing machine. […]I mean, if it's a good product and the minimum warranty or guarantee is three years, I think the likelihood*

of most people, unless they really abuse their equipment, of actually making a claim is probably quite small so really and truly, they ought to make it more than three years. If you get a year's guarantee with the product anyway and you take out an extra three years, that gives you four years" (G1, S3, P7).

An arguably interesting finding is that consumers tend to think more in terms of keeping their white goods for longer if they match or if they are part of a set: *"If my kettle had matching products to it then I'm more likely to look after it because it matches. Do you know what I mean? If it was a case of descaling my kettle or getting one that now didn't match my toaster and the rest of the stuff in my kitchen, I'd descale my kettle because I'd want it to match"* (G1, S3, P2). This shows insight into how consumers think about their appliances and it could arguably offer an incentive for manufacturers to produce matching kitchen appliances to motivate consumers to maintain them.

STAVE 2 and 3

Again STAVE 2,3 findings resonated with that of STAVE 1. The driving forces evident in their accounts and arguments overwhelmingly reflected an interest in cost, value for money and commodity desire (reflecting fashion, aesthetics, and value for money).

Barriers

STAVE 1

Sustainability did not explicitly feature in the participants' discourses. However, other factors such as good value for money and time-saving practices played a part in the participants' practical reasoning about the purchase of white goods, thus overshadowing issues such as sustainability. The participants did not talk about sustainability per se, but rather about energy efficiency and ways to improve it, such as maintaining their appliances, e.g. descaling their kettles regularly: *"To make it more efficient or keep it as efficient as it should be"* (G1, S2, P2). Some participants expressed the wish of not wanting to be bothered about energy efficiency and sustainability:

> *"But I think most people are so bogged down with the day to day runnings of their own lives and so wrapped up that you don't even think about that. It's just £50, get it going, let me get on with my life. (...) I think people are just bogged down (by) the general day-to-day running of their lives as well"* (G1, S2, P7).

Generally, the participants were not concerned about 'saving the planet', as the following exchange and shared meanings illustrate:

> G1, S2, P1, 6, 7
>
> *"P7: We'd like to; we haven't always got time.*
>
> *P6: I try, I recycle.*

P1: I think if everybody in the world did it, then we'd all do it, but I'm afraid other countries don't even bother

P7: And there's the thing with the... I mean, ignorant as it sounds, I didn't take that device (smart meter) home from work because I didn't want to change the way I was living. I didn't want to not put my washing machine on when I felt like it because... and if I knew, if I saw the dial go round then I would physically have to make that decision, whereas now I'm ignorant and I just do it."

In particular, in relation to small kitchen appliances, the participants were little concerned about their impact on the planet: *"You don't care so much about your kettle and toaster because they're easily replaced. Mine's quite scaled up at the moment. I think I'll be buying a new one rather than descaling it"* (G1, S3, P6).

Sustainability did not seem to matter when the participants had to weigh the pros and cons of having their white goods repaired or buying new ones:

"I wouldn't pay a lot to have my washing machine repaired. If it went wrong and they came out and said, ah, it's going to be £150 or something, then I wouldn't bother. I'd buy a new one, yes, I would have a limit on how much it cost, but the trouble is they charge you about £40 or £50 to come out, don't they, before they even start" (G1, S1, P6).

Buying recycled or second-hand white goods, which was arguably another metric for sustainability, was not as widely accepted as buying energy efficient appliances. In relation to second-hand white goods, the aspect most valued by the participants was the trustworthiness of the seller or that of the agency recycling the appliances:

"With electrical goods you've got to be really careful if you're buying second hand. I won't buy anything electrical used. I'm frightened it might blow up or something" (G1, S1, P5).

"I won't buy electrical stuff from car boot sales or anything, but I will off ebay and that, because I think now, like you say, you go into a home and you know where they live if they stitch you up. And I think most people's reasons are genuine as well, like, if they are changing their kitchen or something" (G1, S1, P7).

"But a lot of even charity shops won't take electrical stuff, will they? (…) I don't know what the shops do with them when they take them back because I had to pay to have my washing machine taken and I went up there, I went I think it was delivered on about the Tuesday and by the Friday I had to go into the shop to get something and my washing machine along with about six others were still all stacked outside their shop" (G1, S1, P2).

More often than not, the participants reasoned in terms of value for money and practical aspects such as warranty and home delivery, as in this example where they searched for second-hand items on ebay, e.g. toasters: *"However I would not buy this 'refurbished' model as you can buy the same model on amazon for £40 which includes free delivery, is*

brand new, and carries a full one year warranty. The cost of the ebay model would be £36.97, would be 'refurbished' and it would only have a 6 month warranty" (G1, D2, P2).

As these exchanges illustrate, the issue of sustainability did not come into play when citizens thought about recycling or buying recycled kitchen appliances. Generally the participants were not in favour of purchasing second-hand white goods, especially those which are very cheap when new, such as toasters and kettles, and there was a general agreement that second-hand items were not desirable:

G1, S1, P2, 3, 4, 6, 7

"P3: If you can afford to buy a new one, that's all right.

P7: I'd never buy second hand through choice, through... if I had the option of getting one new.

P4: Second hand is a necessity, isn't it?

P2: And it is always nice to have it new, isn't it?

P6: Yes, why would you choose second hand when you can have new?"

Some participants expressed frustration at not being able to recycle their existing items, although they admitted that there was no need to recycle the items in the first place: *"So recycling it's hard, it's hard to recycle to get anybody else to take your stuff. (…) As I say, the washing machine was working, I just got fed up with it wobbling, and the kitchen was being done"* (G1, S1, P2).

STAVE 2 and 3

The term "barrier" is something of a misnomer in the case of the STAVE 2,3 groups, as their was no sense that they were genuinely interested in behaving sustainably. The discontinuous shift in the discourse, following the introduction of the EVOC-CAPA devices seemed to simply elicit a slightly sentimental recognition that perhaps they should be seen to have some regard to green issues in their shopping practices. This posed them with a challenge of how to reconcile their previously expressed views (over the space of two and half meetings, and as captured on the oval map) with what might in some quarters be regarded as a more socially-acceptable orientation towards green issues. As noted above, this challenge was resolved in part by the deployment of a series of social accounting practice rhetorics. There was also a great deal of agreement on the impracticality of the adoption of green lifestyles, given their limited resources (this applied to both groups, whose average income probably differed quite considerably).

One interesting additional factor that emerged was prompted by discussions of "smart meters", or some other means by which participants might be reminded of their consumptions practices. Although far from universal, there was some degree of shared antagonism among some participants towards including anything in their lives that served to "police" their behaviours. In essence, they knew that e.g. smart meters would encourage them to put a break on their consumption, and they resisted this, wishing to be free in

whatever they did. This deep-seated sentiment may be seen as being in fundamental tension with the idea of sustainable living.

Relation between self-awareness and real actions in terms of sustainability

STAVE 1

Virtually no attitudes were expressed or became apparent in relation to sustainability. Some exchanges illustrate that the participants did not care about energy efficiency and sustainability. When comparing similar washing machines, there was agreement that energy efficiency does not matter compared to other features such as length of spin:

G1, S2, P2, 6, 7

"P7: And I don't care that that's got less energy.

P2: No, that wouldn't bother me. If it's a shorter wash spin, it's going to cost less to run anyway.

P6: No, I don't care; mine's purely on the time."

Some participants were aware that their own behaviour was not sustainable, yet expressed little wish to change it: *"It is a throw-away society though, isn't it. I'm quite shallow in that if I was to change the colour scheme of my kitchen I'd think nothing about getting a new toaster and a kettle to match and getting rid of the old ones"* (G1, S1, P7). There seemed to be more concern about having matching items in the kitchen, as for example between the toaster and the kettle: *"Yes, it's got to match. I like it (toaster) to match the kettle"* (G1, S1, P2), or about saving time and energy: *"I know obviously we're talking eco friendly and all that, but when you're constantly washing children's and school shirts and things like that, it's a different ball game"* (G1, S2, P6).

Some participants from STAVE group 1 reflected on their sustainability-related behaviours at the end of the study, as indicated by their entries in the evaluation questionnaire:

"I found it very interesting, but don't think any changes will be made. I still think we are a throw-away society. I will still hang onto my white goods until they break down, then will consider either repair or replace" (G1, S3, P2).

"It made me realise like a lot of others how wasteful we are and how quick to re=purchase goods that are either 1) on their way out, 2) don't suit our kitchen/lifestyle 3) how easily we will throw away without advertising the goods via local newspaper/on-line etc. Interesting subject, food for thought, left many questions as to what eventually might the general public, manufacturers, retailers and governments might think of doing to reduce waste, redevelop longer usage goods and step up on recycling. I have and will make more of an effort when things breakdown in the home to check warrantees, question them before purchase at a retailers and think twice about disposal" (G1, S3, P6).

STAVE 2 and 3

Within the STAVE 2,3 group, one interesting disparity between expressed sentiments and actual behaviours was concerned with what some participants termed the “throw away society”. Both groups expressed disapproval for people who threw away perfectly serviceable products because they wanted new, more fashionable, or different coloured etc. ones. Interestingly, both groups knew people who had done this, but no-one admitted doing it themselves. The STAVE 3 group (of lower socio-economic status), who were much more involved in the second-hand market, developed a rhetoric of “giving something back to the community”, which served to attribute warm and sentimental associations to this very practice of which they disapproved.

4.4 Changes occurring during the STAVE process

FRANCE

Changes in awareness

The overall opinion about sustainability among the French participants did not really change over the group process. However, the reasoning evolved through challenging the implicit framing of the issue at hand: individual behaviour associated with the new smart meter. The major evidence of change in nature of reasoning was the growing awareness within group participants and during the group process that individual day-to-day efforts are not enough. The importance of the collective effort (both in private business and the public sector) was raised more and more often and was stated as a solution to deal with sustainability problems. This was expressed notably through comments on the infantilization of adults, the guilt strategy, the reduction of citizens to consumers.

Diary effect

An attentive analysis of the diaries and the group discussions shows that there was an evolution both of the motivation to perform habit changes and the content of what was stated about their current behaviour. The motivation of participants was clearly enhanced by participating in the group discussion: soon after the group sessions participants were much more likely to have observed their consumption at the smart meter, and prone to comment and reflect upon it. This tendency faded away as the week approached its end. This pattern – confirmed in a rural and an urban sample – shows the extent to which a group activity may be, in itself, a strong motivator for individual actions.

The content of what was discussed in groups and stated on the diaries showed an influence of some questions of the diary. Posed to participants every day, these diary questions were responsible for raising their awareness on some particular points of their own daily lives. An example of this “diary effect” is a question about whether the participant had, during that day, turned off all of his/her electronic devices so that they would not be on standby. If the person answered no, we asked them why. Explanations about the reasons why they left some equipment in standby mode ended up revolving on the same

elements (not a habit, not to lose settings, socket of difficult access, and so on). Even so, the fact of being exposed to that same question every day, made them pick up the importance of this precise point in other parts of the diary, or even in the group discussions. This example (among other in the diary) can illustrate how the diary activity, that was initially conceived to serve as input for policymakers, can also serve as a stimulus to change in participants' habits, calling them to reflect on those questions, on their own environment, and on a daily basis.

Changes in habits

Some specific practices (that were mentioned within the group process) were influenced by the STAVE experience: for example some participants switched the use of their washing machine to off hours whereas they had not done this before.

A specific accent was put on standby functions: participants realized that they could not act upon this function – short of unplugging the appliance. A sense of frustration emerged, along with critical comments about the "consumers society" which pushes people to consumption, making a sharp contrast with energy savings attitude.

At the end of the group meetings (after the evaluation questionnaire), participants express their willingness to consider change:

> *"I will look at my electrical meter everyday! As I am poorly insulated and heated by electricity, I want to see how much I consume and how much it costs me each year. I also want to replace my windows [for better insulation]"* (G3, S3, P3).
>
> *"I have the feeling that this study will bring more to us as consumers than to you for your project"* (G3, S3, P2).

GERMANY

Changes in awareness

The reasoning about sustainability changed over the group process on different levels. On the one hand, there was a shift from claiming that sustainability is already highly integrated into everyday practices of domestic energy consumption to reasoning about the manifold exceptions from this ambition. One reason for this change from sugar-coated self-descriptions to self-critical deliberations was that participants more and more saw that no one will be exposed when talking about non-sustainable energy uses, rather that others are struggling with similar problems as oneself. Another factor that triggered this process was the diary keeping which forced participants to daily inventories and reflections about their domestic energy use.

Another change in the nature of reasoning about sustainability can be located at the level of a growing awareness of the real amount of one's energy consumption. This learning process is closely related to the diaries which provided participants with self-created information about their household behaviour. Many said that this exercise had open their

eyes and made them astonished about *"things that I have not perceived previously"* (G1, S2, P6). Here are some more examples of this kind of reasoning:

> *„This is the first time I have become aware how many hours a day the children are watching TV. We had to add up the hours, and if in the end you see the sum you almost frighten and say 'Today our televisions have been running for 7, 8, 9 hours, and the lights have been on for 6 hours although it is summer'"* (G1, S2, P3).

> *"I realize that we are usually busy in everyday life without reflecting our behaviour. Therefore, I had to make me realize not to let devices run unnecessary"* (G1, D1, P2).

> *"Documenting from day to day my energy use amplifies my awareness for questions like ‚Which activities consume energy?', ‚Can I stop respectively reduce this expenditure of energy?'"* (G2, D2, P14).

Changes in habits

Some participants have put insights and suggestions which they had obtained by participating in their STAVE group into practice. This means that some have started to try to be more careful when using energy at home, searched for advice and information, or purchased energy saving products. Here are some quotes to these issues.

> *„I have specifically watched out for standby devices, bought some new plug bars, and taken care that everything is switched off. I also requested my daughter to be more aware of this because she is not used to turn the standby mode off"* (G1, S3, P4).

> *"I have paid more attention to the lighting, particularly halogen lamps, indirect lighting, desk lamps, these additional lighting…, that what is definitely reducible"* (G1, S3, P7).

> *"For example, I increasingly use the residual heat of the hotplate, i.e. I switch it off in due time before the food has finished cooking"* (G2, D2, P14).

> *"I have phoned with someone who will check my devices with an electricity meter"* (G1, D2, P6).

Not all participants, of course, said that the group and diary process have influenced their thinking or way of behaviour. So one person said: *„For me all this is just a confirmation that we do everything properly"* (G2, S2, P13). And another participant reasoned rigidly:

> *„I had talked with my wife and we came to the conclusion that we will us as much energy as we can afford. Say no more! We will not get bewildered by things propagandised in the papers or by policy. We take as much energy as we can pay. Could be very much, could be getting even more if it is for our comfort"* (G2, S3, P9).

ROMANIA

Changes in awareness

Some changes were mentioned in the second session during the discussion of the diaries. For the most of the participants the interest to save energy was important before the STAVE sessions especially due to the financial difficulties in their families and high price of electricity, heat, natural gas in Romania. Only few of them associated before the energy saving with actions aimed to mitigate the climate change or more generally to support a sustainable consumption. A first change in their awareness was connected with the existence of a multitude of simple actions that can help to reduce energy consumption.

> *"I am very interested to save energy, but before the diary experience I didn't think to such simple and effective actions…now I am aware that many ways, many possibilities we have… "* (G1, S2, P9).
>
> *"it is not clear for me if global warming is real or not, but after this diary something of my attitude versus conumption was changed…"* (G1, S2, P9).
>
> *"... I think it is important to discuss our reflections with friends or colleagues… more important with young people… it is very pleasant to do something so important… "* (G1, S2, P8).

Another reaction is connected with the self-analysis of the behaviour related to energy savings induced by the diary exercise.

> *"…writing in the diary … I saw I am not so careful with the consumption… very simple I didn't think before I can save some energy…"* (G1, S2, P5).
>
> *"the diary helped me to respect a discipline… for my consumption… I was aware that I spend energy…"* (G3, S2, P7).
>
> *"the diary gave me new ideas … how to reduce the consumption…"* (G3, S2, P1).

A more deep change is in relation with the importance of the energy savings, since few of participants understood this action in relation with the future, with sustainability and perhaps the climate change: *"I was… moved from my usual feelings … after the first session and after I completed the diary… now my simple … energy saving is important for all…"* (G1, S2, P8).

More relevant is the fact that some participants are very interested about the finality of our work.

> *"… how we can continue… to change something in our society? … I feel our transition economy produced something wrong, all people want to consume more… "* (G2, S3, P6).
>
> *"… it is good if by school education … the next generation will have a better attitude to the environment by reducing the resources consumption…"* (G2, S3, P1).

Changes in habits

Majority of the participants said that the discussions and diaries have produced some changes in their habits. They tried to practice some actions revealed by information exchange during the sessions or suggested by the first diary (structured in classes and actions aimed to contribute to the energy saving at household level). All of them said they tried to be more careful when using energy at home or even at work, in transportation by their car or in recycling.

Some new actions appeared as a consequence of the discusion in STAVE 1 and STAVE 2 sessions such as (from the diaries):

- → Cleaning the windows, cleaning the dust on the bulbs.
- → Check position of the fridge and the distance to the wall.
- → Buy containers so as not to cause moisture in the fridge.
- → Family discussions on savings possibilities.
- → Avoiding opening frequently the fridge.
- → Defrost regularly the fridge.
- → Off-screen computer.
- → Turning off the TV during other activities at home.
- → Recycling.
- → Adjust the temperature of hot water.
- → Walking to work or using the public transportation instead of the peronal car.

Here are some quotes to these issues.

"now… I try to turn-off the computer … always I go out…I didn't do this before… " (G2, S2, P8).

"after the first meeting I decided to change something…and all this week I didn't use my car… maybe my reduction of the pollution of atmosphere is nothing… but I am convinced now… we can do this…" (G3, S2, P1).

"I change the position of the fridge assuring enough space between it and the wall…I decided to regularly defrost the fridge…" (G3, S2, P3).

"I wiped the dust of bulbs and cleaned windows .... and tried to use as much daylight" (G3, S2, P6).

"we try not to let the TV to work all day…" (G2, S3, P5).

Other changes

At the level of all groups and especially for G3, some significant changes may be noted, namely:

→ A clearer understanding of the importance of dialogue and participation.

→ An increased interest in understanding the behaviour of neighbours (citizens from the same condominium).

→ Understanding the importance of education and knowledge transfer to the young people.

SPAIN

Changes in awareness

G1: Shopkeepers Group (policy issue: A21)

Throughout the three sessions of group 1 it seems to have few significant changes in the speeches of the participants. In principle, the most significant concerns expressed in the first session remained during the second and third sessions: energy expenditure (electricity) and waste management (packaging). The mobility is relegated to a second priority level as something less important for sustainability in their daily lives. In addition, during the three sessions is maintained the speech that act sustainably is more expensive (for them and their clients).

Regarding energy expenditure, it is held to be one of the main costs of the shopkeepers, but it is difficult to reduce. There are only two areas where it is believed they can do something:

→ a) Change the lighting system for lower power consumption. But during the three group 1 sessions they emphasize the economic difficulties that entails, so that is not available to all shopkeepers.

→ b) Make more efficient use of the heating and air conditioning system. This is more feasible, although in most cases is not part of the priorities of traders (they feel driven by the routine).

Although the position on energy expenditure remains the same during the three sessions, with respect to waste generation has been a slight shift to the idea that it is possible to focus on the consumer to accept fewer bags and packaging.

So while in session 1 all participanting shopkeepers considered impossible pressure on the client to accept not getting a bag, in sessions 2 and 3 they can accept customer awareness, and even the existence of a percentage of customers that prefer not to get bags, and perhaps could be increased if shopkeepers act in a coordinated manner.

> *"This was in the sense of taking advantage of joint solutions... Since we are here... we should take advantage to find joint solutions between us or more people, well... I do not know... To buy bags, so... I would like something positive. Among my clients I do see that some people are aware. Not all, but there are people who are aware and ask, eh. That people who don't ask for a bag, for example. I think there are also people whom you can convince..."* (G1, S3, P8F, 717/728).

On the other hand, during the time that group 1 process lasted, participants paid more attention on sustainability issues in their daily lives. Many appear to have thoughts that otherwise might not have appeared. Most had never thought so consistently on the issue.

> *"But I was surprised. I noticed it. Perhaps I had not noticed before, but there are many people going with the bag in the supermarket, then make the purchase. And bags that have already been used many times ... This thing serves, for sure. I noticed it as we need to do the daily paper for you..."* (G1, S2, P1M, 690/692).
>
> G1, S3, P3, 7 (1260/1263)
>
> *"3F: See, since I come to this talk that at least… I'm paying attention to more things, I wanted more, I've noticed more on things about energy saving, waste...*
>
> *7M: Yes, me too. We're here doing this ... so I say..."*
>
> *2F: "Yeah, yeah, yeah, me too, since I come here I have more interest in these issues..."* (G1, S3, P2F, 1316/1316).

G2 & G3: Householders (policy issue: domestic energy use)

It is noted that some participants, during the STAVE process time, have developed a higher perception towards daily things like power consumption, use of lights, etc.

> *"(...) Today I went to a house and I saw that had lots of portholes (halogen lights), along the hallway and lounge. I've been about to tell her to remove them"* (G2, S2, F).

Participants say explicitly they are set in this sort of new perception. However, it appears that this increased attention is related to the obligation to complete the daily diary.

> G2, S3
>
> *"F: Oh you got me obsessed, I've been thinking all the day ... you've showered now, wait I'm going to point this week ... and not ask me again. Who has showered today? I'm ... well all the day…*
>
> *M: While coming toward home I saw that there was a factory closed but with all the lights on ... is because I know that we will discuss it with you...*

In fact, they know that they ended a bit obsessed. This seems to have some impact on their daily actions, albeit very limited.

> *"(...) The toaster we use every day and... much as I speak I realize we have the light on, right now I will turn it off"* (G2, D2, F).

For the group with smart meters (group 3) the same phenomenon has been observed: the participants say that since participating in the STAVE process they are paying more attention to their behaviour, to environmental problems, especially to everything related to electricity consumption (see below the section on its assessment of smart meters).

G3, S3

"H: I think that now that you asked, for example, I get the feeling that the fact of doing the study, I do have a habit of noticing a little more, overall ... if I already fixed before now maybe I look a little more, the truth because I have to realize ... I have to finish the day doing that, right?

H: This I say ... Do you guys think is nothing more to the issue of the meter or you have been doing for the day, to come here too, all this ...?

M: All this also helped, yes."

In group 3, the group process seemed to have two main effects on participants' attitudes and reasoning. First, group discussions became more and more focused on the smart meter and the electricity consumption. The discussion on sustainability became more concrete and practical. The group process allowed participants to share their knowledge with other participants. Second, participants became more aware on their electricity consumption and the ways to reduce it. They increased their attention to electricity consumption in their home and tried to change some habits related to electricity consumption.

In short, it seems undeniable that participating in STAVE groups generate some increase in the awareness of the subject under study (energy use at home, in these cases), or at least exacerbated perceptions about it (probably temporarily).

Changes in habits

G1: Shopkeepers Group (policy issue: A21)

No changes in habits or practices have been detected among the participants of group 1 (shopkeepers).

G2 & G3: Householders (policy issue: domestic energy use)

In group 2 indications of changes in everyday life that seem caused by attendance of STAVE meetings also appear. For example, some participants have decided to wash the dishes by hand (not using the dishwasher) in order to save energy. However, the participants expressed doubts about the effectiveness of these practices (it is not clear if they help to save or not), but they have actually changed their behaviour.

"Today I thought that ... for the dishes I had, the best was scrubbing by hand and thus saving. Although I not know for certain, people say that the dishwasher uses less… less water... but I do not know if also less hot water... Anyway, I've scrubbed by hand" (G2, D2, P11).

This is the case, for instance, of a woman who claims to have adopted a new behaviour (explained by another participant in the previous session), consisting in unplugging all appliances and checking on the gas every night before going to sleep. They believe that if

someone want to change habits, it is necessary to create a methodical routine and follow it every day.

> *"Since this man told me, as with the gas ... this ... I also do that, I check it... well I do that. (...) Yes eh. I remembered him"* (G2, S3, F).

Comments also appear on intentions that have been activated through participation in STAVE sessions:

> *"I also had been thinking that sometimes could put the washing machine with cold water and nothing wrong would happen. Not always, but sometimes yes, because until now I am always putting it at 30° ..."* (G2, D2, P13).

> *"I intend to change all the light bulbs, but slowly, I will change them as they go spoiling"* (G2, D2, P17).

Even their attitude toward other people has been modified after attending the STAVE groups, as this example shows:

> *"Today I went to visit a friend's house and saw that she had a lot of halogen lights in the hall and living room ... I have been about to tell her to remove them"* (G2, D2, P15).

In group 3, participants tend to believe that the smart meter has been helping them to keep in mind the energy consumption issues, and to change certain habits (use of appliances, oven, dryer, etc.). But they also acknowledge that in few days their daily attention on these things have dropped significantly (although the savings behaviour seems to have been kept). They suggest it would be desirable that the counter was accompanied by a strategy of self-diary, or some mechanism to force them to reflect more or less systematically about their behaviour, habits and circumstances.

> G3, S2
>
> *"M: It keeps you alert… when you see it, that makes you remember the theme of underselling and negative things, but after a few days the effects are going down. (...)*
>
> *M: Yes*
>
> *M: Perhaps it is also true, now I was thinking that by not making the diary a few days, perhaps this is where you lose most because it also keeps you more aware.*
>
> *M: The diary also helped in some way.*
>
> *M: You're like a habit, you are making a habit. Those days we have not done...*
>
> *M: Change the thing. This is also interesting that these devices come with a type of self-diary or a thing to help also…"*

Other changes

Finally, we note that while in the first session of group 1 the shopkeepers agree with the application of information and training measures addressed to shopkeepers by public institutions, in the final session they reveal their refusal to attend training courses. They

justified it saying that consciousness people (as they considered themselves) no need more training. Instead they ask for ways to articulate the exchange of experiences (or more sustainable practices) among them (among shopkeepers), and they even propose to do it through shopkeeper associations.

We note how the word "training" raises concerns and distrust among the participants. As one participant said: *"To me… more courses you give me, more you're not going to say me if I must recycle or not recycle. I once have my consciousness or awareness, I do not need more courses"*. Somehow, people who already feel well informed refuses to receive more training, they reject more awareness measures. Instead, they ask for more material resources in order to act correctly.

G1, S3, P1, 3, 4, 5, 7, 8, 9 (1222/1243)

"Mod: What do you think if the council put at your disposal means to give you more information and resources, or to do some workshops for example, to provide training on these types of things… do you think it would be usful? would you have time to attend it?

8F: Depends of the times you have. If they do it during business hours… then not.

3F: Could it be out of business hours?

Mod: How can you do to pass this information to shopkeepers?

7M: Through partnerships.

9M: Associations.

4F: Through shopkeeper associations.

5F: Yes, yes, yes.

8F: Associations would be responsible for forwarding that, it would be easier I guess.

7M: The associations know how to reach everyone of us.

1M: No, no that's not the issue. To me, give me more courses is not useful at all… to say more… Once I know, and I conscious (or not) if I have to recycle, I do not need more courses. Maybe other people need these courses, that's true. But people who are already aware of these issues, they do not need more awareness... courses. What the City Council has to put is not more awareness, but more resources, economic, material, etc."

Instead, learning over other (different) ways of doing (daily) things is more valuated. It is said that to know new "good practices" could be more useful than training just to make them aware. Therefore, they tend to consider that training based on best practices should be conducted by entities that are carrying out them, or have special knowledge about it (as might be the electricity supply company), and not by the City Council itself.

G1, S3, P1, 4, 6, 7 (1244/1291)

"1M: Yes, but they must have it easy. I say… I am interested in energy savings, and I assume that half of the shopkeepers, at least, are interested in saving energy. That hooked ... I'm there, because I spend a lot. What do I need for that? I do not need the City Council, I need to come ENDESA or FECSA (local power companies) or whatever, and they should tell me how I have to do, what I have to take, and how much it cost.

7M: What's happening is that ENDESA or FECSA will tell you how to spend more.

1M: Oh yeah, sure, sure.

4F: You can ask for an expert on energy issues.

1M: Yes, yes, the expert himself, but they have to prove that I'm going to save.

6F: But it is like throwing stones on their own roof, right?

4F: What I said before, for example, they can provide us with many courses, can give us many things, but the example they are showing… they are going to work every day by car, they are the first ones... who have palaces with all lights on... they do not save energy at all. They promote the electric car, which is fine, but 'electric' means power at the end, so we are equal. They should be already seeking an alternative.

7M: The car is electric, but is loaded with batteries.

1M: Ya, ya, ya."

SWEDEN

Changes in awareness

Quite a few of the participants say that they have been influenced by the discussions at the citizens' group meetings. Thus, they seem to enjoy and appreciate that, and look upon this in terms of having gained increased knowledge on the issue/subject. Changes in awareness are expressed for example in terms of having thought about subjects discussed at the previous meeting, having raised issues from the groups together with family or work colleagues, having become more aware of reports in the media or more observant of one's own and others´ behaviours.

Changes in habits

Participants appeared to enjoy giving and receiving tips from others in the group on for example good places to shop for ecological products, thrifty recipes or ways to reduce energy consumption. It is however difficult to determine to what extent these discussions actually led to changes in behaviours. Individual examples were given of being more diligent in switching off lights or taking the bicycle instead of the car, influenced by the group discussions.

Other changes

A general impression from the Swedish groups was that people enjoyed discussing topics of sustainability related to personal behaviours, perhaps more than they had expected. A general comment after the last session was that it would have been good to continue further discussions, that more people should be involved, and that this was a more interesting subject than they had envisaged. The focus in the final sessions of sending a message to policymakers tended to raise comments on the ability of citizens to actually influence societal policies, producing a number of ideas relating to consumer power and stakeholder influences.

UK

Changes in awareness

STAVE 1

There is little evidence of changes in the nature of the participants' reasoning about sustainability, except in relation to being energy efficient and economical: *"I try not to use my dishwasher every day as washing up takes two minutes and I'm trying to be economical, but I make allowances at the weekend which is nice and makes me grateful for having one (it's a Bosch)"* (G1, D1, P7). In some cases, the keeping of the diary had the opposite effect and made the participants think in more un-sustainable ways: *"I also get my iron out again and iron the two loads that have been on the line today – I'm thinking now (having kept this diary and seen how much I actually DO use it) that I really should invest in a decent one"* (G1, D1, P7).

We also noticed that some of the participants reflected on their everyday practices and everyday use of kitchen appliances, e.g. noticing how their negligent behaviour has damaged their white goods:

> *"Whilst using my fridge and getting stuff out of the freezer for tea, I notice how much it is broken (maybe it's me???). One of the glass shelves in the fridge broke about 6 months ago so everything is piled in the 2 salad drawers at the bottom and every single one of the freezer drawers is cracked or broken from me overloading them with reduced goods from the supermarket that were 'bargains' and forcing them shut – this is a problem that I have encountered with every single freezer I have ever owned so it almost definitely is down to me and the way I disrespect my appliances, but hey ho – it's only a fridge / freezer and its integral, so looks okay from the outside plus there's so much nicer things to spend my money on" (G1, D1, P7).*

Or in relation to warranties:

> *"Not until I did this study did I realise how many guarantees we have undertaken over the years for many products in our home. To-date I cannot find anything where we have made a claim against a guarantee except a leaky ceiling due to rain... I have*

realised we do not claim where we could and therefore are very quick to buy new for 'broken down' when in fact we could make more of an effort to repair not replace" (G1, D2, P6).

Other exchanges between the participants showed how the STAVE intervention had made them realize their energy use:

G1, S2, P1, 4, 7

P1: How many washes does everybody do a week? That's a very important issue.

P7: I do about nine.

P4: Crikey, do you?

P7: I didn't realise I did that many until I did my diary."

STAVE 2 and 3

Within the STAVE 2,3 groups, there was a noticeable sense in which participants were surprised by how focused they had become on matters concerning white goods. During the period between meetings, they found that they were taking an unusual interest in these products. This shift may, in part, reflect the diary tasks that they were asked to carry out. Although this increase in attention demonstrably enhanced the informed basis of the reasoning of at least some of the participants, it certainly did not shift their reasoning in the direction of sustainability.

As noted above, the big shift occurred towards the end of the third meeting of each group, when the ECOC-CAPA devices were introduced.

Changes in habits

STAVE 1

As mentioned further above, under section 3, some participants in the STAVE group 1 reflected on their consumption practices at the end of the study, as reflected in the evaluation questionnaires. The participants' feedback on STAVE as a study revealed how taking part in the group process changed, or failed to, their current practices:

"I found it very interesting, but don't think any changes will be made. I still think we are a throw-away society."

"It made me realise like a lot of others how wasteful we are and how quick to re-purchase goods that are either 1) on their way out, 2) don't suit our kitchen/lifestyle, 3) how easily we will throw away without advertising the goods via local newspaper/on-line etc. Interesting subject, food for thought, left many questions as to what eventually might the general public, manufacturers, retailers and governments might think of doing to reduce waste, redevelop longer usage goods and step up on recycling. I have and

will make more of an effort when things breakdown in the home to check warrantees, question them before purchase at a retailers and think twice about disposal."

"It was very interesting though I don't think I'm likely to buy used small electrical items."

"I will still hang onto my white goods until they break down, then will consider either repair or replace."

STAVE 2 and 3

There was no evidence that the STAVE 2,3 group participants would change their habits in any way following participation in the STAVE process.

4.5 Evidence linked to the country's particular STAVE policy issue

FRANCE

Our two policy partners in France have a long professional experience and access to lots of data about consumers' behaviour in the energy domain. One way they validated the data we presented during the immediate and unrefined feedback was in saying: "Pretty good, these small group discussions confirm results of such and such larger studies". They were rather impressed that the methodology could generate these results.

However, the deeper review and analysis of the data performed in this D5.2 reveals what additional and more specific input could contribute. This stems in particular from consideration of the peak hours issue which policy partners asked us to delve into. Participants had already questioned links between individual and collective levels of energy savings:

→ *me and others: are all involved?*

→ *my action: for what global impact?*

This questioning together with the discussion of the results from the peak issue ad hoc questionnaire, lead participants to consider the individual way of life vs. more collective ways of life. This produced an interesting sequence in G3, S3, where several participants engaged their reasoning on the same track. The basic point is: what makes the fabric of our society, and how do we make it? Suggestions appear indicating a different way of life: more collective and convivial – from which emerges an outcome of sustainable consumption, in particular less energy waste. Participants provide examples from different contexts, include a joke, and put forward a very practical idea to limit the peak hour effect at 7 pm in this sequence reproduced below:

G3, S3, P2, 3, 5, 6, 7, 8

"P3: I saw a TV report about a group of individuals, they live in individual houses but all is managed by a sort of joint committee, all their expenses, and they share in common their washing machines, it is towards Belgium, in the North of France.

Mod.: Would you picture yourself, in your buildings, sharing common machines?

P5: I lived this experience myself, in Germany. We had common washing machines, coin operated.

P6: Yes, this is done a lot in Nordic countries. I lived 2 years in Denmark and I lived in a neighborhood where lots of machines were put in common. Hence, people do not have them at home. Electricity is paid by all co-owners, they share the bill.

Mod.: And you imagine this happening in France?

P5: Yes, in some neighbourhoods.

P3: I believe it is being tested now, but it is too early to know the results.

P8: Yes, in ecological neighborhoods [eco-areas].

P7: We can also all sleep together! Like that we keep each other warm! [friendly joke said by a woman, the weather these days was very cold].

P6: When I lived in Denmark, we each had a private kitchen, but there was as well a large common kitchen, the freezer and the washing machine were shared. There was no problem. Danes respect the law. You can leave your door unlocked.

P2: I have an idea [about reducing the 7 pm electricity consumption peak], instead of all of us going home at the same time, we could have a drink after work (...) This could be at the bar or at someone's place: we all use the same light bulb and heating.

P6: We should ask the English who all go to the pub after work if they have a consumption peak of electricity."

The clear insight that appears through this sequence is that electricity savings do not represent a goal by themselves. Rather, they are an outcome of another goal, i.e. a shift in social attitudes towards less individualistic consumption. This helps understand the discomfort of participants, at various moments of the three groups' discussions, and their difficulties in addressing the individualistic way of life and therefore consumption which had remained a hidden issue.

How participants welcomed LINKY and the (possible) consequences

European policy foresees that by 2020, 80 % of households should be equipped with a smart meter providing detailed feedback on their electricity consumption and in principle allowing them on this basis to modify their behaviour. The national utility EDF launched an experimental implementation in which 250,000 consumers were equipped by early 2011 with the smart meter LINKY. It is thus currently being tested in two regions of France (the city of Lyon situated in the south east and the rural region Indre et Loire which is in the center of France). The French STAVE groups are drawn from this test population.

An important aspect to mention here is that LINKY was installed in the households of these two test zones without preliminary discussions and/or agreement by citizens. The installation was not based on a volunteer approach. Each household of the

experimentation regions was designated on authority to be equipped with the smart meter. Citizens were contacted by the installer to agree upon an appointment for the effective installation.

When PACHELBEL moderators asked participants to share their thoughts and experience with the smart meter, it appeared immediately that they were not happy in particular with the way the smart meter had been installed with no prior announcement or agreement. Nearly all participants mentioned a lack of communication to introduce LINKY to them as well as a lack of explanation on how to use the smart meter. While the extensive citations below paint an unfortunate picture of the national experimentation, future practice may be improved by reflecting on the range of responses prompted by the approach taken to installation.

> *"It is about time that we get informed (through the stimulus newspaper article and by having the opportunity to participate in the PACHELBEL group process) because we got very little information from (national utility) ERDF except that ERDF could collect by distance the data on our electricity consumption (participants refer to EDF, while it is a subsidiary, ERDF, who is in charge of this project). But for the consumer there is no visibility or readability of information. My meter is situated outside the household, in a coffer which we should in principle not access. I don't see any advantages as I cannot have access to the information"* (G1, S1, P4).

> *"I lack information. I cannot read my consumption. There was no communication or explanation when the meter was installed"* (G1, S1, P8).

> *"At the House of Energy (a local association), there was nobody to talk to. When installing such a meter it would be better to have an interlocutor to speak with. It's a pity that there is no follow-up by a competent person. It would be normal that there is a follow-up at least once"* (G1, S1, P9).

> *"The installation of the meter was imposed anyway"* (G1, S1, P7).

> *"To get an appointment with the installer of the meter it was necessary to call a taxed number. Not only was the meter imposed but you had to pay for the call. Isn't this somewhat extraordinary!?"* (G1, S1, P1).

> *"I encountered many problems with the installation. The meter had to be placed in a particular coffer. I had to make 3 appointments before it was installed"* (G1, S1, P9).

> *"I do not see either what is the interest of Linky. I receive my bill. I do not need to be told, my bill informs me enough"* (G2, S1, P9).

> *"The same with me, it did not change anything. The technician showed up saying I will replace your meter. I let him do it. No information. He installed his little green box. The idea of following one's consumption, fine, but as we have no information... !"* (G2, S1, P8).

> *"From reading the article and from listening to you all, it sounds to me like it is a project that will serve ERDF"* (G3, S1, P4).

"I did not know my meter had been replaced. I received letters afterwards. It is placed in the shared area of the building" (G3, S1, P4).

The above quotes show that participants would have appreciated a participative approach of introducing and implementing LINKY in their households. It shows that people want to be part of the story and not be considered as simple depots for metering equipment. Because of the lack of such a participative approach, the implementation of the smart meter LINKY is at first sight viewed as an intrusive element rather than an opportunity to learn and/or track/improve one's own electricity consumption.

The word "test", used by ERDF about installing 250,000 meters, is misleading: participants point out that they are not invited to test anything.

On the basis of the above, one of the lessons about French citizen's reasoning is that they don't want to be switched off and disconnected from sustainability decisions when it comes to their homes. They are very sensitive about the manner in which things are presented and introduced to them. This aspect is interesting in the sense that there could be a risk that such tools (although they potentially bring sustainability progress with them) could be "boycotted" if the collective behavioural innovation process is not agreed and engaged.

Difficulties encountered and other doubts about LINKY

Aside the lack of information which negatively influenced their contact with the tool, participants encountered other difficulties that provoked additional doubt about LINKY's reliability and/or efficiency.

"As far as I'm concerned, I had a supplementary cost of 400€! EDF came to check but didn't find the error" (G1, S1, P5).

"What is strange is that when there is a problem with the cost, EDF doesn't come to see what's happening" (G1, S1, P6).

"The aim is to make savings. Yet many press articles mention that there is going to be an additional cost for the consumer. Besides, if we change the electricity provider (competition in the context of the open market) will LINKY be compatible with the installations of the new provider?" (G1, S1, P1).

"I heard that these meters have been produced in Eastern countries. Is it true?" (G1, S1, P7).

"The power is not adapted. The meter systematically breaks" (G1, S1, P3).

"There are only 45 amperes at the exit of the meter. This implies that we have to increase the amperes grade which then increases the electricity bill proportionally" (G1, S1, P6).

"To me, the installer said that if I increase my consumption, the meter will cut me off. The installer highlighted the negative aspect of the meter instead of giving value to it!" (G1, S1, P1).

"My bill with Linky increased by 150 € ! Of course, I refused to pay, but I had to make 3 or 4 phone calls" (G2, S1, P9).

"I received a phone call to subscribe a paying service to monitor information, with a remote control, but I did not take it as I did not see the point" (G2, S1, P4).

"I had big problems with ERDF, last December I was without electricity for 2 weeks while it was snowing and that's how I discovered that they had replaced my meter (...). It is outside of my apartment, I thought they wanted to add colors with the nice green meters, I had no idea of the interest of having this meter. It is here [STAVE group] that I learn you can do things with it" (G3, S1, P1).

Again, these quotes show that the lack of information, education, and support has a negative impact on the smart meter's overall image and favours mistrust and rumour.

The potential advantages of the tool are not seen/understood immediately and/or raise questions, highlighting perceived illogical aspects (in particular when the meter is situated outside the house)

The following questions or statements were made:

One participant for example asked: *"What is the use of looking at one's consumption every day?"* (G1, S2, P?).

In each case where the smart meter had been installed outside their home, participants mentioned: *"It's difficult to check one's consumption when the meter is situated in the garage or outside"* (G1, S2, P4); *"My meter is with all the others, they have a number, I do not know which is mine"* (G2, S1, P3).

A further one said: *"We can observe the consumption but we don't know how much the various appliances consume"* (G1, S2, P1).

About the electricity consumption during off-hours: *"The problem with the programming of appliances to benefit from the off-hours is that you leave the appliances on 'sleep mode'. Yet this is energy consuming!"* (G1, S1, P1); *"There is a lower rate to consume during certain moments, at night, but you need to subscribe a paying contract, so it is not worth it"* (G2, S1, P9).

Voluntary behaviour

As participants were rather puzzled about the imposed installation of the meter, moderators asked them what arguments would have convinced them to volunteer and agree on receiving the smart meter. The answers are quite surprising as only 2 of 9 participants mention aspects that deal with sustainability. The other statements are centered on financial and technical aspects, and reflect also awareness by the participants that they are only experimental beneficiaries of the tool. Overall, comments show how a misfit (i.e.: bad immediate reputation) can impact reasoning and ruin the perceived real or potential benefits of the tool.

"That the meter would help reduce our bill. That's the priority" (G1, S2, P2).

"If it works then no problem" (G1, S2, P8).

"To be able to better control one's electricity consumption" (G1, S2, P1).

"In the (simulated PACHELBEL-provided) article they talk about the possibility to have information per electric appliance" (G1, S2, P9).

Voiced as a concern, this quote reveals another potentially convincing argument:

"Is the meter really technically finalized? Who is going to pay if improvements have to be made*? And will we be equipped with the improved version?"* (G1, S2, P6).

"Free installation; new installation if improvements are made; that it works" (G1, S2, P7).

Another oval mapping exercise focused upon how Linky could help participants save electricity:

"It cannot help me ; Warn me when a consumption peak is reached ; tell me about the consumption of each appliance ; Better spread my consumption ; Warning in case of overconsumption (e.g. freezer needs defrosting) ; Detection of consumption peaks in my home at the national level ; Give me advice about energy consumption" (G2, S1, P1-9).

[similar ideas + :] "Comparative information: am I an average/high/low consumer? ; Warning", like Wii station: "You have been playing for 3 hours, take a break" ; "Domotic apps" (G3, S1, P1-8).

These ideas cover the range of possible applications of Linky in the future.

GERMANY

The policy issue of all three German STAVE interventions was domestic energy use in the fields of electric kitchen appliances, electronic devices, heating, and hot water (power and heat). The objective was to create evidence about citizens' daily energy-related behaviour at home and to investigate their motives, activities and obstacles as to saving energy. The selection of this substantive issue was agreed with the German policy partner, the Ministry of the Environment, Climate Protection and the Energy Sector of Baden-Württemberg, UVM. During the year 2010, the Ministry had developed the so-called Climate Protection Concept 2020 Plus. This is a very broad policy programme which addresses almost all climate-relevant sectors, including consumer areas like traffic and energy use at home. In the consultations with UVM about the topic to be chosen for STAVE it turned out that the latter issue is of specific interest for the policy makers as they felt a considerable lack of knowledge on citizens' attitudes and behaviours as to this consumption domain.

Beside this general interest in gaining knowledge about everyday practices of domestic energy use the policy makers specifically wanted to know whether and to what extent citizens would accept policy measures aiming on reducing households' energy

consumption. A selection of six measures from the Climate Protection Concept 2020 Plus was determined to be discussed in the STAVE groups, four in the field of energetic refurbishment of existing buildings, two aiming at reducing the energy consumption of electrical appliances. In each group each policy action was discussed along the topics "positive elements", "negative elements", "questions to policy makers", and "implementation suggestions".

It would be go beyond the scope of this paper to provide a detailed discussion of the findings from the analysis of participants' views on the six policy measures. To shed some light on the deliberations, at first a brief overview of the groups' remarks to one measure will be given. This will be followed by runs of transcripted group dicussions highlighting some focal points of participants reasoning.

Increased legal requirements on energy efficiency gains of energetic refurbishments of buildings

The objective of this planned act is to oblige home owners who want to carry out a refurbishment to realize a reduction of the energy use of the refurbished building by 50 % compared to the law in force.

→ Pros in the participants' view:

- Measure would secure that refurbishments will be carried out according to the state of technology
- Policy focus on refurbishment of existing buildings is absolutely necessary in order to achieve significant energy savings

→ Cons in the participants' view:

- Measure could be counterproductive – strong requirements may discourage homeowners to start refurbishments, small building alterations would trigger large investments
- Financial overload of citizens – requirements are not payable for homeowners, tenants will be burdened with higher rents, financially weak families cannot afford to purchase a house
- Homeowners right of self-determination will be curtailed

→ Question to policy makers

- Is diminishing the energy use of buildings by 50 % indeed an achievable objective?

→ Implementation suggestions

- Combine increasing legal requirements with financial incentives for homeowners and make them cost-neutral for tenants
- No make-or-break, rather allow step-by-step refurbishment projets

Financial incentives to stimulate the energetic refurbishment of buildings

The following excerpt from group 2 shows participants discussing the proposed measure against the backdrop of the current debt debate:

G2, S2, P9, 12, 14, 13, 16

"P9: Like P13 already said, who should pay this? The government has no money, it's bankrupt.

P12: Yes. But compared to Stuttgart 21 (rebuilding project of Stuttgart main station) refurbishment fundings would make more sense.

P9: There is no money

P12: Yes, but the point is that money will be spent for useless things. My suggestion is to stop other projects, useless ones, like Stuttgart 21. It's possible to say 'stop projects like 21 and put the money in measures like this'.

P9: That's the mess, gigantism.

P16: Is it true that one… when installing a solar power system on the roof…?

P14: Yes, you can get funds.

P13: The grant should really be connected to the expected CO_2 reductions. That's important for me. I don't want to support golden taps.

Facilitator: Do you want to implement this measure under the condition that it will be financed with subsidies deducted from other places?

P14: Yes.

P13: Yes.

P12: Exactly."

Public guarantees for indigent people who want to improve the energy efficiency of their homes

In the following dialogue participants of group 2 agreed on demanding a realiable payback chance:

G2, S2, P12, 12

"P12: Yes, why not, such public guarantees are a good idea for a good matter.

P13: I think if one doesn't do it energy saving remains a luxury project for those who could afford it. On the other hand one needs to ask if it's making sense to give a loan to somebody who may not be able to refinance it. This needs to be carefully balanced. People who definitely will never be able to refund… in this case it is of course difficult when the government is liable. It is public money, you need to keep a balance.

P12: I think it's good to support those who can't afford it. This is better then some senseless projects, and then you must design it in a way that people can pay off."

One focus of the discussion of group 3 on this measure was on the type of investment that should be benefiting from this kind of public guarantees:

G3, S2, P17, 19, 24

"P17: I am 64 years old, retired, i.e. I don't work anymore. And I'm happy that after 40 or 45 work years my house has been paid off. I would never try to obtain a loan of Euros 100.000 – 150.000 to refurbish my house. These are the figures you need to talk about, and a payback period of 20 – 25 years. This is complete nonsense.

P19: You won't get that amount, and it is not reasonable to do that. But the point here is e.g. blocks of flats where we talk of Euros 5.000 – 10.000 every owner has to mobilise in order to finance the refurbishment of the whole building.

P24: Then it seems to me a good thing.

P19: And here you have owners who won't get a loan from their bank, and in this case this guarantee is a very good idea to get things in motion because one person not taking part could be enough to stop the complete project.

P17: Yes, I understand it for blocks of flats.

P19: It's a basic idea to trigger things on a major scale, and around us there are a lot communities of owners where nothing happens at all."

Consumer-friendly electricity bills

The rationale behind this idea is to trigger energy savings through delivering customers clearer electricity bills that additional include benchmark figures like energy use in the last year or average consumption of same household types. The following discussion of group 2 stresses the point that such comparisons only will make sense if they will be enriched with some parameters being able to explain other households' energy consumption.

G2, S3, P9, 10, 11, 12, 13

"P9: That's good, the former chancellor Schmidt has already said 'I do not understand my electricity bill'.

P12: Well, in the meantime I do understand it, it even indicates my energy consumption of the previous year, that's good. But I would leave it undecided if it could be useful to know whether another single household consumes less. I would need to get in touch and ask 'how is it that you consume so little?'

Facilitator: What is the others' opinion?

P11: The bill must provide more details why they consume less.

P10: Yes. Is he unemployed, is he out the whole day or stays with his girlfriend. Living conditions. Simple as that.

P11: How many appliances does he got?

P10: But this is clearly too private. Actually not practical.

P13: Well, I would appreciate to have such info… the ranking of my consumption, number of people, am I far away?… 10 % is still in the grey area, but if I would consume 50 % more or 50 % less I would say something must be unlike the average."

ROMANIA

In Romania domestic insulation is recognized by the most of citizens and policy makers as a good way to reduce the heat consumption. A great majority take into consideration the financial aspect, but there are voices that recognize the environmental aspects, and sometimes the connections with measures to mitigate climate changes.

G1, S1, P6:

"Mod: I am sorry to interrupt you ... coming to this idea that you have at family level…, from where do you think the current generation need to save… Comes from an awareness… people know what it is and think about what it may happend in the future, or rather is it coming from financial reasons?

I think… that combines the two reasons… if you insulate your house you may reduce the bill… and make a decent life in your family… that it's quite normal, but on the other side your family will benefit from a mental peace knowing that your house is insulated, energy consumption is lower, and your action is important for the future ... even taking into consideration environmental aspects…"

Citizens consider that the process is very slow due to the lack of correct measures:

"… policy makers …at national and local level, are very slow… they cannot find appropriate measures" (G1, S1, P5).

"… the desire and the possibility to make real actions are not correlated …at the local leadership ...." (G1, S1, P5).

Most of the citizens considers as compulsory a financial support from the national and local authorities.

"I have a very small income, … under six hundred lei .... and we can not afford to throw it into a work of such magnitude… it requires a lot of money. And my situation is probably the same for a half of the residents of the block. Those with incomes of more than 1500 lei can manage the situation, even by a loan,… somehow ... So I have to cover my everyday living…. And bills. So I see that if the government can give one third of that amount for insulation...., you know ... the government can give, to do this job. If not done, we'll all suffer because of this .... high consumption ... my family due to the bills, and all of us by wasting the resources… (G1, S1, P2).

The support of the State is seen as a correct approach to implement the National Rehabilitation Programme. People with lower income must to be identified and helped to

do the insulation: *"to help those citizens… retired persons, ….with incomes under 700 lei… which never will be able to do this work* (G1, S1, P2).

Another idea is to introduce the insulation in the framework of European funds aimed to help societal development. In this manner large actions at the level of sections of the towns may be performed: *"… Europen funds, like PHARE, may be a solution for towns…"* (G1, S2, P6).

Another important factor acting as a barrier at the level of a condominium is the lack of trust in a common action derived from the dissolution of the small comunities.

> *"We feel sadness after we come back home… for example from the holidays …we see the common space… the stairs… as dirty, although we have administrator and a maid that receive money to do the jobs…."* (G1, S2, P7).
>
> *"Mentalities… many neighbours do not understand and if they understand they don't fight ... You exprime your opinion… one, two or three times... and after that you stop... because you don't like to argue… to speak loudly…."* (G1, S2, P4).

The lack of professionals, like condominium administrators, reduces the trust of people in actions performed together, like domestic insulation. *"Here is a national problem. We haven't professionals or those who exists… are not paid enough and they go to other jobs. President of the owner association the same…. And if the attitude will be maintained .. nothing to do"* (G1, S2, P5).

Citizens are aware that a insulation performed individually may have a lot of drawbacks such as: increased price, low quality, produce a bad look for the urban landscape, etc.: "*... and me… I had a problem with a partial insulation of the facade ... the water released by air conditioning down on the uninsulated part… and produce a vegetation 'the green walls'"* (G1, S2, P4).

Summarising for the domestic insulation the most important barriers are:

- → great difficulty to produce a decision at the level of a condominium determined by the mix of family with great differences in incomes, habitudes, information and education;
- → fear of being tricked by a bad quality work for insulation;
- → hope that the authorities will provide more financial support in future;
- → lack of professional persons for the administration of the condominium;
- → distrust of neighbours initiative;
- → lack of the interest for common spaces in the condominium;
- → lack of confidence to do something in common;
- → the tenants are not interested to insulate.

SPAIN

The Energy Agency of Barcelona City Council proposed to the participants a series of questions on a number of measures included in the Barcelona Energy Plan (recently approved). Specifically, they asked their views on:

- → Uses and utilities of smart meters
- → How should smart meters be promoted? Who and how should install smart meters? Who must pay for it?
- → Grants or rebates?
- → Energy service company
- → Energy advisor
- → Web platform

a) On the uses and utilities of smart meters

Participants generally are in favor of the installation of smart meters. However, it is interesting to note some differences between the group with smart meters and the group without it.

Participants without smart meters

Participants in group 2 (without smart meters) tend to say that even though the smart meter may be a useful tool, they will not reduce their electricity consumption. They believe that knowing the information provided by the smart meter does not necessarily reduce consumption ("you will spend equally"). Their reasoning is to argue that, although they would be aware of their consumption in more detail, they will not consume less, since they already participate in a really solid saving culture.

> *"I... if at home I have to do what I have to do, I'll consume the same. Yes, I'm an ass and this…, but if I think I consume what I consume and I'm doing it right, because… I will not spend less"* (G2, S3, M).

They believe that having information on consumption did not contribute much to change their behaviour. (Interestingly, in other passages of the STAVE sessions they have said they lack information about their consumptions, which gives the impression that, deep inside, they do not care to remain somehow ignorant on this subject). They tend to think that with the information they have today (although not very detailed, but overall only a bill every two months) it is sufficient, since they are not much concerned about their own energy consumption.

They argue that a potential utility of smart meters could be to show the expenditure of every specific appliance, in order to facilitate replacements by another more efficient. This

dimension of savings is more valued than the one referred to possible change of habits (as they claim that "they do what they can").

Participants also remark the smart meter educational function: it can be a good educational tool to avoid unnecessary consumption (such as by children letting the lights on, etc...) (In this sense, objective data can provide a counter argument from authority to promote changes in other people who are not in the culture of savings "as much as they are").

Participants with smart meters

Participants who had installed the smart meter (group 3) at home express much more extensive and detailed uses and perceptions of the apparatus.

These participants insist that the smart meter has provided a greater “control” over their electricity consumption, and therefore has served to diminish it (“to spend less”). Like the other group participants’, these participants also considered themselves deeply rooted in a culture of saving. Nevertheless, they are surprised that the counter will be helping them to change certain habits aimed to spend even less (saving).

However, after several weeks checking the smart meter, and changing some habits, they note that their consumption has been reduced very little (realizing that this is an insignificant difference, hardly noticeable). This leads them to doubt on the effectiveness of the counter. Somehow, these participants believe that they already have a “culture” to be energy savers, and think that maybe they cannot reduce their consumption because it was already very low (at least, this is their hypothesis). Therefore, they believe that perhaps the smart meter effect could be greater on more wasteful people.

G3, S3

“M: I think, a little ... I am also coming from a culture that itself has…, if your culture has always been ... I feel reflected as… not wanting to use energy, and that maybe this ... And yes it is true that sometimes you go to people's houses and see that the light is constantly on, or machines are using more power ...

M: O fcourse, the effect could be different if you install the counter on a type of person/home or another...”

Besides knowing the real-time consumption, the counter helps them to decide better criteria to buy new appliances or light bulbs at the time of renewing the existing ones.

To some people, the counter helps to see what can be the maximum consumption that their wiring can support. Many participants have found they have hired excess electrical power as they will never be able to use it all. As a result, in some cases they have considered the advisability of asking the power company the contract amendment.

Generates dissatisfaction

It is noted that knowledge on consumption data in real time can generate a concern that in some cases, may be excessive (creates dissatisfaction). In fact, several of participants recognize that being aware of their consumption in real time is making them a bit obsessive (at least the first days). In this sense, participants say that knowing the high energetic cost of certain equipment for which there is no alternative (whose use cannot be avoided) generates discomfort. Some expressions that appear are: "the device is punishing me", "I am very sad," "anguish," "I was distraught," "is not happiness."

G3, S2

"H: There are devices that consume much more than that ... whether they have the equipment, then ... I have no place to hang clothes and I need a dryer, for example. How do I do? And it is punishing me because the device is telling me every day I'm consuming a lot ... Check that there is an unavoidable minimum consumption, is this bad?

M: I am very sad.

H: Anxiety, some people have said things in the newspaper ... that really worried me, for example, is ... someone even said 'because I do the ironing'. There are times that it is not happiness. Help to make energy saving decisions, prioritize, make decisions, control spending. Help to realize timely consumption and CO_2 emissions ... but ..."

In short, the smart meter generates positive and negative feelings. Positive because it helps to be aware of what is done at all times. Negative because it generates a (relatively) bad conscience (*"I am doomed to use the vacuum cleaner"*, G3, S2, F).

Interest in the counter decreases as days go by

Participants commented that during the first days the smart meter generated great excitement in the whole family. However, after two or three days they recognize that the interest was waning; and after a couple of weeks it was almost ignored (in the case of our participants perhaps even more because of the effect of the STAVE diaries). The expectation by the device is short, as once you already know the consumption of each appliance and can take appropriate action; there is no longer need to consult it continuously.

It is noted that a greater learning on how to take advantage after the initial days would be required. Participants suggested that it would be desirable to have the smart meter linked to a strategy of self-diary (similar to that done for the STAVE process), or some mechanism to force users to reflect more or less systematically about their behaviours, uses and circumstances.

Interestingly, participants who have consulted their consumption in economic terms (Euros) during several days say it seems cheap. They thought they should pay more.

Changing habits and awareness

Participants believe that the smart meter can help to change certain habits. For example, one says that thanks to the apparatus they have realized that *"we have turned on the television many times while no one was looking at it, and this has motivated us to reflect and turn it off at certain times"* (G3, S3, M).

The device helps them to become aware and to have more control of consumption, but they argue that it is useful mainly to sensitize others in the house (other family members) (*"I am already crushed, but it's true that now with the numbers they are becoming more aware"*, G3, S2). It serves to translate their insights on objective data and be more effective and persuasive.

It is noted that being more aware on electricity consumption, in some cases, has also moved to be more aware of other types of consumption (such as water, etc.).

b) How should smart meters be promoted? Who and how should install smart meters? Who must pay for it?

Participants with smart meters seem to be willing to keep them. They would accept even if having to pay for the meter, because they have seen their utility. In contrast, among participants without smart meter, there is more skepticism (so they are more in favor of meters being free), but there are also people willing to pay for them (as they note that they may be useful).

The case for buying it

Some participants say they would like to keep the meter. It would be better buying rather than renting it. In case of renting, they would do it just for a limited period of time or with a purchase option. The underlying rationale is that they consider *"after time you just don't remember that you have rented it so you would pay more and more..."* (G3, S3, F). They also propose the formula *"we make it to trial, and if you reduce consumption you own it free"* (G3, S3, M). They believe that it is a good measure (comparatively, participants are outraged when they think that so many mobile phones are given for free, but nobody gives smart meters).

Arguments for renting it

Participants (especially those in group 2) argue that if their actual meter works with a renting system, they do not see why the smart meter should be purchased. They argue that if a person pays for the meter, then it should be owned and, therefore, when he moves home he should be able to take it. Another person commented that perhaps that would not be necessary if all houses already had smart meters. But other people argues that if users are the ones to pay the smart meter, it is highly improbable to have them in every home, as many people just cannot afford them or would not pay - even if they could use them

(the elderly, technologically literate, , and so on). From this perspective, it is consider that it would be unfair to compel everyone to buy it.

How to promote the smart meter

Participants consider that the most difficult thing will be to install the smart meter in homes. Once installed, they believe that people can easily see the benefits (which are many) (or if not, they can always return or remove it). But the really difficult jump, they say, is that people would like to install it. They believe that this is the fundamental challenge. For example, they consider the ideal time to install it is in cases of new houses, or when an old meter is damaged. In these cases the new meter may include a smart meter. Another option would be informative talks, giving the audience the chance to test the installation of the apparatus. They consider important to stress the savings that can result from its use (although, as mentioned above, it is not so clear for them that they really saved so much).

Role of the City Council

Participants commented that in order to be accepted for people, smart meters should be installed first by the municipality in its own facilities and infrastructures ("if the city had a smart meter, there wouldn't be streetlights on during the day"). They insist rather on the idea that the City Council should be the first "example" ("It could not be that way … I saving and the Council wasting").

Role of the energy companies

They suspect that *"the power company will never buy you a device to measure your energy consumption"* (G3, S3, M). However, there are some participants who hold that power companies should be interested in rationalizing consumption, especially to avoid consumption peaks at certain times of year (summer, etc.). However, even if this was true, participants not achieved much consensus on the idea that power companies will do something to promote it. In any case, participants believe that energy companies should engage in the promotion and dissemination of smart meters.

c) Grants or rebates?

To begin, participants prefer subsidies, as it involves receiving a certain amount of money, is very visible and immediate, and it creates a positive psychological effect on them. However, several drawbacks were observed:

→ Frequently the grants consist of a set of limited economic items, so they are exhausted before reaching all the people asking for them.

→ Also often, part of the money one receives as a subsidy must be returned in form of taxes.

→ Subsidies often require long procedures until to finally collect them. It can take months or years until the money is entered.

→ They often involve a complex and dissuasive bureaucracy (have to get certificates, invoices sealed lead to multiple sites, etc…).

Therefore, although all will be theoretical supporters of subsidies, in practice several of participants say they would prefer fiscal reductions or exemptions, as they are mechanisms that can minimize some of these drawbacks.

d) Energy service company

Given the initial uncertainty about what an energy service company could be, people come to find a parallel with the telephone companies, where a company owns the line and then subcontractors offer the clients different services at different prices. However, the fact now there is just one company (power company), and then there will be two (energy service company) makes them suspect that something is unclear, since both companies have to have benefits. This makes them look with some suspicion.

Participants in Group 3 (usually more aware on sustainability issues) are in agreement with the idea of “energy service companies”. They believe that although the price paid for electricity could be the same, or even a bit more expensive (although they believe that power will be cheaper), they would be satisfied because the energy source would be cleaner (solar thermal, etc.). They would agree, but they underline the problem of how to convince the neighbors, because it must be done in large neighboring communities. In their view, this would be particularly complicated in buildings with many elderly residents, since the long-term benefit argument would not work there.

e) Energy advisor

The figure of the energy adviser is considered very positive (perhaps the highest rated proposal). It is considered very useful. Some participants explain their direct experiences at their workplace with this kind of consulting firms. Still, they think it will take some time to generalize such practice, as the current economic crisis does not help (although they believe that in the future this a type of activity would become very frequently, especially in the business). They also welcome the figure of the household energy adviser. They do like it although they expressed some concerns, as it looks "too good to be true". They believe it is "a great idea" but doubted that the City Council can take care of it, as there might be other funding priorities (so there is a feeling of distrust with regards to the real chances for its implementation)

Participants suggested combining the proposed energy adviser with the smart meter. They propose that the installer of the smart meter could also take care of the household energy

assessment. Then, if within a time period there is a reduction in consumption, the assessment should be free; otherwise (no consumption reduction) the assessment service should be paid (but not too expensive).

Moreover, they perceive that counseling/assessing can have a more effective impact on energy consumption than many campaigns or awareness strategies (although they are not necessarily mutually exclusive things). Somehow, it is said that energy advice is "the best way" to "cut to the chase."

f) Web platform

The idea of a web platform with comparative data for electricity consumption is perceived interesting, but participants do not spend too many comments in it. They emphasize that comparative data should not be so easy to obtain, since every family (and indeed every person) has different lifestyles and different conditions (very well insulated floors, people leaving alone, families with many children, etc.), so they distrust of this kind of data. They also note that similar information could already be indicated on the current electric bills.

SWEDEN

Several themes which recurred during the discussions appear relevant to consider in the STAVE context particularly with regard to the relationship between policy makers/policymaking and citizens. Examples here include:

- → Expectations of policymakers being consequential in their actions. This theme reflects the expectation that authorities promoting sustainable alternatives should also adher to the same principles themselves. The example of the county of Värmland promoting sustainable forms of transport, while also supporting the Swedish Rally Competition was cited as sending a mixed and dubious message to citizens.
- → A related theme might be termed reciprocity. When efforts are made to introduce what are perceived as good measures to support citizens people can feel some obligation to adopt these measures. In discussing pros and cons of public transport some initiatives in one area (Hammarö) were taken as good examples, making one participant express guilt at not taking advantage of the improvements made by the authorities: "… *I can almost feel stressed that I don´t take the bus more often when I live in Hammarö where they have developed bus transport so extremely well for us with nice bus shelters … and it is really fantastically good … as I say, I almost feel stressed to drive past these beautiful bus stops, I really hope that someone else is standing there*" (G2, S3).
- → A third theme concerns consumer power and influence. Discussing products that people were dissatisfied with (wasteful packaging) one participant reminded the group that actions from consumers in leaving the cartons containing toothpaste tubes in stores led to manufacturers ceasing to use these (unnecessary) cartons. In

another discussion the possibility to raise general awareness among citizens was linked to the use of social media. These and similar discussions reflected ideas about how citizens could become more actively involved in influencing manufacturers and policymakers.

→ The role of policymaking in simplifying choices in everyday life could be identified as a further underlying theme. Participants gave examples of the many choices to be made in everyday life – which product to choose in the shop, trade-offs between different values, etc – and there was some consensus that consumers needed help in doing "the right thing". This might take the form of independent trustworthy sources of information ("…*someone who was not after selling anything, just had as a job to make me more environmentally conscious, or help me choose*…" [G2, S1]), but also the acceptability of more paternalistic "nudging" policy measures came up in the discussions: "… *you can guide a person´s behaviour by making things easier and, perhaps not subsidizing, but at least to make it easier for people to make an active sustainable choice*…" (G1, S1). This theme might well be explored more fully in future STAVE implementations.

UK

STAVE 1

In the UK, the policy issue was consumer understanding of kitchen appliances lifetime, i.e. their expectations of the durability of the products they purchase. The policy makers' aim was to improve consumer confidence in product durability and reliability of both new and reused products, thus aiming to help minimize the impact of manufactured goods on the environment. We were interested in exploring citizens' ways of talking and behaving in relation to kitchen white goods, their motivations in keeping their white goods for longer and in purchasing second-hand white goods. The STAVE group 1 participants' thinking and behaving around white goods can be summarized in the following themes which are directly linked to the four policy options explored in STAVE:

1. **Quality marks** in second-hand products: information that can increase consumer confidence.

In relation to quality marks, the participants' discourses reflected a high reliance on brands as an index of quality for both new and second-hand white goods, e.g. "*I wouldn't have a Candy or a rubbish choice either. I was quite for brand I wanted a brand. If they'd only had a cheap one in stock I wouldn't have had it"* (G1, S1, P7). Second-hand white goods were considered reliable if the brand was an expensive or trusted one, as the ebay search task indicated:

"Would buy this model as I like the look of it and Russell Hobbs is a trusted brand" (G1, D2, P2).

"If I'm buying off of eBay, if I need to buy a washing machine off of eBay, I'm more likely to look in Argos and at Comet and type in the product I want rather than play lucky dip and just say, washing machine, and see what brands I can pick. I will look for a… I'll say, Bosch whatever or, rather than just say washing machine or…" (G1, S3, P6).

A second source of confidence in buying second-hand white goods was trust in the seller:

G1, S2, P2, 5, 7

"P7: I think if somebody like Curry's actually had a section where they had taken machines from other people that were in good working order...

P5: Or ex-demos or something like that.

P2: Or if I knew the person who was selling it second hand."

In relation to buying off ebay, the participants valued the seller's reasons to sell and what they thought was a genuine reason to dispose of the item:

"I would choose this washing machine as it is a Bosch make which is an excellent brand, and the seller has an authentic believable reason for the sale" (G1, D2, P7).

*"If it were being sold locally I would definitely pick it up and happily part with the money if I was relaxed with the fact it was a genuine sell, i.e. people going abroad to live or separating (sadly)" (*G1, D2, P6).

"This is one I would not buy because it needs a repair, and is not working. If it is such a good machine why didn't he use his bonus to have it repaired?" (G1, D2, P2).

As for smaller items such as toasters and kettles, there was little interest in buying them second-hand as they are quite cheap and affordable new. Besides, the participants expressed a desire to match toasters and kettles: "*I would not enter any bid on this [kettle]. The fact that it's still under guarantee is irrelevant to me in this instance as I would only be saving myself £15 off of a brand new one and in my opinion, kettles rarely break down. I think people are more likely to get rid of them if they are scaled up or do not match the kitchen décor than if they are broken"* (G1, D2, P7).

On the basis of the first STAVE group, it could be argued that the two important indices for quality, brand and trust in the seller's motives, are not amenable to intervention by policy makers. One would need to explore the other facets of consumer confidence, such as service histories or lifetime information, to see where there might be room for policy intervention.

2. **Service histories** for second-hand white goods as a way to reduce uncertainty.

Based on STAVE group 1 alone, there may not be enough evidence to gauge what the participants thought about service histories. One could argue however that these were somewhat linked to "quality marks" and to issues of trust in the brand and in the seller (be it a shop or an individual). There was agreement that service history was irrelevant in

relation to small kitchen appliances such as toasters and kettles because these were considered cheap and easy to replace, and the participants also expressed a certain degree of repulsion at using "someone else's" kettle or toaster. Besides, such small items were bought on the basis of aesthetics and the need to match with other kitchen appliances.

In the resource allocation task, the policy option "encouraging the provision of a logbook with a service history" was chose only in relation to bulky white goods (no funds were allocated to small appliances), and even so this policy option was less popular than others for bulky white goods.

The participants spontaneously brought up the issue of mileometers on washing machines. But some participants expressed doubt that this could be done in practice and expressed little trust in manufacturers to provide such options: "*But I don't think the manufacturers of washing machines, fridges, are going to do it. It's too much hard work and it'll cost too much"* (G1, S2, P4). Others expressed suspicions that such features may be used as bargaining chip: "*But then you wouldn't get such a bargain because it's a bit like mileage. If the mileage of a car is low then it's higher priced than one that's high. So, price wise, it would up the price"* (G1, S2, P7).

However, the participants in STAVE group 1 were generally in favour of service histories being provided especially with large appliances:

G1, S2, P4, 6

"P4: The biggest part of when you purchase it and you know that you can trade it in and you'll get something for it or something off the next item that you buy. And someone else can buy what you've traded in, knowing that it's been looked after.

P6: I think like a logbook in a car, you'd probably have to keep that book with the machine. It would have to be in some kind of plastic that was possibly suction attached to the washing machine so that you could see the date that you purchased it and it could be written in that book. Washing machine is probably the only thing that you're going to get serviced, isn't it? You're not going to have a microwave or..."

3. **Lifetime information**: providing information for consumers about how long a product is expected to last.

In STAVE group 1, the participants' views on the product lifetime information were assessed during a washing machine deliberation exercise: here, the participants compared two nearly identical Bosch washing machines where their lifetimes were expressed in number of years (15) vs. number of washes (2600). The participants appreciated more the lifetime information expressed in number of washes than in number of years because this was a metric they could relate to:

G1, S2, P1, 4, 7

"I think the lifetime is very important because if you're talking of probably five washes a week or even four washes a week, that one's going to be...

Would you expect a washing machine to really last 15 years? I wouldn't? Nowadays, nothing really lasts more than four to five years.

And I think most people's lifespan of their washing machines is the same, regardless of what model they've got, because it's how they use it."

In the resource allocation task in session 3, the policy option "making it a requirement for manufacturers to provide information on the expected lifetime of appliances at the point of purchase (years/number of washes)" received general support from the participants. They were in favour of this policy for both small and large kitchen appliances.

4. **Standard warrantees**: agreed simple formats for warrantees and their conditions.

The participants in STAVE group 1 valued warranties in different ways – sometimes they used the issue of warranty to justify why they would not buy second-hand items (particularly in relation to bulky appliances). Some participants expressed frustration at the way they keep their warranties – these are expensive yet easy to misplace and lose: "*I think they bank on the fact that you don't store it maybe properly because you can't, you know… I'm sure I've probably got a lot more warranties, guarantees than I said, I just don't know where they are, just, you know, just…"* (G1, S3, P6). The participants expressed frustration as well with being coerced into buying warranties when purchasing new items, and many saw this as a way of making money out of consumers:

G1, S3, P1, 4, 7

"I think the biggest problem with it, when you buy something like that, they seem intent on trying to get you to take extended warranties out.

Yes. That's how they get bonuses, don't they?

Like a commission, don't they?

The provision of a warranty was seen by some participants as a reason to buy ex-demo or second-hand appliances: "*I think I would probably buy it from a retailer, especially if it had maybe, like, three months warranty"* (G1, S2, P4).

There were mixed opinions on warranties:

G1, S2, P4, 5

"I need warranty. I need at least three months warranty if I'm going to buy anything for more than, I don't know, £100 second hand. If it's second hand, you've just... had use out of it already, so I want some sort of guarantee that it's going to last a little while.

I don't believe in warranty because I think if it's going to go wrong in the first three months it was not a good item in the first place, and once your warranty has finished, you're going to pay to extend it, and most people don't."

However, in the resource allocation task, the participants were in favour of manufacturers providing at minimum of 3 years warranty on both bulky and small kitchen appliances – for the latter, it was the most popular policy option. The participants were also in favour of the policy: "making it a requirement for manufacturers to publicly report the statistics on their warranties: on which models they receive most claims from consumers; which models are found to develop most faults; which models require most changes of parts, etc." In relation to this policy, they allocated resources in similar amounts to small and large appliances. This policy option was the most favoured for the large white goods.

STAVE 2 and 3

The four policy options identified above were also explored with the STAVE 2,3 groups. These were offered as part of a resource allocation exercise, in which the participants were invited to "vote" for these options using a limited number of tokens. There were interesting similarities and contrasts between the responses of the two groups. The ideas of ensuring the availability of product lifetime information was popular with both. However, whereas the service history "logbooks" or "mileometers" were very popular with the STAVE 2 (ABC1) group, the STAVE 3 group were noticeably disparaging. STAVE 3 participants argued that these initiatives would be vulnerable to cheating and criminality, and so worthless. It was, we felt, significant, that STAVE 3 was very much more aware of such considerations, reflecting, it seems, their experience of life, and the poorer locations where they lived.

We also gathered a great deal of evidence on the significance of the second-hand market for getting rid of, and acquiring, white goods. The two groups featured a noticeable difference in terms of the disposable income of participants, and the impact of this on lifestyles and the social context in which white good shopping took place. Perhaps unsurprisingly, the second-hand market played a much bigger role in the lives of the STAVE 3 group participants, as they had has little choice with purchasing options, having little in the way of money available. They were not able to immediately replace appliances if they failed, so they adopted coping strategies; including paying into insurance/warranty schemes, and developing ways of utilising social networks to find suitable second-hand replacements, and decision-making procedures to ensure that they got a good deal.

4.6 Additional evidence

FRANCE

When discussing sustainable consumption, the discussion focused a while on actors and responsibilities for sustainable consumption. Sustainable consumption is seen as the matter and responsibility of all: individuals but also the collectivity. Participants point out

the responsibility of the private and public sector saying that there is much to be done in both.

> *"Companies produce much waste of all kinds"* (G1, S2, P1).

> *"Our city for example lights far too much. Do we really need all these lights in the middle of the night? The city in which I lived before didn't light as much. Lights were turned off at 10:00pm and it wasn't a problem and there were no security problems either. People just stayed at home in the evening and it wasn't a problem"* (G1, S2, P9).

> *"Makers should get involved as well, they should produce appliances without standby mode"* (G3, S3, P3).

> *"In my apartment building, the light in the halls stays on all the time. The syndic has decided. Big lights. Useless. This should be stopped"* (G2, S3, P4).

Another participant mentioned the importance of having a coherent political energy strategy.

> *"It is time that politicians take their responsibilities. It is important to have community thinking, not only national but also European. We need to have a coherent strategy at the international level"* (G1, S3, P7).

Other thoughts on methodological issues

Motivation and content

A conjoint analysis of groups' sessions and diary contents permits the observation of influences between the two in terms of *motivation* and *content*.

The type and quality of the input provided in diaries varied along the weeks in terms of how recent the group activity was: the closer it was in time, the stronger was the influence generated by the group. This effect – confirmed in both rural and urban environments – provides further evidence to the extent to which social groups can act as a source of normative influence in daily life.

In what regards the content, both group discussions and diary questions were influenced by the daily reflection spurred by some particular points of the questionnaire. This influence, specially salient for example in what regards the *standby mode of some domestic appliances*, seems to be particularly powerful since it drives participants to a reflection about their daily behaviour by posing the same question every single day. This type of activity has proven to be a powerful source of idea inception.

STAVE effect: participants' empowerment

In terms of empowerment, it appeared that all three groups went through a similar pattern. The first session was a discovery of the process and the questionnaires. The second session, participants commented on the process (e.g., complaining about the repetitive aspect of the diary) and gained in critical thinking (e.g. all actors involved? who is the most

responsible for wasting energy? what is the use of my individual action?). With the third session more sophisticated thinking appeared, associating critiques and openings (e.g. the individual way of life vs. collective living).

Participants' awareness

Participants were aware that they were working on an important and difficult issue. They showed commitment. This was true across sex, age and status. This probably explains the courtesy observed during group discussions. Participants could present quite different points of view, but did not engage in interpersonal conflict (which is not so infrequent in French debates). They were aware as well that the issue could only be partially treated during the group process. For example, while we were unsure about the return rate of an additional questionnaire we sent to the first group after it was closed, a participant whom we thanked said it was reassuring that we should ask for more: this was evidence that the issue was treated seriously.

Participants' motivation

None of the participants had previously been engaged in focus groups. According to the terms of the recruiting agency, they are "virgin" participants, thus prone to dropping out. For that reason, the recruiting agency insisted that we go much beyond the target of 7 or 8 persons to be sure to have enough steady participants. We declined and settled to 9, stating that it was our responsibility to keep them once recruited. In one group, there was one no show. And all participants who showed up came back in all groups and stayed overtime.

Sessions were announced to last 1 ½ hours, but the French PACHELBEL moderators went overtime to cover all tasks, despite being unsure about the participants' willingness. For the last session of the groups, we delivered the participation checks (150 € per person for all three sessions and home work) at the beginning of the meeting. All participants stayed overtime, 40 min for the last group in Lyon.

Representativeness

There were discussions about the representativeness question in the evaluation questionnaire. As a small group, with same-age participants, the answer is clearly "no". After discussion, a participant reformulated it this way:

> *"If the question is 'do you feel you represent well citizens', the answer is 'yes'!"* (G3, S3, P2).

GERMANY

In two groups participants reflected about who is responsible for reducing the use of energy in order to contribute to climate protection. Participants agreed that this is the duty of both the individual citzen and other parts of society, specifically policy and industry. The former is seen as an actor who can implement a framework of regulations and incentives that can support households or companies in saving energy. The role of the latter was seen as developer and producer of energy efficient technologies and products as necessary technical basis for a sustainable use of energy. Some expressed the expectation that retailers may provide high-quality advice to customers about the energy efficiency of their goods. Participants put emphasise on the point that denying one own's responsibility and postponing it to others is not an acceptable attidude. In this context participants also rejected the idea that science and technology alone may solve our problems:

> *"I don't like the idea that the future will bring it in order through renewable energies, modern buildings, energy efficient products and services…. These are statements which offer everyone the opportunity to say 'fine, somebody else is doing it for me'"* (G2, S1, P13).

ROMANIA

Citizens are convinced that the education is the most important factor to orient the society towards a sustainable consumption. Other factors are the family and community.

> *"School should be the main engine.... I mean, I think it's very important that everybody understand the need to integrate with nature. Man is probably the only creature that has a negative effect on nature .... We act against nature: because industry due to the development ..."* (G1, S2, P9).

From the point of view of policies and how the policies are produced there is a perception of a rupture between policy makers and citizens. Public participation in decision making process in Romania is not a common thing both for policy makers and citizens. From this point of view there is a frustration of citizens when a policy is implemented.

> *"I don't know who are the decision makers... I cannot see them and how they work, to see how intelligent they are, and how they can think for me… substituting me… who propose them for the position of policy makers, since not only political decision is..."* (G1, S2, P2).

> *"In this direction, it seems to me that nobody listens to us. Let's say I would not have attended this… discussion and I could not express any opinion … and I have a flash, I have a great idea… in a day and I want to present it. To whom?"* (G1, S2, P3).

> *"And they say: 'So what if you have this idea!'"* (G1, S2, P1).

> *"I feel during the implementation of any project or strategies that people must be very well informed…. By authorities"* (G1, S2, P3).

"Our misfortune is that ... leaders are parallel with the people .... here is our disease …" (G1, S2, P7).

"There are many authorities who are in an area of autism... " (G1, S2, P5).

"… public consultation may be a solution… to understand what people want…" (G1, S2, P5).

On the other hand there is a great expectation from leaders since citizens recognized the need of examples and the need of guidance.

G1, S2, P1, 7

"P7: People expect something! Expected to do ...

P1: From others!

P7: Yes, yes .. The person who is already a leader in that community… The need of real leaders is great…To push the ideas to reality…"

SPAIN

No additional evidence was collected.

SWEDEN

Even if the three groups had some knowledge about sustainability, they wanted help from the authorities to be able to do better and more conscious choices (e.g. information, labeling), and activities (e.g. how to make more effect from your electrical tools).

"Though, I think I want to be serviced with the information. I cannot dig to find out what fish I shouldn't buy right now because it is endangered right now. I would like to have red lists 'don't buy this' and 'buy this', I cannot keep myself up to date on everything, that I am not able to do" (G2, S2).

There was also some criticism towards the authorities as the participants were not sure that what they did now was the right thing to do, one issue was the recycling system that they are following (is it really doing any good?).

UK

STAVE 1

While some participants declared being in favour in keeping white goods for longer, they seemed critical of the fact that society and policy makers do not do more to limit the manufacturers' impact on the environment:

"I can't see the logic in throwing something away if it's still working and it's still perfectly good. (…) We're told to recycle this that and the other all the time, so the manufacturers can easily recycle equipment or go back to the producer or the steel works whatever and they could recycle the stuff. They don't seem to do it. They don't seem to be bothered" (G1, S1, P6).

"So I don't know I think there's more major probably responsibility now what with this kind of eco world that we living in, that manufacturers should have some sort of responsibility to allow, you know, the life of the appliances you buy to increase that as much as possible" (G1, S1, P8).

STAVE 2 and 3

These finding from STAVE 1 chime with sentiments expressed by the STAVE 2,3 groups which reflecting an expectation that sustainability was really a matter for government regulation and action, rather than leaving it to citizen initiative in the marketplace.