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in the 7th framework programme



WP 6: Focus Groups National Report Switzerland

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1. Introduction: the aims of WP-6

Energy forms a key part of our everyday life: we need energy to keep our homes warm in winter, to drive our cars, to turn on the lights and for many more activities. However, unsustainable consumption patterns threaten our natural environment and climate tremendously. Consumption is therefore key to achieving more sustainable development. Though technical innovations, the energy intensity of most products could have been reduced by now, but households' rising energy consumption has outweighed these gains and formed a challenging problem (Brohmann et al., 2008). In Switzerland, private households account for almost 30% of final end energy consumption (BfE, 2009).

BARENERGY is an EU funded research project which explores the barriers and opportunities related to the reduction of energy consumption in six different countries in the European Union (EU). The countries – the UK, Hungary, France, Switzerland, the Netherlands and Norway – have been chosen in order to characterize variations in political, economic and cultural systems within which domestic energy choices are made. The principal aim of the project therefore is to try to understand the comparative influence of structural, political, financial, psychological, social/cultural and knowledge barriers to pro-environmental energy choices across three areas:

- Domestic energy use;
- Household appliances;
- Fuel consumption of cars.

A central aspect of the programme is to ascertain how barriers to the adoption of more energy efficient choices can be overcome and, more importantly, to try to identify the most effective levers or opportunities for encouraging change.

This report builds upon the two previous empirical work packages and constitutes the final part of the novel 'empirical trilogy' which underpins the core ambitions of the project itself. This report details the findings from four focus groups which constitute the research framework of WP-6 – focus groups among targeted consumer groups. WP-6 can be contrasted to the other two empirical work-packages in several ways. WP-4 for instance aimed towards clarifying the perspectives of different stakeholders and identifying the influence of their institutional role in encouraging more energy efficient behaviour. The quantitative surveys in WP-5 explored attitudes and values amongst European consumers in order to assess 'the strength and relevance of various barriers for change in consumer energy behaviour within different energy regimes in Europe' (BARENERGY, DoW, 2007:33). The aim of the focus group interviews was to explore the experiences of a range of consumers who are potentially in a position to engage in what the research proposal identifies as 'windows of opportunity'. Thus, while it tries to elaborate on some of the quantitative findings of WP-5 regarding barriers to more sustainable energy use, one of the principal aims of WP-6 has been to explore the lived experience of 'strategic groups' or people from various social backgrounds who inhabit 'windows of opportunity' in relation to their everyday energy use.

2. Methodology and the research process

2.1. Global methodology and issues

This section sets the scene for the report by briefly considering some of the practicalities of the research process of WP-6, particularly the research design and how the samples were obtained, but also the philosophical issues which underpin focus group research and the issues which would be encountered in the data analysis itself.

One of the primary aims of WP-6 is to build upon some of the findings drawn from the stakeholder interviews and also to explore the results of the consumer survey in greater depth. Therefore, while WP-5 was designed to test the strength and relevance of some of the barriers to more sustainable energy behaviours among consumers (identified initially in the three position papers D14, D15 and D16), WP-6 is intended 'to increase our understanding of the attitudes and values among various consumer groups' (DoW, 2007:34). The philosophical significance of utilizing a methodological approach that encourages undirected data has been pointed out by Hall (1997:3) who reminds us that, ultimately 'only people can give meaning to objects, events and processes'. This theoretical tradition draws from theorists such as Berger and Luckmann (1966) and the more recent work of Hacking (1999) in stressing the contingent or open-ended nature of social and political processes, especially those seen as

'fixed'. Focus groups can encourage a 'social dynamic' in order to explore 'why people do the things they do'.

WP-6 was therefore designed very much within this tradition, where the main issues to be explored in this package, i.e. 'windows of opportunity', the relationship between turn on/switch off, energy efficiency, and changes to renewable energy, could be opened up to discussion amongst potential variables such as age, gender, income and household type.

2.2. Methodology for the Swiss study

Recruitment

We conducted four focus groups with 10 people per group who were all paid to attend the focus groups. The meetings were held in the evenings to allow working people to attend. All four groups were run by a professional moderator to facilitate the groups. We ran two focus groups in the city of Zurich and two focus groups in the town of Adligenswil but also recruited people from other cantons. A minimum of 10 adults were invited per focus group; they were primarily stratified according to the two main variables outlined in the work package (i.e. stable and transition consumer groups - 2 of each) and sub-stratified according to income (which is used for recruitment as a proxy for "social patterns and lifestyles"), age and gender. Table 1 gives a summary of the groups and in Appendix 1 we included a detailed list of our participants.

Table 1: Summary of focus groups

	Group 1	Group 2	Group 3	Group 4
Consumer type	Stable	Stable	Transition	Transition
Income	Low-middle	Middle-high	Low-middle	Middle-high
Gender	~ 5 men 5 women	~ 5 men 5 women	~ 5 men 5 women	~ 5 men 5 women
Age	25-45 age group	46-65 age group	25-45 age group	46-65 age group
Household size	1-5 persons	1-4 persons	1-4 persons	1-5 persons
Owner/tenants	Aim for 50%/50%, tolerance 2/3 tenants	Aim for 50%/50%, tolerance for 2/3 tenants	Aim for 50%/50%, tolerance 2/3 tenants	Aim for 50%/50%, tolerance for 2/3 tenants

"Stable" groups were defined as adults who have not moved home in the last 10 years and/or have not made substantial alterations to their property (in terms of build/rebuild or repair) in the last 10 years. "Transition" groups were defined as adults who have moved home during the last 2 years and/or have planned to move during the coming 2 years and/or have made substantial alterations to their property (in terms of build/rebuild or repair) in the last 10 years and/or are currently making substantial alterations to their property or plan to make substantial alterations to their property during the coming 2 years.

Format

Focus groups are a particularly effective method of obtaining the views of different persons and providing deep insight into particular topics. The concept of focus group methodology was introduced into the sociology literature by Merton and Kendall (1946) and has since experienced broad applications as a research tool by a wide range of social scientists (Gibbs, 1997; Goss and Leinbach, 1996). Each of our focus groups followed a similar format. The participants responded to a series of questions related to the topics of domestic energy use, household appliances, travel and fuel consumption and wider environmental issues. A topic guide was used by the facilitator in order to guide the discussion and ensure that all relevant issues were covered. The sessions began when the moderator provided a brief introduction to describe the goal of the research; assured that the data would be treated confidentially; affirmed that participation was voluntary; noted that there were observers watching the group; and indicated that audio-taping was in progress. All four groups went very well and we were able to gather a substantial amount of data. Unfortunately, we were not able to cover all the questions of the questionnaire in great detail as the two hours were tightly scheduled.

Analysis

We recorded each group using audio and video recorders and additional member of staff sat in on the discussions in the background and made detailed notes of what was said and how discussions developed. We then transcribed the videotapes and read through the transcript in order to find compelling quotes, recurring themes and key findings. In the text below, all references to individuals' surnames have been deleted in order to protect the identity of the participants. We developed an outline with the major themes and then developed a full report using quotes from the focus groups in order to obtain a better understanding of the important issues. It must be noted, however, that when interpreting these findings that they cannot be stated as statistical evidence and it is also important to note that we are dealing with perceptions and not facts.

3. Brainstorming exercise: What could be done to encourage a more sustainable society?

At the beginning of each focus group the facilitator asked each of the group members to name one thing that they think could be done to encourage a more sustainable society. Each of the items were written up on a flip-chart. Answers can be grouped around the following keywords:

- **Renewable energies and new technologies:** "use of more alternative energy sources", "more use of solar energy", "hydro power", "wave or wind energy", "geothermal energy", "electric vehicles", "hybrid buses", "use of infrared cameras in order to show where energy is wasted in buildings"
- **Energy efficiency:** "use of energy efficient light bulbs", "replacement of energy-intense appliances with energy-efficient appliances", "smaller cars with smaller engines", "building of houses according to the Minergie standard¹", "better insulation of basements and attics"
- **Education:** "early education in schools so students are taught more about ecological topics"
- **Decrease of bureaucracy:** "less bureaucracy", "less regulation for construction projects, e.g. for solar panels", "simpler laws, e.g. with protection of the townscape in the construction industry"
- **Political measures:** "abolishment of energy-intense devices by the government", "introduction of bonuses for return of old appliances", "abandonment of plastic packaging", "enhancement of public transportation by the government", "financial support of energy efficiency measures by the federal government and cantons"
- **Change of individual behaviour:** "change of individual mobility behaviour", "more use of public transportation", "establishing car pools", "reduction of own energy consumption"
- **Flexibility at workplaces:** "introduction of more flexible working hours", "working from home"

4. Theme A: Domestic Energy Use

4.1. Introduction

The purpose of this section is to gather information on important trends related to domestic energy use, and in particular on measures that had been taken by the consumers in the four focus groups to improve energy efficiency.

4.2. Key findings

The major themes which emerged during the four focus group discussion on "domestic energy use" related to:

- **Cost:** Financial motives are the main driver behind reducing energy consumption
- **Comfort & convenience:** Non-financial barriers, e.g. discomfort, convenience, time restrictions, act as important barriers toward investing in energy saving measures
- **Structural barrier:** Tenants lack the possibility to regulate their own heating costs
- **Political barrier:** Historically protected buildings act as a political barrier for implementing energy efficient measures

¹ MINERGIE® is a sustainability brand for new and refurbished buildings. It is mutually supported by the Swiss Confederation, the Swiss Cantons along with Trade and Industry and is registered in Switzerland and around the world and is defended firmly against unlicensed use (Minergie, 2009).

- **Lack of knowledge**

4.3. Cost: Financial motives as the main driver behind reducing energy consumption

In this section we discussed some of the issues involved with energy use in the home - both heating and more general electricity use. We asked the focus group participants what they understood by this in terms of their everyday practices.

Financial motives were often mentioned in regard to the possibilities for changing behaviour in the field of domestic energy use, savings or conservation. Participants repeatedly indicated that eco-friendly factors had an impact on their domestic energy use. The main motivation, however, for assessing energy efficiency was to **reduce energy bills**, rather than to minimize the impact on the environment. In all groups, respondents repeatedly highlighted the fact that an investment into energy efficiency must **financially pay off** and environmental aspects were not the main drivers behind these investments:

"When I would decide to improve the energy efficiency of my house, I really wanted to save money by doing that. So at the end of the day one can see that it is simply about money. We can speak very nobly about all kinds of sustainable energy sources, but actually we really only act in a sustainable way when it is also economically worth it!"

"The economic impact is very important. It is simply about money. In addition, the investment should also be environmentally friendly."

"I do not put my clothes into a tumble dryer because it is too expensive. I rather peg out my washing."

"I think only when we can no longer afford our heating costs will you begin to save energy and also accept temperatures of about 18 degrees."

More precisely, participants mentioned that the **price** was definitely the most important factor in determining their energy consumption and argued that if the price of electricity or heating would go up then consumers would automatically start thinking a lot more about their electricity or heating consumption and would automatically try to use it more efficiently. One focus group participant had just moved from one canton to another and definitely felt the increase in electricity prices in his new hometown; he said that now he is trying to use electricity more efficiently than before as his electricity bill is much more expensive. Therefore, the office responsible for registration of address would be a great place to hand out information when people move their place of residence.

In general, the **increases in electricity costs** are seen as a main driver behind reducing electricity consumption. The following statement of one focus group participant put this point even more concisely:

"Especially when you think about it in the long term, electricity costs will become more important, mainly due to rising energy prices, and then people will definitely start thinking about it."

However, several participants still regard electricity costs as only a **small part of their monthly expenditures**, and therefore regard the financial incentive of lowering their electricity consumption as minimal:

"When you think about the amount of the electricity bill, the incentive to reduce electricity consumption is very low since the impact on costs is still very little."

"I am personally not really affected by electricity price as this is only a small part of my overall budget. I am a very comfortable person and I, for example, don't like to turn off my coffee machine after drinking only two coffees, and don't really think I would save much money by doing that."

4.4. Comfort & convenience: Non-financial factors act as barriers towards investing in energy saving measures

Reasons why people do not take energy efficiency into consideration in their households can be **non-financial** as well. These reasons are made up of a combination of different factors, e.g. discomfort, convenience or time. The most common reaction was that people want to feel comfortable when at home:

"Nowadays everyone wants to have a warm temperature at home and nobody is ready to cut back because of convenience when it comes to the topic of heating."

"If there were new technologies and we could just go on living as before, that would certainly be more comfortable. People are just too accustomed to convenience to save energy and do not want to feel uncomfortable when staying home. I think this is somewhat a philosophical question."

Not wanting to feel uncomfortable is especially true with regard to temperature, but also with regard to other conveniences that people have to come to expect at home such as refrigerators, coffee machines and so on. In more severe cases, changes in air flow, humidity, etc. can **cause discomfort** for people.

"I don't want to sacrifice on convenience. For example, I would not like to live without an elevator. I think it is primarily a matter of convenience. This is also the reason why so many people use a tumble dryer"

Time was also mentioned by a few respondents since people with full time jobs in particular see this as a barrier for more efficient domestic energy use:

"The time factor is also very important. For example, one important consideration is hanging the laundry outside when the weather is fine versus using a tumble dryer which is much faster but consumes a lot more energy."

4.5. Structural barrier: Tenants cannot regulate their own heating costs

A barrier dealing with split incentives often mentioned by our focus group participants was **tenants' inability to regulate their own heating costs**. This inability for individuals to control the temperature was one of the most important frustrations mentioned in all focus groups. In Switzerland, where more than 70% of the whole population rents, it is mostly the landlords' decision whether or not to invest into energy efficiency of the building. However, landlords often try to avoid high investment costs as they do not want to deal with increases in rent (Lüthi, 2009). The origin of this problem is split burdens - the burden of capital investments falls on the landlord and that of paying the energy bills rests with the tenant. That is why the landlord has an incentive to minimize capital costs by not investing into energy efficiency measurements whereas the tenant has the opposite incentive to minimize operating costs by living in an energy efficient building. However, it is not just that tenants are mostly unable to install a new heating system in their house or insulate the façade to improve the energy efficiency, but also that in many apartment blocks in Switzerland tenants receive a heating bill which is generally distributed between all tenants instead of an individual bill, so incentives to reduce their energy consumption are very low. People think it is unfair when they try to reduce their individual heating costs but neighbors do not care at all. The fact that tenants' hands are tied concerning their influence on energy costs was highlighted by many respondents across the four different focus groups:

"I live in a rented apartment and cannot do anything about my heating system. Our flat is heated by a central heating system. Therefore I cannot do much about my energy consumption as our heating system is practically impossible to regulate individually."

"I really would like to increase the energy efficiency of my household, but it just depends on the housing situation you live in. If I lived in a rented apartment, I simply could not do much about it. The same applies to condominiums as everybody around my apartment must agree in case I would like to, for example, insulate my façade."

"I live in a big apartment building. Why should I wear a sweater while the other tenants do nothing to save the environment and almost melt because of their heating. If I were responsible for my own electricity and energy consumption, I would definitely act differently."

"If the entire heating bill were no longer generally distributed between all tenants, and each tenant would receive an individual bill, this would be an incentive for me to reduce my energy consumption."

"Tenants should be able to regulate the heating system themselves and not through a central heating system for all apartments. This system should be renewed and subsidized by the state."

"As a tenant, I cannot control my heating supply. If a majority of the tenants say they are freezing, then our landlord starts heating the whole apartment block. Therefore it is the majority of tenants who determine when we start to heat."

An incentive system that leads tenants to demand energy-efficiency improvements themselves is required to overcome this **split burden**. Although both owners and tenants would enjoy the benefits of retrofitting their buildings, the question remains of how to pay the upfront costs and share the benefits; most tenants are not willing to pay a large premium for an energy efficiency retrofit. One possibility would be the introduction of legislation that would require landlords to show tenants an energy performance certificate score for their property. Then landlords would likely face growing pressure from tenants to achieve higher energy-efficiency ratings. In the summer of 2009, the **GEAK** (Gebäudeenergieausweis der Kantone) was introduced in Switzerland, an energy certificate for buildings which classifies buildings' energy quality. Property owners, or tenants, receive a document that evaluates the

overall energy efficiency of their building (shell, household systems and electric installations). The aim of this certificate is to create transparency between tenants and buyers so that the energy efficiency becomes a criterion for purchase or rent (Bfe, 2009). With utility bills on the rise, prospective tenants would be more likely to rent a more energy efficient home where they could expect their energy bills to be lower. However, this is still voluntarily implemented and should be incorporated into Swiss national energy legislation to fully benefit from this idea.

As we saw in the focus groups, generally a tenant's share of total energy costs is based on square footage rather than the actual amount used, resulting in little incentive to reduce individual energy consumption. One possibility to overcome this would be a separate energy supply to identify each tenant's energy use, thus increasing the incentive to reduce one's own energy consumption. However, such separate contracts often have greater administrative burdens which is why owners and energy suppliers are not eager to change.

However, the following quotes from our focus groups show that tenants can also have an impact on landlords' decisions and the building's total energy consumption when they join forces and establish a forum where they can express their views and thus perhaps influence the landlord's decisions. Because there is usually limited interest in attending such meetings, it is crucial that potential cost savings – identified in during the focus groups as an important factor in home energy use – are communicated broadly so that tenants are motivated to attend and take action together:

"In our building there are 28 tenants that have set up an energy group which deals specifically with that kind of energy issues with our landlord. I think tenant engagement is key to achieving energy efficiency and reducing the carbon footprint of the entire building but many of our tenants still are not that interested in attending."

If tenants learn ways to reduce individual energy use and work together to reduce their collective energy use, they would share in the savings. The following quote demonstrates how it is possible to reduce energy consumption through collaboration of all tenants without retrofitting a house. A precondition here is that all tenants must work together and stick to the rules so that a goal of energy reduction is established. Through a certain pressure in the form of social control, the risk of 'free-riders' can be limited:

"We have adapted our habits in our apartment building. In the evening, when it gets cold but not later than 9 pm, everybody has to close the window shutters. Since all residents adhere to that rule we are able to save a lot of energy and now we don't have to pay more at the end of the year and even get some money back. In addition, this measure creates a certain pressure in the form of social control. That is why it works so well and everybody sticks to that rule."

4.6. Political barrier: Historically protected buildings as a political barrier

One political barrier often mentioned was **construction permits**, especially for historically protected buildings. Many towns in Switzerland are characterized by their old historical buildings and regulations for getting construction permits differ from municipality to municipality. Plus, the issuance of permits depends heavily on the attitude of the individual in charge of approving them (Lüthi et al., 2009). However, several focus group participants who lived in historically protected buildings did not really understand why they were not allowed to retrofit their houses, or install solar panels on their roofs:

"For us it was very important to have an energy efficient heating system. We wanted to have solar energy, e.g. by using solar collectors, but that was impossible. We live in a village area in which we would have destroyed the townscape and weren't allowed to do so."

"In our district, this is a paradoxical thing. On the one hand it is restricted to put solar panels on the roof due to protection of historical monuments. On the other, the same government demands that people should behave in an ecologically sound way. I do not understand that."

Smart choices must be made regarding decisions that combine preservation of historical buildings and energy efficiency. There was a general expectation by the focus group participants that improvements needed to be made to an historic building's energy efficiency to the extent that it is practical.

4.7. Lack of information and knowledge

Another important issue that arose in the focus groups was **lack of information**. Although many of the participants were aware of environmental issues and the urgent need to reduce global energy consumption it was felt that consumers often lacked information regarding both their own current energy consumption patterns and ways to reduce their consumption. Energy consumption and especially sav-

ings are not visible. This problem occurs mainly because consumers usually only get a monthly bill with no cost breakdown. Therefore it is impossible to identify the connection between certain behaviours and their cost savings. To help overcome this problem, **smart metering systems** for electricity, heating and cooling can provide information on how much energy was consumed, when it was consumed and at what tariff. Ensuring that every home has a smart meter would be an important step to overcome psychological barriers of knowledge and information. This measurement could be an opportunity to change people's relationship to energy by increasing awareness. Smart metering would empower consumers to change their behaviour towards more sustainable consumption patterns as two participants claimed:

"The big problem is the following: in a car, I can measure exactly how much fuel my car consumes in a month and I am able to restrict my fuel consumption accordingly. On the other hand, with power, I have absolutely no control. The electricity meter is somewhere in the basement. Once a year someone will read it and at the end of the year, I receive the bill and am shocked by it. There is lot of room for improvement here. For example, systems could be developed which visually or acoustically show how much power I am currently consuming. That would certainly provide an incentive."

"There should be a system which measures exact energy consumption. With that, incentives would be set up to consume less energy and thus pay less money."

"I have heard of devices which can be attached to each radiator. These are expensive, but these devices measure energy consumption allowing me to regulate my energy consumption so that consumers would not only receive a total billing of energy costs. This would definitely be an incentive for me to think about my energy consumption more."

From the consumer standpoint, smart metering or other forms of **consumption feedback** calls attention to energy consumption by making one's own consumption level more visible, making it possible for actions to be directed towards more effective energy use. Without such direct consumption feedback, for most household consumers, their own energy consumption level remains largely invisible whereas having such a device would enable them to receive more detailed information concerning their energy use pattern, e.g. about their different seasonal energy use. Additionally, consumption feedback devices would make it possible for consumers compare and evaluate their own consumption patterns to an "appropriate" level of energy consumption:

"There should be a tool which shows each consumed kilowatt-hour with a signal. In an apartment, after having considered how big it is, how many people live inside it, it could then calculate how much energy is currently consumed. Then this tool could compare whether one is above or below average."

"I live in a 3-room apartment. I have no clue about my power consumption. A comparison to a 5-room apartment and other households would be very useful as at the moment I only see how much my bill was compared to the last one. I do not know whether I use a lot of energy or not."

Our findings generally showed that consumers perceived a **lack of consumer awareness** and suggest that a much greater effort must be made to educate the public about alternative energy sources, and to make them aware of existing programs:

"I think this is a general problem as many people have no idea how much energy they are using in general, e.g. how much it takes to heat a house. At my workplace and also when with friends I see that most people know far too little about energy issues and are not aware of the topic at all."

One participant recommended bringing information down to an individual level, sharing an **"energy footprint"** as a means of helping people understand the impact of individual actions.

"It would be very useful if there was a control system which exactly measures our energy consumption. Similar to when I count my calories during the day, this should be also possible for my energy consumption. I have actually no idea how much energy I consume and how sustainable the energy I use is."

In order to provide more information, one participant suggested that more people conduct an **energy performance audit** for their buildings in order to find out where energy is lost and that the possibility of doing such an audit should be communicated to the general public more broadly. Also face-to-face advice would be needed so that people with less knowledge about energy would be stimulated to identify their energy saving potential.

"In our apartment building a consultant came once. He has, for example, measured to see if my pans or my electric stove are energy efficient. He took notes and told me that more than half of all my pans should not be used any more. I think such a person needs to be paid by the city or the village."

"There should be a person that measures household appliances. It would be great if he could then make a recommendation as to where it would be able to save energy and money and which ones should be replaced."

"In other areas, such as the health insurance sector, there are a lot of consultants who come into your home and show you saving potential. Such consultants would be useful in the field of energy, too."

"I think that each little town should do something itself. In larger cities, responsibility could be assigned to certain quarters. Ideally, people would come by and pursue educational work in protecting the environment - like in form of missionary work. If somebody I personally know came by, he would definitely draw my attention to certain things and I would believe him."

Many participants saw lack of knowledge as the main barrier to consumers decreasing their energy consumption. For example, one participant mentioned that customers sometimes do not even know what constitutes a healthy internal temperature because of lack of information. In general, all groups felt that there should be more concrete information shared regarding possible actions and the benefits of those actions. One participant compared knowledge concerning energy to the **topic of AIDS/HIV**. He put it like this:

"There have been so many information campaigns and now everyone knows what is dangerous in this respect. I wish we could reach the same level of awareness within the population regarding the energy issue. I am pretty sure that the more people know about energy, the more concerned they will be and they would automatically save more energy."

In general, participants agreed that the more they know, the better they can act in terms of energy consumption. They also argued that there already is a lot of information available and those who are really interested always find reliable information from different sources. However, most participants thought that information (how much energy people use, small changes they could make in their everyday life to better the environment) should be more **wide-spread in order to reach more ordinary people** with lower levels of knowledge concerning energy. Three focus group participants put it like this:

"It is really not that difficult to save energy when you know how to do it. Often we simply do not know how to proceed. For example, if you know how to fill the dishwasher correctly you only have to run your machine every other day."

"Many people do not know that you can now wash your clothes in 40 minutes at 60 C whereas in the past you had to wash them for three hours. This would be a way to save a lot of energy. But people often lack information."

"Another way to look at a product's energy efficiency is to check whether there is an express wash function. Many of my clothes don't need longer than 40 or 50 minutes to wash. For synthetic clothes there is no need for gallons of water."

4.8. Other topics covered

- Saving energy is not a major topic of concern at the workplace:

Another topic which came up during the focus group discussions is the **responsibility of employees at their workplace**. Employees are not responsible for energy costs and therefore their actions are often not environmentally friendly because there is no real incentive to save on energy costs, compared to in their own homes. In all focus group sessions, participants only shared a few comments about ways they reduced their energy at work. A few individuals said that they turn off lights when they leave rooms. Other people said that they turned off unused computers and began shutting down their personal computers over the weekends. However, in general, energy saving at the workplace usually stands in contrast to conserving energy at home where consumers have to pay their own bill and recognize which actions increase and decrease their energy consumption. That is why in many offices energy is still wasted and unnecessary rubbish is generated, even if only considering the amount of paper and plastics that is needlessly dumped every day. One focus group participant who is responsible for the technological equipment in a nursing home put it like this:

"At my workplace I see that most people know far too little about energy issues and are not aware of this topic. They don't care how many light bulbs are on and whether or not the oven is switched on for three hours, even if it is not being used. At home they care about these things because they are able to save money and they have to pay themselves! From an ecological point of view, nobody really takes care of that. I think the workplace is where we should start, so that people also realize that they can save energy at work."

"At work, I usually completely turn off my computer, printer and copier every evening. However, in my office, I am practically the only one who does that. "

Besides the environmental aspect, energy saving measures could also help businesses to cut costs and increase profits. Therefore by implementing in-house training about energy efficiency and climate issues, much could be done by everyone at little cost and time.

- Prejudices against renewable energy technologies still exist

Besides the construction permit issue, **acceptance from neighbours**, the local community, or the general public might also hinder the diffusion of renewable energies. Social acceptance is crucial for the implementation of specific renewable energy projects. In general, most focus group participants had a positive image of renewable energy technologies, especially for wind and solar energy. But, it is more difficult when a local community has to approve a specific project. At the same time, research shows that large majorities of people living near wind farms have an especially high acceptance of their local wind farm (Warren et al., 2005). Nevertheless, two focus group participants described the difficulties of public acceptance as such:

"Wind power in Switzerland would be a good option. For example, you could install a wind turbine on the Gotthard pass. However, there will probably still be some locals or hikers who will say that this disturbs the landscape, even if they only hike there once a year."

"That is a huge conflict - on the one hand you want to save energy and on the other hand people don't want to have wind turbines and solar panels in their surroundings."

Also for solar panels, appeals from neighbours occur quite often because they may be affected by glare or their view may be encroached upon, making solar energy appeals quite complicated from a legal point of view (Lüthi, 2009). The decision of whether or not solar panels are installed is primarily based on individual preferences but also on social influence, for example from neighbours or other members of the community:

"This is a general problem, especially with solar energy; people think that it disfigures the townscape and it is hard to convince your neighbours that this is a good thing."

Also, some technologies such as solar panels still encounter a wide variety of other prejudices. As we saw in WP4, most consumers believe that the payback time of solar panels is still over 5 years whereas technological advancements have shortened that time dramatically. These misconceptions results in a lack of trust in solar photovoltaic technology which leads to a wait-and-see attitude towards photovoltaic by many people (Heinzle et al., 2009).

Prejudices such as the need for lots of sunlight must also be overcome when communicating the benefits of solar panels. One respondent told of the discussions he encountered when the owners of his building discussed whether or not to install solar panels on the roof:

"In our apartment block there was a discussion of whether we want to install solar panels on our roof. A counter argument is that in our canton there is too little sunlight. We need to get more information about that first. Since we live near a forest, there is another counter-argument, namely that during fall the collectors would be permanently covered with leaves."

Governments can counter this wait-and-see attitude by raising awareness and spreading accurate information. Schools, the media, solar industry associations and construction industry fairs could play an important role (Heinzle et al., 2009).

- Trade-off between installing a new heating system and insulation of the façade

Many older homes have high heating requirements because of **air leakage and bad insulation**. When retrofitting buildings, different measures must be compared and cost should be calculated for various alternatives. For respondents who could retrofit their homes, one of the prevalent topics was whether one should start with installing a new heating system or if insulation would be a preferable alternative. One respondent was annoyed by the discussion of whether or not to install a new heating system because he said insulation should always be the priority:

"When you invest, you should invest first in better windows and insulation, and then incorporate a low-cost heating system, which can then be replaced after ten years. If you have to insulate the house afterwards, this is connected to a lot of extra work. It is a much more complex issue that people have to take into account, a sustainable heating system alone is not a final solution."

Another respondent mentioned that he had discussed different options for retrofitting his building block with the other owners. They recently decided to first start with insulation and then proceed in stages. First, they will replace the windows and later on all hot water pipes. At the moment they are also discussing whether or not to install a new heating system but will not do this until they have exhausted all insulation possibilities. On the other hand, another respondent said that he thought about installing a

geothermal heating system for his home but has not thought about better insulation at all. He also said that he thinks the topic of insulation has been communicated more broadly so people take many alternatives (mainly installing a new heating system vs. insulating the façade) into account before making a decision. Yet another respondent mentioned that she first wanted to install a geothermal heating system but as this would have cost over CHF 40.000, they then decided to insulate the house better. In general, the participants shared the view that no single energy efficiency measure is better than the other, and each situation must first be assessed on its own merits.

4.9. Windows of opportunities

- **Rise of energy prices:**

An important window of opportunity would be when electricity or heating prices go up, because consumers automatically start thinking more about energy consumption and then specifically seek advice on how to reduce energy bills. It is important that consumers receive a lot of information on lowering energy consumption during this time for example, by conducting an energy audit or by inviting an energy consultant to their home.

- **Construction, purchase, or refurbishment of a house:**

Building, buying and refurbishments of homes are all good opportunities to inform consumers about different alternatives for increasing their home's energy efficiency. This time is very important because some measures, especially good insulation, need to be taken into consideration right from the start so that no expensive changes are necessary once construction has begun.

- **Moving homes:**

Another window of opportunity would be when people move to another canton. The address registration office would be a great place to hand out information. With the introduction of the GEAK in Switzerland, tenants can also take energy efficiency into account now when choosing where to live. However, because it is still voluntarily implemented, it should be incorporated into Swiss national energy legislation to truly benefit. However, the introduction of the GEAK can also be seen as an important window of opportunity since many people have not heard of it yet and it needs a great deal of advertisement so that people explicitly ask for it when renting or buying a new house or apartment.

- **Introduction of separate energy supply and smart metering for each tenant**

As tenants also often pay their energy costs based on square footage rather than the actual energy used, one window of opportunity would be to introduce a separate energy supply for each tenant, assuring the identification of their own energy use. Introduction of smart metering would also be an important step to overcome knowledge and information barriers. This measurement could be an opportunity to change people's relationship to energy. In general, there is a lot of demand for more concrete information regarding actions people should be taking.

- **Discussion of energy efficiency at the workplace:**

At work, employees are not responsible for energy costs and there is no real incentive to save energy. One suggestion is education for employees about energy efficiency at the workplace. An important window of opportunity would be in-house training about energy efficiency and climate issues since both employers and employees could benefit; employers could help cut costs and increase profits and employees would gain beneficial information.

- **Approval of specific projects by local communities:**

When a local community has to approve a specific renewable energy project this could be used to provide a lot of information since people are especially open to all kinds of information during this time.

5. Theme B: Household Appliances

5.1. Introduction

Domestic energy demand is steadily increasing as the number of appliances in households rise and consumers ask for more functionality from new products. Higher standards of living and comfort, multiple purchases of electric appliances, the use of consumer electronics and the internet can all be cited as the main reasons for this underlying trend.

"Convenience is becoming more and more important. My mother recently told me that she first heard of hair dryers when she already had children. Today, my 9-year-old daughter uses the dryer frequently and this is absolutely normal for her. Additionally, these devices are becoming smaller and cheaper, and in total, all these devices put together require a lot of energy. All these devices make our lives comfortable and nobody really thinks about if they are really necessary."

"So many devices have become so normal for us and they have become so cheap that everybody can buy them. Nobody really thinks about whether these devices are actually really needed and how much energy they need."

Therefore, improving the environmental characteristics of products on the market is an important step towards overcoming the energy challenges in Switzerland. However, changing people's behaviour and attitudes towards energy using appliances is surely just as important. This section focuses on analyzing the main considerations taken into account when purchasing a new energy-using appliance.

5.2. Key findings

The major themes that emerged from the four focus group discussions on 'household appliances' related to:

- Purchase price is often the most important buying criteria for household appliances
- Formation of "motive alliances" of environmental with non-environmental purchase criteria
- Consumers are mainly driven by financial motives when taking energy efficiency into consideration
- The European Energy Label works as an effective communication tool, however its enlargement is perceived as non-transparent
- Different products – different buying criteria are taken into account

5.3. Price is often the most important purchase criteria for household appliances

An important barrier with regards to the low number of energy efficient appliances sold is usually the higher initial costs, as many consumers think primarily in the short term. Consumers often see the initial purchase price, while the complete **life-cycle costs** (the sum of capital and operating costs over the life of the equipment) are not paid attention to or are unknown. That is why the actual level of market penetration of cost effective, energy-efficient technologies is often far below the optimal level, also known in the literature as the "energy efficiency gap". In our focus group, energy efficiency was rarely mentioned as a first order purchase criteria. Many of the participants were driven by the desire to keep the initial expenditures low and only few kept entire life-cycle costs in mind. Many respondents mentioned that one major driver behind their decision to invest into an energy efficient appliance was to save money:

"We own a house and when we buy a new household appliance we think first about the costs and look for an appliance which uses less energy in order to be able to save costs in the long term."

"I think that the average citizen primarily pays attention to the price. Indeed, I believe that ordinary citizens don't really pay much attention the energy efficiency. I don't believe that people really make calculations regarding their future energy consumption, but look primarily at whether the product costs CHF 200 or CHF 1000. Only the present counts."

"It must pay off for the consumer. Only when it comes to money do consumers start to react strongly."

"It really only works when it comes to the issue of price. If, for example an energy-efficient appliance only costs you CHF 30 per year whereas an inefficient appliance cost you CHF 60 on energy costs per year, most consumers would definitely go for the cheaper one."

"I think the ordinary citizen does not take time to compare all these offers. Usually he does not even care how many A's are on the appliance. He just looks at whether it costs CHF 500 or CHF 2000 and then buys the device for CHF 500."

This was particularly true for low-income consumers as they are the ones without cash or access to credit to pay for the more efficient and expensive equipment. There were respondents that said that if they had money, they would definitely take more ecological criteria into account:

"If I had more money, I'd taken definitely ecological criteria into account. However, if money is a big topic in your everyday life then you cannot do that much for the environment."

"One really needs to be able to afford taking care of the environment. Buying energy efficient appliances is the same with buying organic food products - it is simply a question of money. It only works when the price is right - it's that simple. Environmental protection is always a question of if we can afford it."

5.4. Formation of "motive alliances" of environmental with non-environmental purchase criteria

Besides price, other non-environmental purchase criteria were also often mentioned by the participants. For many, purchase criteria such as brand, warranty, service or design play a very important role when purchasing an appliance. Consumer decisions likely vary across preferences for different kinds of criteria, together and in combination, according to individual perceptions, lifestyle needs and spending power. Although ecological reasons to buy energy efficient appliances were also considered important, they were not a sufficient motivator to buy such devices in themselves if the quality or other important product categories of the product did not meet a certain standard:

"The quality of the product also needs to be good. I would rather buy a good quality, inefficient appliance than a low quality, efficient appliance."

"I recently bought a washing machine; I first looked at the size and capacity and only afterwards how much energy it consumes. So this attribute can be described as important, but not so important that I would choose an inferior product."

Therefore, if a company manages to combine environmental attributes with classical buying criteria such as a good design, long warranty, etc. to form "motive alliances", then other consumer groups with a less distinct environmental concern could potentially be open to energy efficient solutions. By aligning socio-ecological attributes with main purchase criteria such as functionality, performance, design, durability, taste, freshness and so on, motive alliances can be created (Belz, 2001).

5.5. Consumers are mainly driven by financial motives when taking energy efficiency into consideration

Although many participants mentioned that energy efficiency, especially energy labels, had a large impact when buying appliances, most of the motives mentioned could be classified as financial motives. A couple of respondents mentioned that when buying a household appliance the energy efficiency was particularly important to them because in the long run it is eventually cheaper than an inefficient appliance and additionally something for the environment can be done. Similar to domestic energy use, the main motivation mentioned by participants for assessing the energy efficiency of a household appliance was to save money rather than to save the environment. The statements of the following two participants put this point more concisely that an energy efficient appliance ultimately leads to lower energy costs in the long run:

"When I bought a freezer, the energy label had a huge impact on my purchase decision since freezers use a lot of energy. A high energy efficiency class really pays off. Of course, you have to invest a bit more money at the beginning, but in the long run it ends up being really cost-effective."

"When I buy a household appliance, then the energy efficiency is a very important purchase criteria for me. I would definitely go for an A or an A+ labelled appliance. I think it is much better to buy a more expensive energy efficient appliance; ultimately it pays off because you have lower energy costs in the long run."

The fact that consumers are mainly driven by financial motives when taking energy efficiency into consideration has been also recognized by the following focus group participant who mentioned that in her apartment block a washing program at 60 degrees costs more than at 40 degrees and that this works as a financial incentive which definitely has an impact on people's washing behaviour:

"In many apartment blocks you have to pay more when you want to wash your clothes at 60 degrees (CHF 1.60) versus at 40 degrees (CHF 1.20). This is definitely a financial incentive that has an impact on a consumer's decision."

5.6. The European Energy Label as an effective communication tool - its enlargement however is perceived as being confusing

Ecolabeling can be defined as making relevant environmental information about a product available to consumers through product labels to promote an environmental goal, cause or objective through consumer choice (Truffer et al., 2001). Through the impact of labels, consumers should be able to differentiate between energy efficient and inefficient products and therefore be motivated to choose more environmental products. In our focus groups, the European Energy Label was very important to most participants. One participant mentioned that nowadays virtually every household appliance is labelled and that it is almost impossible to ignore it anymore. In general, participants shared the view that they would rather pay slightly more if the appliance were labelled towards the top of the scale. Several participants also mentioned that they either have not bought a product because it was not in one of the top categories of the scale or they have postponed the purchase of a product until a better efficiency class was available or waited until there was a promotion where they were finally able to buy an energy efficient appliance for a lower price:

"I once decided not to buy a freezer because it was not energy efficient. We decided to wait until there was a promotion where we finally were able to buy an energy efficient one."

"I would never ever buy an appliance with an efficiency class in the lower categories. The appliance must have at least an efficiency class of A or B. Just because a refrigerator had a pretty low energy efficiency class we did not buy the one we preferred at the beginning. We then bought a more expensive version which was labelled with an efficiency class of A."

"One time I wanted to buy a new tumble dryer. However, at the time, the highest energy efficiency class available on the market for appliances was a C. That is why I did not buy one."

One participant also mentioned the benefit of providing incentives to producers to manufacture appliances that consume less energy since consumers now have the power to take the energy efficiency into account when buying a new appliance:

"When a producer does not produce environmentally friendly products, consumers can recognize it because of the red labels and act accordingly. This works especially well here in Switzerland since we are more willing to pay for environmentally friendly products and have the financial power to pay more for those products."

"I assume when 20% of all buyers feel that the energy label is important, then the industry will adapt and produce more energy-efficient appliances in order to remain competitive. This is why industry is becoming more and more environmentally friendly. This can be seen in the automobile industry especially."

One participant also mentioned that he would prefer that energy labels be introduced for product categories that have not been labelled yet so that consumers could actively take the energy efficiency class into account and would not be dependent on reading the "fine print":

"I would like energy labels to be introduced for irons or hair dryers. If hair dryers had energy labels, people would definitely pay more attention to it. As long as the energy consumption information is only in the fine print, nobody will really pay attention."

Another participant claimed he would prefer that manufacturers provide information in a simplified way, for example by providing the estimated monetary operating costs of a given appliance so that a consumer could see at one glance how much money he would save over the life cycle of a product:

"An A+ label alone does not tell me a lot. It would be much more interesting for me to see where I could save expenses. That would be much simpler and striking. With the energy label, I always have to calculate how much energy and money I save in the long term."

The European Energy Label was introduced in the mid 90's with the goal of showing the energy efficiency class of different types of household appliances so that consumers could determine the energy efficiency at a glance. However, by fostering innovation, more and more energy efficient products were developed so that for many product categories, the highest class of the scale has already been achieved or even surpassed (Heinzle and Wüstenhagen, 2009). Nowadays, for some product categories, e.g. refrigerators or washing machines, only appliances with an energy efficiency class of C or better are available for purchase (Energieinstitut, 2009; CECED, 2005). In 2003, an expansion of the entire scaling system took place and new efficiency categories above class A (A+ and A++) were introduced to the market in order to make the most efficient products more easily identifiable. Although this topic was not explicitly covered in the questionnaire guideline for the focus groups, it was thoroughly discussed by the participants nevertheless. This enlargement of the scale was criticized by many focus group respondents as non-transparent and difficult to understand. Following quote illustrate many consumers' dissatisfaction:

"Honestly, this is just ridiculous. First there was just A, then there were A's with a plus, and now we even have As with two pluses. I honestly don't know how many pluses an appliance can have at all. These days you simply find appli-

ances with an energy efficiency class of A or higher in stores. I don't think you can find any appliances below a B in stores. The fact that there are so many A's really confuses me. Industry has reached such a high level in energy efficiency, that they just pack more and more pluses on top of the scale. This scale has really lost transparency for me."

This respondent particularly criticised that by introducing additional classes on top of class A the choice of the most efficient household appliances became more and more difficult as consumers became confused about the best product category. One respondent also pointed out that as a result of introducing the additional classes, only appliances performing to an A standard or higher could be found on the market and argued that the entire rating system became thus increasingly unclear:

"In shops nowadays you just find appliances with energy efficiency classes of A. I don't really understand the system behind it anymore."

Following focus group participant also heavily criticized the expansion of the scaling system. He points out that as a result of introducing the additional classes, an "A" class product would no longer necessarily be the best in class but due to consumers' lack of knowledge of this expansion of the scaling system, a "C" rated appliance would still be advertised by producers as being in one of the top categories of the scale:

"In most cases, labelling just functions as a psychological trick. The list goes down to G, but if the product is labelled with a C - which is the worst you can get at the moment - the producer still can say: "Hey, I am still available in one of the top categories". That is absolutely false advertising!"

Although most focus group participants saw the European Energy Label as being very successful, the current situation foreshadows label ratings of some appliances becoming increasingly unclear and easily misunderstood. Focus group participants argued that everybody should intuitively know that "A" is the best product category so that consumers won't be confused.

5.7. Different products – different purchase criteria are taken into account

Focus group participants repeatedly mentioned that different purchase criteria were taken into account for different product categories. According to several participants, the decision of whether or not to take environmental criteria into account primarily depends on whether a product requires a lot of energy or not. They said that the energy efficiency label is far more important for the more energy-intensive products. A couple of respondents even stated that the energy label becomes the most important purchase criteria for products that run all day long, e.g. refrigerators or freezers:

"We bought a freezer where the energy efficiency class was an important purchase criterion since it is an appliance that runs all day."

"For a refrigerator which is on 24/7 and cannot be turned off, the energy consumption is a very important criterion for me."

In contrast, for smaller devices, the energy label has a much lower impact on the purchase decision:

"Particularly with major appliances the energy class is very important, e.g. with washing machines or microwaves. For smaller devices, like the water cooker I just bought, I wouldn't pay that much attention to the energy class."

"When I buy a new car I will consider the energy label. On the other hand, if I were to buy a small computer I probably would not pay any attention to it at all."

Product design was mentioned as one of the most important non-price-factors in determining the success of a product. However, one participant pointed out that the importance of design is also dependent on the product category. One example she gave was that the purchase decision process of buying a product for the living room, such as a TV, is completely different from buying a product for the basement, which is not visible to guests. She put it like this:

"When I buy a washing machine I usually have other purchase criteria than when I buy appliances for the living room. For example, for a washing machine or other appliance at home that is not directly visible to guests, the energy efficiency class is the most important criterion for me and nothing else! However, when I buy a TV, its design is more important."

5.8. Other topics covered

- Opinions differ on the effectiveness of information concerning energy efficiency

Opinions regarding the education of consumers and an increased awareness diverged too. Although there were a couple of participants that think there is a lack of information, some respondents claimed

that they think that even if consumers get all necessary information, they would continue living their lives as before. Two participants compared the situation with trying to provide smokers with all kinds of information:

"I don't think that it would make a lot of sense to show consumers how environmentally damaging a product they use is because nobody is really interested in that topic. Look - you can provide smokers with all available information that smoking can cause lung cancer. You can show them smokers' lungs and terminally ill patients - but they will continue smoking anyway. Therefore I don't think that demonstrating environmental problems would change anything - people are just not interested."

"I also personally feel that these campaigns would not be very effective. Otherwise, all smokers would quit smoking too. What everyone does in the end comes down to a personal choice."

However, most participants shared the view that education campaigns would generally prove effective since many people do not know how much energy household appliances consume and would like to be better informed before purchasing:

"Education campaigns would be a good idea because at least consumers would think about the energy consumption of a household appliance before they make a purchase."

"I think it would be very effective if people were shown, for example through a media campaign, how energy inefficient certain products are."

- Consumers are aware of problems concerning standby mode

Standby power is described as the energy used by an appliance that is plugged in but not being used and is awaiting instruction. Many products use electricity 24 hours a day, seven days a week so that they can be ready for operation if the consumer wants to use it. The IEA defines standby as identifying low power modes required to provide remote control capability, network sensing, digital display and other non-core or sensing functions (IEA, 2001). Our focus group participants agreed that excessive standby power wastes energy since this electricity is usually unnecessary. However, many products today are designed to be equipped with low power modes for services that consumers do not necessarily need. Also, many products do not even have a button to switch the product off. In general, there were a couple of focus group participants who discussed the topic of standby power. They mentioned that these products draw power 24 hours a day, often without knowledge of the consumer, and that switching off the stand-by mode would result in a tremendous amount of electricity saving potential:

"The stand-by mode requires a lot of power and when you consider how many devices are running in this mode - approximately 10-15 units per household - this would indicate a tremendous amount of electricity saving potential. Our computer and also other PC equipment, television, the coffee machine and so on - all run on stand-by mode."

One participant even mentioned that if the standby mode did not exist, an entire nuclear power plant in Switzerland could be switched off:

"You could switch off an entire nuclear power plant in Switzerland if standby mode did not exist. I usually turn off the computer and the printer completely using a power strip - also for environmental reasons."

One participant mentioned, as one single individual product draws relatively little standby power but a typical home has several household appliances which constantly are drawing power, even "little things add up" as all appliances together amount to a big share of residential electricity use:

"If you calculate costs over the whole year, not using the standby function is worth it because of a lower electricity bill. Even little things add up."

- Devices to make one's life easy in order to overcome consumer inertia

Many focus group participants gave the impression that they are conscious of problems associated with energy consumption and the standby discussion mentioned above. However, some of the participants openly admitted that they are too lazy when it comes to switching off their appliances and would benefit from a device with which all appliances could be turned off with a single switch. Other options where consumers would not have to think about switching off the appliances would be if the device automatically turned off after a certain time:

"I usually don't turn off all my appliances, mainly due to laziness. However, I have considered remodeling my house to install a device which would allow me to turn off appliances with a single switch through one central control function."

"I have to admit I am too lazy. I only turn my appliances completely off if I am going to be gone for more than 2-3 days. At home, usually my appliances, including computers, run permanently. However, I do not have a television. Also my coffee machine turns off automatically after a certain time. I bought the machine also because of this function. I only turn off my computer when I am definitely not going to be home for a few days."

However, these quotes highlight also the need for behaviour change initiatives alongside technological innovation.

- A consumer perception exists that industry must take a lead

In general, opinions of our focus group participants differed as to whether or not industry should take the lead in improving energy efficiency and environmental protection. Some participants mentioned that supply predefines demand and that consumers would only buy products available on the market.

"I think we should start by educating manufacturers. They should not produce appliances that consume vast amounts of energy. Since the technology for energy efficient appliances already exists, it is important to only produce those kinds of products. If there are no other technologies for consumers to choose from, we would only purchase energy-efficient appliances."

However, one focus group participant also pointed out that consumers can also have an influence on manufacturers by boycotting the products of manufacturers that sell inefficient appliances. However, this participant also mentioned that most consumers would still buy inefficient products if they needed them. Therefore, he also believes that products should not be produced if they do not fulfil a certain energy efficiency standard:

"Consumers can only buy products that producers have on the market. As a consumer you have the power to not buy products that are not energy efficient and thus you have indirect influence. However, when I need something, I really have no other choice. I think it would be best if only reasonably energy efficient things were produced."

"However, if the product manufacturer only produced environmentally friendly equipment, we as consumers couldn't even decide otherwise. Therefore, companies have a lot of responsibility in this regard too."

This suggestion is essentially the strategy of choice editing. Choice editing is the pre-selection of products and services available to consumers by industry, including retailers, which cuts out unnecessarily damaging products, thus directly shifting the consumers' possible choices towards products characterized by their low environmental impact. It essentially edits out less sustainable products and raises the efficiency standard for all (Sustainable consumption roundtable, 2006). In contrast to this strategy, which reflects a voluntary step towards a more sustainable way of business, some participants also thought that the government has the power to put pressure on manufacturers to only produce energy efficient appliances:

"I also think that the state should determine what producers are allowed to launch on the market, e.g. only products with a certain energy efficiency class."

"I think we all agree that our government should ensure that such equipment can no longer be imported. If I as a consumer could only buy energy efficient appliances, then this discussion would no longer exist."

Therefore, many agreed that businesses can make significant contributions to a more sustainable future as employers, product and service providers, or taxpayers. However, some participants also believed that industry itself has such power that even regulations that have already been planned by the government could be prevented by a strong lobby:

"What bothers me are strong lobbies. Even if the state decided that energy inefficient freezers are no longer allowed to be launched on the market, there would certainly be a lobby that would want these products to be produced still."

Nevertheless, there were also a lot of participants who mentioned that **consumers**, in addition to government and industry, also **have a responsibility to** act accordingly by taking environmental consequences into account when buying a new appliance:

"I think both producers and consumers have a shared responsibility. Consumers must also act accordingly and there needs to be increased public awareness."

"Everybody has to do something. Of course, the federal government and legislature have a big impact. However, consumers also need to be willing to take the first step. If everybody just blames and points fingers at one another, nothing will happen at all."

"Consumers should also pay greater attention to the energy consumption of appliances. I think that producers, consumers and the government all have a responsibility in that regard."

5.9. Windows of opportunities

- **Moment of purchase**

The moment of purchase is crucial because motivations that drive customers to choose one product over another provide important insight. Information about the energy efficiency of a household appliance should be given to consumers at this time, and especially the cost saving potential associated with the efficiency. As several focus group participants mentioned, many consumers are mainly driven by the desire to keep initial costs low and have no operational costs in mind, energy efficiency should be clearly communicated, either through product labeling or through competent sales staff.

- **Building a new house or moving into a new flat**

When building a new house or moving into a new flat, future owners or renters should be informed about the energy-efficient use of appliances in the apartment or the house by the landlord or seller. Then this information can be taken into account when deciding on a home. However the main problem here is, as Lüthi et al. (2009) described in WP4, that one has to distinguish between professional buyers (e.g. landlords, investors) and private buyers or renters which both have different motivations for purchasing energy efficient appliances. Whereas homeowners or renters use the appliances themselves and have to pay the costs arising from their use, professional buyers mainly want to buy the cheapest devices as they do not want to increase rent.

- **Replacement of an appliance**

In case an appliance breaks down and needs to be replaced, consumers often do not have a lot of time to choose a new product. Thus, the same situation applies here as when buying a new appliance. The moment of purchase here is very crucial as most consumers quickly choose one product over another due to time restrictions which often occur when there is a need of replacement of an appliance.

6. Theme C: Travel and Fuel Consumption

6.1. Introduction

This section presents the results of the focus group discussion questions regarding travel and fuel consumption in order to obtain a deeper understanding of Swiss consumers' attitudes toward modes of transport and to explore perceptions of public support for different kinds of policy measures. Public transport, an alternative to the private car, includes trains, buses and trams, and can be one way of relieving excess traffic congestion and air pollution. Choice of transport is influenced by several factors, such as the type of journey, situational variables such as living in the countryside and individual characteristics.

6.2. Key findings

The major themes that emerged from the four focus group discussions on 'travel and fuel consumption related to:

- Reasons for using public transportation are diverse and influenced by several factors
- Reasons for sticking to private cars are mainly driven by convenience and structural barriers
- Lowered cost and improved convenience of public transport use are important to encourage this alternative to personal vehicles
- Regulations and state interventions are generally welcomed

6.3. Reasons for using public transport

The following paragraphs describe different reasons for using public transportation in more detail. One participant mentioned that she uses mainly public transport and would not drive to work because she dislikes **traffic jams**:

"You definitely have to distinguish between somebody who is working and somebody who is not working. If I were working, I would definitely use public transportation. Traffic jams at peak hours are absolutely horrible. First of all, cars consume a lot more fuel and it takes twice as long to get to work. Some companies pay for employees' train tickets because they don't have parking spaces available at the workplace."

"Sometimes you are even faster with public transportation than with your own car if there is a lot of traffic."

In Switzerland, train connections between major cities are quite good and sometimes even faster than driving. Some of our participants mentioned that for "**city hopping**" public transport is definitely the better option as it more comfortable, there are no problems finding parking spaces and connections to inner city tram systems are usually very convenient:

"When we go from one city to another, e.g. from Basel to Zurich, we would never use the car but always take the train; it is much more comfortable because you don't have any problems with parking."

"For going from one city to another, taking the train is wonderful. When you arrive at your destination, you then can also directly enter a tram. All these tickets can be easily ordered online. I do not think it is necessary to use a car when you just go from one city to another."

Some people argued that by solely using public transport they could **reduce their transportation costs**. When considering the of costs associated with owning a car, some mentioned, public transportation as being by far the cheaper option. Some participants argued that most people do not consider all costs and often calculate incorrectly:

"Once I calculated how much a car costs per month. After adding all costs, i.e. costs for gasoline, maintenance, insurance, etc., it came to approximately CHF 500 per month. However, the cost of an accident or unforeseen damage was not included. With this amount, I could easily afford a GA rail pass and also, if necessary, a taxi one in a while; a car would cost me much more."

"When people directly compare prices of public transportation with car ownership costs, they often miscalculate. For a mid-size car in Switzerland you have to calculate with at least CHF 1,- per kilometre to account for all charges."

One major discussion point during all focus groups was that as a single person, especially when you have a special subscription, taking public transportation is usually cheaper. However, when **travelling with children**, many participants argued that the costs for the entire family are too high:

"When I am travelling alone then public transportation is inexpensive. In Basel Land, Basel-Stadt and Aargau we have a subscription that costs only CHF 67 a month and you can use as much public transportation as you wish. There are no restrictions and it is a really large area that is covered by this subscription."

"As a single person this subscription is attractive, but as a family of five, then the total price is too expensive compared to a car."

However, many people do not know about the fact that **children up to 16 years travel almost for free** in Switzerland. This knowledge barrier could be overcome with better and more widespread communication:

"Children up to 16 years travel virtually free with public transportation. They pay CH 20 per year - the Junior Card - when accompanied by their parents. Two children have to pay for this card; for the third child, public transportation is completely free."

Focus group participants mentioned that on a bus or train it is possible to read a book, play a game, or even chat with your friends on the computer if internet is available, whereas when driving one has to concentrate on the actual driving. Therefore several participants mentioned that taking public transportation is more **convenient**, which stands in sharp contrast to the fact that convenience is often connected to owning a private car.

"Tomorrow I'm going with my wife to Friedrichshafen. This route costs CHF 66 per person by train. However, the distance to Friedrichshafen is about 250 kilometres one way. Therefore, for me it's relaxing to travel by train. I do not have to concentrate on the traffic and can chat with my wife a bit. We can drink coffee together and enjoy the time."

"It is pretty tiring when you take the car to go inside of the city of Zurich. Here, taking the train is much more convenient."

One participant mentioned that it is of special interest for him to take public transportation as he wants to use his spare time **efficiently** by reading a book or working on his laptop:

"Efficiency is very important for me when taking public transportation. I am very glad that I can read on the train."

Feeling safe on a train is another reason for taking public transportation. In Switzerland, trains are usually very safe.

"On the train I feel safer than when driving. Especially when you're drunk, using public transportation is much better."

One participant mentioned that, as a passionate hiker, it was very convenient for her and her family to use public transportation when going on an excursion, since they could **start at one point and end at another**:

"For a family, taking the train has a lot of advantages. You don't have to go back to the same starting point when you are planning an excursion. For example, if you drive to a hike, you would have to hike back to the starting point."

One participant explicitly mentioned that she takes public transport mainly for **environmental reasons**:

"I don't use a car for environmental reasons and usually travel with public transport."

Another reason for taking public transport or to walk or bike instead of taking a car is to get a **bit of exercise** (it is usually necessary to walk a bit to get to the bus stop).

"When I bike to work I can work out a bit."

"When I go shopping, I often combine it with a walk with my kids. It is good for our health and our kids have fun when they get to ride the bus or just walk. Of course there is also an environmental motive behind it."

"I use my bike quite often. Cycling is also my hobby. In my neighbourhood, people sometimes drive just to visit their friends and family that live close by. I think that is crazy."

Some participants mentioned that using public transportation is primarily a **matter of routine** and just getting used to public transportation. As one participant put it:

"When I changed to only using public transportation I first had to learn how to read train timetables. The first half year I really had some problems with adapting to my new situation because solely using public transportation requires consistently monitoring your watch. If you have an important appointment, you have to take an earlier train than the one with which one you would be on time, so if there is a delay, you will still be on time... I cannot, for example, finish a telephone conversation, because if I am not at the bus stop at a certain time, the bus will not wait for me. By car you are much more flexible. However, this is just a matter of routine."

6.4. Reasons for using private car

A couple of participants mentioned that a car is essential for them **to reach the workplace**:

"To go to work I usually drive and for leisure time, I take public transportation. My workplace is not connected to a main station, so I just would need too much time to get to work."

"We have a car because my husband needs it for work."

One major reason for using private car instead of public transport is **insufficient access to** public transport in **suburban areas** not connected to city centres. People in rural areas are more likely to rely on private transport than those in bigger cities. As argued above, transport difficulties in rural areas are associated with problems accessing work, but also shopping and other services. Most focus group participants argued that the public transportation network should be expanded in the countryside so that more people could be persuaded to switch to using public transport. These focus group participants described the situation as follows:

"I think the location of your household and convenience plays an important role when deciding for or against public transportation. If I lived in a big city, then I would immediately get rid of my car. However, I live in the countryside and I definitely need a car here because without it, it would just take too long to get anywhere. Also, buses should drive more at night."

"I drive a car to work in the city centre. Where I live, there is no railway station but only a bus stop. If I took the bus I would need to change buses twice more, with additional waiting for connections. All in all, it would take far too long."

"I only use a car. Public transportation is too complicated since I live in the countryside and a bus or train station would be too far away from my house. The only possibility for me to use public transportation would be when I go on vacation."

"When you live in the countryside, I can totally understand that you need a car. Even for just a short distance, using public transportation would require a disproportionate amount of time. "

Another reason which was often mentioned for using private car was that with public transportation it is nearly **impossible to shop in bulk**. Many participants mentioned that they usually don't need a car unless they have to do a lot of shopping or drive somewhere not accessible by public transport:

"I mostly drive. I have a big family and when I go shopping, I buy so much that I almost fill up the car. Without a car this would be almost impossible."

"We have a car. However, we use it mainly for large purchases or if we go on vacation. Otherwise, I mainly use public transportation."

"I live on the countryside so I need a car, especially when I have to do grocery shopping."

Habit was another one of the reasons mentioned by our participants for having a private car. It was argued that people are not used to walking short distances anymore, e.g. walking to the next bus/train stop or going shopping by foot:

"I think the main reason why people are so dependent on their car has primarily to do with habit."

Some participants shared the view that costs associated with car use are less than using public transportation. In the stakeholder interviews in WP4 this was also mentioned as a barrier to more sustainable travel because the low oil prices do not force people to make the switch from driving to using public transport. With other external costs (e.g. health or environmental costs) not integrated into fuel costs (i.e. consumers must not pay for the hidden costs generated by transport such as air pollution, noise, cost for combating climate change, congestion, etc.) consumers perceive travelling by car as cheaper than travelling by bus or by train.

"When you travel with the whole family, it is cheaper to drive."

"To go into the city, a train ticket would cost me CHF 8 -. Because I already have a car and with its fixed costs, it does not matter whether I use it for only 1 or 20 kilometres per day. I also think trains in Switzerland are very expensive. I would have to buy a "half-tax subscription" and I would not be that flexible anymore."

"Here again, it's all about costs. When go into the city with our children, it is cheaper to drive than to pay for four bus tickets. Also, I can park for free in my employer's parking lot."

One of the reasons many participants gave for using a private car was that driving is much **more convenient and comfortable**. Compared to using public transportation for example, driving means being independent of a bus schedule and therefore being more flexible. One participant mentioned that he did not like being bothered in trains; that he could listen to music. He also admitted that these were mainly comfort reasons. In general, more pre-planning and less flexibility were perceived to interfere with one's lifestyle. A general consensus was that routines ingrained in everyday life can be hard to change, even if one is aware of the problem. Families with children especially, mentioned that having a car simplified life:

"On weekends, when the whole family is travelling together, we usually drive - mainly because of time constraints and convenience."

"I travel a lot with children and they have their games in the car. I admit, it is mostly because it is convenient that we drive."

One participant mentioned that one of the reason why cars will not disappear is because cars are often seen as an **expression of freedom** where one can enjoy driving without any restrictions:

"In Switzerland, many people cannot afford a house but can afford a car. I can sit inside my car and decide when and where I want to go. I think these values are especially important for the Swiss."

An important **icon of progress of democratic societies** has been the individual access to motorized forms of transport. Respondents from our focus groups that owned a car appeared to have more psychosocial benefits from this practice, e.g. self-esteem or prestige, than those who did not own a car.

"I think that cars are big status symbols."

The topic of **big off-roader vehicles** got a lot of attention during the focus group discussions. Most participants thought that people who own such big cars are concerned with prestige and making an impression:

"I don't see the point in someone driving around alone in an off-roader in the city. For those people, it is all about prestige and they should pay more for it."

"Having an off-roader is very trendy right now. In the countryside where I live somebody bought a jeep and now everyone thinks they also need a big car to make an impression!"

Many people saw public transport as less reliable, and associated driving a private car with **time savings**. According to two participants:

"For long distances I usually take the train. For small distances, I prefer driving, especially if it takes twice as long to go by train from one place to the other; I would definitely need the car."

"I am a professional singer. If I have a gig, I drive. That gives me confidence that I won't be late. When I take the train, the risk of a breakdown is just too big."

Respondents reported that **carrying luggage or travelling with children** presented a problem when using public transport and made travelling exhausting and stressful:

"I find it extremely difficult to take a stroller on the train. And then on the train you have almost no space."

"If I wanted to get to the train station I had to order a taxi, because of the stroller and luggage. Then, the children's section in the train was always occupied by retirees who then claimed the kids were a little too loud. We could barely find a place on the train. Then I got mad and bought a car and discovered that for a family of five it is much cheaper. I am also much faster, it is more convenient and I am less nervous."

Overcrowding during rush hours remains a barrier in more crowded areas since many people are annoyed by other passengers or criticize the **hygienic conditions** inside of buses:

"In buses, people cough a lot and we run the risk of getting sick. The hygienic conditions on buses are simply not optimal."

"Sometimes the behaviour of some passengers in public transportation is almost unbearable."

"Trams are often overcrowded. Something needs to be done because there are just too many people inside the trams."

6.5. Incentives to switch to public transport

This section notes several possibilities the participants discussed regarding incentivizing a more widespread switch to public transport.

- **Having a subscription for rail passes or travel cards:** In Switzerland, many possibilities exist to reduce public transport fees with subscriptions for rail passes or travel cards. Besides the “General Abonnement” (GA) rail pass, where an adult pays CHF 3100 - per year for a second class ticket and then enjoys free travel on all public transport, one can also purchase a half-fare card (with which tickets are half price), a track 7 card (which gives free travel from 7 pm till 5 am for youths), among other options. One focus group participant mentioned that he saves a lot of money with his GA rail pass:

“To go into the city I always use public transport. I save a lot of money with my GA travel card. Without a GA, the train is very expensive.”

However, some participants also thought that GA rail passes are too expensive, especially for the entire family. Since children’s rail passes are available for only CHF 620,- per year, this particular participant may not have known about this option:

“The GA rail pass should be less expensive than it is now, so that families with children can also afford GA rail passes.”

- **Issuing of a greater number of day passes:** In Switzerland, there it is also possible to buy a 1-day travel pass from your municipality for about CHF 33,- where passengers can enjoy unlimited travel anywhere in Switzerland using public transport. However, these tickets are limited and one participant suggested increasing the number of such tickets in order to attract more widespread use of public transport:

“In Switzerland we have a day pass for 33 CHF which creates an incentive for many people to switch to public transportation. Unfortunately, these day passes are very limited, but if you purchase it early in the morning, you can easily get one. If these tickets were more readily available, this would create a huge incentive.”

- **Being a member of Mobility Car Sharing:** For some purposes, such as transporting heavy items or for shopping in bulk, it is very practical to have a car. In Switzerland, a car sharing system called Mobility has been implemented which allows consumers to subscribe to the service and use over 2250 vehicles at 1150 stations throughout Switzerland. Annual subscription for a budget car with a price reduction (for a general pass or half-fare card on the Swiss Federal Railways) cost 190 CHF with an hourly rate of 2.70 and a kilometre fare of 0.48 (up to 100 km) and 0.24 (from 101 km). Mobility vehicles can be booked round-the-clock right up to when you need them. One participant mentioned that he makes use of this service:

“I travel as much as possible with public transportation. For certain things like big grocery shopping I use a car, because otherwise it is almost impossible. That is why I am a Mobility member.”

However, this service is pretty new and still needs to be fully developed to make access easier and to further improve links between car-sharing locations and public transportation (Lüthi et al., 2009).

- **Exchange of driver’s license for using public transportation almost for free:** One participant mentioned a previous campaign in Switzerland where driver’s license holders could exchange their license to get a month-long travel pass for just CHF 10,- :

“One campaign which worked quite well in Switzerland was when you could to give up your driver’s license for one month and you could use public transportation for only CHF 10 for the entire month.”

- **Make public transportation cheaper or even free:** There was agreement in all focus groups that public transportation should be cheaper as an incentive for people to use trains and buses more often. This would reduce the economic barrier of perceived higher cost of public transport:

“Public transportation should become cheaper, especially for families.”

“I think SBB tickets should be made cheaper for travelling to work so you would rather go to work by train than by car.”

"If public transportation were free in cities that would be sufficient incentive for many people to use public transport more."

- **Improve transportation system:** Our focus group results suggest strong public support for developing the public transport network. Many felt that such improvements would make it easier for them to switch from driving.

"The transportation network should be widened and the ticket system should be made easier to understand."

"I would give up my car if we had a better transportation network. I work in Rothenburg and live in Kriens. The distance is only about 10 kilometres. This route takes about an hour with public transport. That is simply unacceptable. By car I only need ten minutes."

Additionally, one participant suggested implementing a metro network to encourage less car use or at least no growth of car use:

"In a city like London or Paris they have a very good metro system. In these cities, nobody ever would think about using a car to drive around the city. If we had such a well-developed metro network here in Lucerne, people would definitely use more public transportation."

One participant mentioned that increasing the working hours of public transport, people would not need to use their car during off hours:

"We should have more flexible working hours. In big cities, trains and busses even run at night."

- **Increase flexibility at workplace:** To reduce traffic jams, several participants suggested increasing flexible work hours:

"Usually I leave at 6.10 in the morning to go to work and there is almost no traffic on the highway. I leave around 3pm in the afternoon to do the same. However, if I left an hour earlier or later than this would be impossible."

"I get up extra early in the morning and go to work at 6 am. I do this to avoid traffic. We have flexible working hours."

One participant mentioned that flexible jobs in general would also help to reduce transportation in general as people could work from home and would even not need to drive to their workplace at all:

"Flexible jobs are also important. It doesn't make sense to work in an office when you can work from home on your laptop."

- **Make using public transport more convenient:** One participant mentioned that public transportation needs to be made very easy and convenient for the consumers to help ease the transition:

"The use of public transport must simply become more convenient, e.g. for people with strollers going up and down stairs."

- **Increase of fuel price:** Our results showed that car users would start considering public transport if fuel prices increased. Participants agreed that if fuel prices were extremely high, then people will definitely reduce their car use:

"When fuel costs rise because of inefficient cars, people will rethink their use. I know already some people who have sold their cars because of the increasingly expensive maintenance costs."

"When gasoline prices were so high, I heard many people say that they will buy a more fuel-efficient car in the future."

6.6. Regulations and state intervention

- **Higher taxation of fuel-intensive vehicles:** Many participants supported the idea of polluters paying, so that people who can afford big cars are taxed for owning these cars.

"Certainly, the off-road vehicles should pay more. Especially because rich people tend to afford these vehicles more often. Therefore, because for reasons of justice more taxes should be levied for such cars."

"I think that people who drive an off-roader and really obviously don't need it, e.g. for the transport of horses – should be additionally taxed."

"A driver of an off-road vehicle should be asked to pay taxes. I'm not just talking about additional taxes of CHF 60 per year, but CHF 6000 or even CHF 60000 per year. Then we would see who would be willing to pay for such a car."

However, these kind of tax proposals also were met with scepticism from other participants who said that introducing such a tax would widen the gap between rich and poor even further:

"In Switzerland, there is now a discussion about whether or not to tax very fuel inefficient cars. In the end, however, we come to the conclusion that there will still be people who can afford to buy such cars whereas poorer citizens can't. This widens gap between rich and poor further and further. In the end, we will have people who can only afford to walk and others driving off-roaders... we must be careful about what we do."

- **Ban on off-road vehicles:** Similar to introducing a tax for bigger vehicles was the topic of totally banning off-road vehicles. Participants mentioned the Federal Popular initiative (launched by the Swiss Young Greens to ban big SUVs) of February 2007 several times:

"In Switzerland, young people recently launched an initiative against SUVs. When young people show such initiative, I think it's great."

Most participants agreed with this initiative, and that people should not be allowed to drive SUVs unless they can prove that they live in the mountains where it is really needed.

However, other participants mentioned that this would be an attack on privacy and democratic ideals. Some mentioned that it could lead to people not being able to afford a car anymore, leading to lack of access, and was perceived by some participants as a potential trigger for social exclusion:

"If this happens, it would again cause a big gap between rich people who can still afford to drive and the ordinary people. You would get a two-class society."

Also, there were several participants who thought it would never work because some people would find a way to circumvent the rules:

"I think this is absolutely utopian. We would have to say that 95% of boats would be banned on the lake because they consume enormous amounts of fuel, and that's just for "fun" purposes. In addition, all motorbikes used solely for recreation would also need to be banned. But we live in a free country. The government already has lower taxes for fuel-efficient cars. I think in principle everyone should be able to decide for themselves which car to buy. An owner of a fuel inefficient car must ultimately pay more fuel costs. I think smaller state regulations are legitimate, but prohibition should not be done. We already live in a state where we have too many rules."

"I think you cannot simply prohibit a vehicle because it is too large. Many people need such a car for business purposes. Also it would be unfair if someone who needs a bigger vehicle were punished for it. Also I think it would be very difficult to define exceptional cases. If, for example, only people with a cottage in the mountains could drive a four-wheel drive vehicle, suddenly everyone would get a holiday cottage. One can easily circumvent rules."

- **Higher tax on fuel prices:** Some participants discussed whether or not a higher tax on fuel prices would lead to a lower use of private cars and a higher use of public transportation. Whereas some participants agreed with this statement, there were a couple who believed that a tax on the price of fuel would have an instrumental impact on establishing a two-class society:

"I think the price of fuel should be regulated to punish those who drive a lot. But then again, rich people could afford it and others not and you would establish a two-class society."

"I think a tax on the price of gasoline is just nonsense. Especially for people who really need a car for work; this would be not good at all. I think a luxury tax like in Austria would be much more appropriate. This means that people who buy an expensive car need to pay a luxury tax in addition to VAT."

- **City congestion charge:** Introduction of a city congestion charge was mentioned by a couple of participants as a meaningful way of reducing traffic inside of a city.

"As long as you do not forbid car traffic inside of the city, the car will remain the most common means of transport for a long time. It's still easy to drive to town or to do grocery shopping. People are just too lazy to solely use public transport."

"In Singapore there have been restrictions for at least for 20 years already. Policemen sell tickets: only cars with even numbers can go into the city one day, those with odd numbers were allowed to go the next. This is very useful because Singapore is so small. Otherwise there would be a lot of traffic."

- **Car free Sunday:** One older focus group participant still remembered a car-free Sundays in Switzerland. By renewing car-free Sundays, motorists would promote the improvement of public transport, cycling and walking:

"I still remember when we had car-free Sundays in Switzerland. I very much appreciated that."

- **Support by a mobility manager:** Support by a mobility manager was mentioned by one participant as an innovative idea to support consumers in making more informed choices about their use of transportation.

"In my hometown we have a mobility manger that helps you determine if you should choose public transport or a car."

- **Labelling of vehicles:** Another heavily discussed topic was whether or not the energy efficiency label for vehicles works efficiently:

"I wanted to buy a car but when I saw that it was labelled with the energy class C, I decided not to buy it."

Participants criticised that the fact that CO₂ was only measured relative to weight, making some heavy cars look comparable to lighter, more efficient cars:

"I find the energy efficiency classes on cars really confusing. How is that possible that a Smart and a Mercedes or an Audi with 300 horse power both can have an energy efficiency class of A but emit different amounts of CO₂?"

"We have these labels for cars now, too. Understanding the labels however is quite difficult. For example, there are more energy efficient cars which are large and consume a lot of fuel in comparison to a small car. The calculation works, I assume, for a European unified formula. I would not just buy an A-labelled car but would first ask what it actually means."

6.7. Windows of opportunities

- **Buying a car**

Some of the participant argued that when buying a car customers should receive all kinds of information regarding the energy efficiency of their future purchase. Consumers can only make an informed decision with all costs in mind.

- **Starting a family**

Life events such as the birth of a child challenge everyday routines, requiring adaptation to a new situation. At that time, families should receive all necessary information about the availability of special rail passes and discounts for children travelling. As seen in the focus groups, most people are unaware of these special fares and thought using public transport with children is too expensive.

- **New job**

When starting a new job, employers should provide information packs on public transportation. Also, by offering to pay travel expenses of public transport and charging for parking at work, there would be an incentive for new employees to use public transport.

- **New home**

By offering information about public transportation options and offering, for example, free bus passes to new city residents, their use of public transport could be encouraged.

- **Situation where habits are broken (injuries, losing one's driver license)**

A situation where habits are broken, such as an injury and not being able to drive or losing one's driver license, marks an important window of opportunity where people can get used to use public transport. During this time, these people should receive a lot of information about different fares and timetables to make the use of transportation as convenient as possible.

7. Theme D: Wider Issues

7.1. Introduction

In this section we addressed wider issues related to energy use.

7.2. Key findings

- Important role of information sources and education in informing people of the importance of sustainability
- Differences in generations exist in acting environmentally friendly
- Switzerland in a global context
- Role of government – opinions diverge concerning subsidies and political support
- A shared responsibility - consumers must take responsibility too

7.3. Important role of information sources and education in informing people of the importance of sustainability

There was widespread support for the idea that "we don't know enough" about causes and potential solutions to global warming to take action. Many agreed that as ordinary citizens, they know far too little about the topic of energy and would like to get more information about it:

"I think the Swiss are insufficiently informed in terms of energy."

In general, participants believed that many people do not understand the connections between energy production and final consumption. They thought if people would be better informed, they would definitely take environmental aspects into account more:

"People usually don't realize where energy comes from. We just know that if you plug something in, you get power."

"If I knew that I use energy that was generated by environmentally damaging sources, I would probably have a bad conscience. It is simply a question of whether the consumer understands the connections and knows why, how and with which energy sources the energy was generated."

One participant also mentioned that it would be important to have more options for comparing the environmental impacts of various alternatives:

"For me, it is very important to compare options. If I, for example, could see how much energy was spent on the production of a sandwich, I would eat something else. Or with clothes, if I knew which clothes are more environmentally friendly, I would consider these aspects too."

Main sources of information mentioned by the focus group participants were the Internet, print media (newspaper or magazines such as National Geographic), TV shows (e.g. Arena), interest groups such as the World Wildlife Fund or the Swiss Energy Foundation, universities such as the ETH or their academic departments respectively, home owner associations, friends or information campaigns by the government. In general, participants agreed that in most cases it depends on the particular source of information, e.g. whether or not the newspaper is trustworthy or whether a friend is an expert and working in this field and can prove that he or she understands the topic very well. Some also mentioned, that they think the content in some newspapers is not trustworthy:

"I do not believe everything written in newspapers. We know all that not everything published there is correct."

One participant also mentioned that sales staff have an extraordinary role of communicating relevant information. However, he criticized that in many cases staff are not well trained and cannot provide relevant information that consumers trust. He suggested:

"In order to better inform consumers about energy efficiency, sales staff need to be more competent and better trained."

A couple of participants also mentioned that they learn through political discussion, e.g. when there is a Federal Popular initiative². This participant mentioned that she mainly learned more about energy when the issue of the nuclear power moratorium was heavily discussed in media:

"When the issue of the nuclear power moratorium was being discussed, I learned a lot about the issue. Politics has provided the general public with a lot of information about all pros and cons of this technology. They have also extensively discussed the topic of energy efficiency and energy saving measures. This information has been extensively discussed in media."

² Under the Swiss Federal Constitution, a federation-wide popular initiative can be launched by gathering 100'000 signatures of Swiss citizens (a population of roughly 7 million) within 18 months (Art. 139). If the Initiative collects 100'000 valid signatures the proposal is voted by the whole population of Switzerland; if accepted, the Government must enforce the legislative change.

However, information from many sources is important to obtain a neutral viewpoint:

"In order to get an overall picture of the situation it is important to include different sources of information."

"I think that internet forums are credible, because all opinions come together there. It is a great place to form an opinion since many people bring in their ideas and opinions."

One participant thought communicating the topic of energy in a fun way might get people interested in the topic by themselves:

"You could also try communicating energy information in a playful way, for example through competitions in department stores where our younger generation could take part and win a small prize."

Many participants mentioned the importance of ensuring that energy efficiency and climate change are covered by the curriculum and taught to children routinely throughout their education:

"I would start in schools. Start with children and educate them at the very beginning. The goal would be for the new generation to be raised with environmental friendliness as normal routine."

"Teachers especially should raise the interest and awareness of students. Of course, the topic should be approached objectively by the teachers and not politically motivated."

"I think that schools should be more responsible in this regard. They should introduce a new subject called "Environment."

Several participants mentioned that Roger Federer or big corporate brands would be an ideal candidate to promote energy efficient behavior:

"The use of testimonials, e.g. Roger Federer, would be a good idea. We need to have a role model."

"Heroes should be the role models in this regard. For example, if Roger Federer would say "I want to save electricity."

"Also big multinational companies such as Coca-Cola could overtake a role in promoting more sustainable behavior."

"Also young people could be motivated by big brands for more environmentally friendly behavior. For example, Coca-Cola could make an advertisement that includes recycling empty PET bottles."

Besides that, big public buildings are often criticized of consuming a lot of energy. By acting as a role model, for example by switching off all appliances at a university at night or reducing the lights on major shopping streets at night, consumers would see public institutions as being more credible:

"A study has just recently shown that if all appliances within the University of Zurich would be switched off during night, they could save energy costs of CHF 600000 per year."

"At night when I'm walking down the Bahnhofsrasse, I note that there is indeed enough light. You could cut back the lights and say: "We are saving for you". Citizens cannot be motivated to act environmentally if the federal government doesn't also participates in such actions."

Focus group participants also believed that parents should continue playing one of the most important roles in implementing the promotion of energy efficiency in households:

"I think this issue does not belong in politics nor in schools, but in the family. We parents should be role models. However, today we are no longer such role models."

"If all churches were renovated, it would have a significant effect."

"I try to behave as a role model. I still hope that my daughters will learn something about becoming environmentally conscious, but, they are not there yet. The important thing is that if we are role models and if we only save 2% of energy as a result of today's discussion, we have already achieved something."

7.4. Differences in generations exist in acting environmentally friendly

Some participants mentioned that in the last couple of years, energy awareness has developed. However, some mentioned that the younger generation tends to be less aware about energy efficiency:

"I still don't see that my younger colleagues are really aware of the problem. They even leave the printer on at night. However, with people above the age of 30 I can definitely see an increase in awareness which I regard as positive."

"I have noticed that the older generation pays greater attention to the economical use of energy. One reason for that might be that younger people don't have a lot of responsibility and therefore don't have to watch their budget as closely. When I tell my children who are 20 years old that for a small distance you don't necessarily need to use the car, they think I am crazy. Maybe this is because the older generation has grown up in a society which has been much more energy efficient and so I have learned in my childhood how to responsibly use energy. I grew up in a house where we only had a stove in the living room whereas in the bedrooms we even had winter frost on the windows."

"There are people who already have a certain sense of responsibility. People in their mid 20s are not really aware of the environmental situation. They just go out and get drunk."

"I believe that people above the age of 35 are much more aware of the topic of energy efficiency. Younger people mainly want to consume and have fun."

"Young people are so consumer oriented, living in an absolute throwaway society."

7.5. Switzerland in a global context

One topic mentioned by several participants was that people usually don't want to be "lonely fighters" regarding climate change but would be willing to do something if other people did something too:

"The problem is that many people say that if they are the only ones doing something for the environment, it won't change much. But if everyone did something, it would have a big effect."

"The problem is always the same. Everyone says that the other person should start first, and then I will act likewise."

All groups repeatedly mentioned that it is not enough that Switzerland is forced to make sacrifices while other countries do not act. Some participants mentioned that Switzerland is already doing a good job of preventing an energy crisis and that it is not worth discussing saving energy in a small country like Switzerland as long as other big countries are not doing anything.

"I find it truly important that people are doing something against climate change. But the problem is this: Switzerland is already quite technologically advanced. When we look at other countries that operate coal-fired power plants... our efforts are a drop in the sea... I think it's important that there is a global effort so that all countries become sustainable."

"You have to consider global CO2 emissions. When you think about that 18-19% percent of total CO2 emissions come from deforestation alone in order to have more cattle farms and these cows than emit huge amounts of methane gas, then it makes little sense to make cars and airplanes alone responsible for climate change. It does not make sense to discuss about public transportation when in other parts nothing gets done."

"Compared with other countries, we are relatively well informed. We should not forget that Switzerland is very small in global terms. There are countries that have a much bigger effect on climate change."

However, a couple of respondents argued that Switzerland was much greener and more progressive before and is now lagging behind other countries who are doing much more for the environment - particularly Germany and the Netherlands:

"I think Switzerland has moved backwards... For example, concerning recycling, Germany is much more advanced."

"I think it's a shame that Switzerland as a small country does not take the opportunity to be a role model for environmental matters."

Most participants agreed that an international agreement is needed to fight climate change:

"To solve this dilemma between the need for long-term and short-term, or selfish, thinking it is important to negotiate international agreements. In Switzerland, we are doing a lot already and when I look over to the U.S., I must ask myself why we are trying to do our best when a large country like the United States could do much more."

"There should be more climate summits with even clearer target agreements. Although I know that this is difficult, a huge difference could be made."

7.6. Role of government - subsidies and political support

Substantive public investment was widely supported by all groups. Most participants were quite supportive of subsidies on clean energy technologies as most argued that the government should subsidize industry to develop more energy-saving technologies:

"I would support subsidies on renewable energies. Politicians ... should raise the awareness about this issue. "

However, opinions regarding subsidizing different kinds of new renewable energy sources, such as solar panels, differed, too. Whereas some participants thought it was a good idea and that they would

definitely consider installing solar panels on their roofs, others said that they didn't think subsidies on solar panels were a good idea:

"I don't think subsidies on solar panels are a good idea. Taxpayers will have to pay for it in the end. For instance, we have relatively poor insulation and expensive heating costs. But, we pay a relatively low rent. That's why I can't complain. If my landlord decided to install solar panels, motivated by huge subsidies, my rent would probably significantly rise."

Another participant thought there should not be just one solution supported by the government:

"I don't think that the state should generally support one technology. It would be much better if each case were evaluated; i.e. subsidies for new windows instead of general subsidies for solar. I think there should be a more holistic approach."

Most participants thought that politicians often failed to act on behalf of the environment because of the power of industry lobbies. Some mentioned that although the technology was already there, older technologies would still be used first because of different industry lobbies:

"As long as the auto industry and the oil lobby exist, everything will stay the same."

"For public transportation, we should use other sources of energy, e.g. solar energy or hydrogen. Hydrogen has been on the market for a long time already. The buses make no noise at all. This technology has already been established in Canada for a long time. In Switzerland people say that this technology is not mature yet and that we don't want to change yet. I think the reason behind that is the strong oil lobby."

However, there were also some who believed that in the future, industry lobbies would become weaker:

"Currently, the auto and oil industries still have considerable political influence. However, this will change in the future as we already see that the Japanese car companies started construction of hybrid cars ten years ago. Now the European carmakers have also started and the pressure on other car manufacturers has increased too."

When presenting a list of initiatives the government has developed to address environmental and sustainability issues, participants were familiar with most political instruments and had been impacted by them in their everyday lives. Initiatives from the CO₂ tax on LGP to the famous "Energierappen" to a tax for older vehicles of CHF 60,- per year were mentioned by the participants. The most well-known political instrument by far was the energy label. Many said that it influenced them the most compared to the other political instruments:

"The energy label really had an impact on my consumer decisions. When I shop for appliances, I definitely take them into consideration and don't have to search for power consumption levels indicated somewhere on the product. We have also registered for the energy certificate for buildings."

Another participant mentioned that the mineral oil tax had the biggest impact on his everyday life:

"The mineral oil tax has had an impact on my everyday life. I drive less on the weekends than I used to do."

However, there were some participants who felt that these political instruments influenced consumer decisions initially, but in the long term were not effective enough to influence behaviour in the long term:

"I think these taxes are too low for people to really notice them."

"A lot of these measures have a direct impact on consumers. For example, when you drive, gasoline costs more, or one can feel the CO₂ tax when shopping... But, these taxes are soon forgotten. It becomes normal to pay more for fuel."

All in all, all four focus groups agreed that these initiatives were a step the right direction and that without them, the situation would be even worse. Finally, one participant mentioned the importance of applying multiple measures:

"People react differently to different energy policies. So, in my opinion it makes sense to apply multiple measures."

7.7. A shared responsibility - consumers must take responsibility too

Participants shared the view that the implementation of energy-efficiency improvements involves actors operating at various levels - from the lowest level of the consumer to the highest levels of politics.

Many agreed that because climate change is a result of human actions, society should play a central role in changing behaviors.

"Everyone is personally responsible for themselves. Every household individually decides what energy he or she has at home. Everybody personally decides the energy efficiency of fridge that he or she buys."

When asked whether the government or individuals are more responsible in terms of fighting climate change, one respondent made the following statement:

"The question of whether government is responsible or not is easy to answer: WE are the government. We vote and choose for our government."

A couple of participants said that people are already rethinking the values and lifestyles they are used to:

"I think a lot of people are changing their minds at the moment. Of course, we are far from our goal. But, just think about the standby discussion which was formerly not an issue at all."

In order to comprehend the problematic and urgent situation we are in, people suggested that it would be important that people experienced a lack of energy so that they personally would feel uncomfortable. Ideas on a small scale were suggested by the following one participant:

"I would suggest shutting down the lights by 20% in a pedestrian underpass with a campaign saying: "If we run out of oil, it gets dark". The information should be communicated very realistically and vividly."

There were several participants who mentioned that people often forget about environmental aspects until something serious happens:

"There has to be a huge catastrophe before people realize what they must do. It needs to hurt to change one's mind."

"People in Europe would be more aware of this problem if 100 to 200 children became sick because of environmental pollution. Then people would react."

One participant mentioned that disasters constantly happen and unless we are personally concerned, we soon forget about the issues again. He told about his experiences while working in civil service and helping out after a storm with flooding in Lucerne:

"I saw people who lost their houses and they were very angry at the beginning. However, I believe that many of those people have changed their minds concerning climate change."

Another participant said it greatly disturbs him when topics like climate change are discussed after tragedies such as landslides in Switzerland but are soon forgotten again:

"What makes me really think is the fact that already twenty years ago people were talking about such topics. But soon it was forgotten. We've started to talk about it again just because of some disaster like a landslide here in Switzerland."

The last topic we covered in our focus groups was whether or not it is important to become a sustainable society in the future. Some participants said that we do indeed have enough energy, but we have realized that we use them in the wrong way:

"We could get so much energy from solar, wind and water... But we use the wrong energy sources, those that cause environmental damage. That is problematic."

Other participants mentioned that we have to realize that the future world population will require a sustainable society to ensure our survival:

"When you look at development right now, you realize that in the future there will be more and more people and thus more energy used. If nothing changes, our earth will explode at some point, and we will have no more oil left. With a sustainable society, we ensure our survival."

"Finally, we need to become sustainable because otherwise we will saw off the branch on which we sit."

During the focus groups we found that the problem should seem solvable and goals achievable: when participants felt like all problems concerning global warming and energy were difficult to solve and comprehend, they are not aware of immediate action to solve the problem.

"As consumers we are just confronted by a mountain of problems in terms of the environment making us feel powerless. Personally, it would help me a lot if I understood specific actions I could do, even on a small scale, to solve the problem. Then I could act accordingly in everyday life."

"Actually we do know that we consume too much energy. It would be very important to know how much we really would need to reduce our consumption and how we could do this. Like this we would feel like part of the solution."

Therefore, it was generally felt that people must see themselves as being a part of the solution and must be informed about specific actions to support the environment.

7.8. Windows of opportunities

- **Federal Popular Initiative:**
During such an initiative Swiss citizens can freely propose a modification of the Swiss Federal Constitution; the proposal is then voted on by the Swiss population. Before the election, people usually learn about the pros and the cons of such initiatives. If such an initiative is about an energy topic, the general public should receive widespread information. Even if the proposal loses, initiatives can help raise media and public awareness.
- **Nuclear Power Moratorium / granting of concessions:**
Every time a new initiative on nuclear power is started (e.g. moratorium of an existing plant, new construction of a plant, granting of concessions for final disposal) people should get lots of information about the pros and cons of the initiatives and should also receive a lot of information about how to reduce their own energy levels.
- **Climate Summits:**
During the COP15 United Nations Climate Change Conference in Copenhagen, a lot of newspapers were reporting from Denmark. In times like those, people usually follow the news more than average and are open to many types of information.
- **Climate catastrophes:**
As we mentioned above, several participants thought that people often forget about the environment until something serious happens. During that time people are more open to information concerning the environment. As some of the data suggest that unless most consumers are personally concerned, the issues are soon forgotten again. Therefore the window of opportunity here is very small.

8. Conclusions

We drew several interesting conclusions from our focus groups with consumers; some that confirm findings from previous work packages and some that inspire new paths of inquiry and opportunities for further research. This conclusion is used to highlight examples of the six behavioral domains that came from the data. The different area specific barriers can be classified into the six types of barriers to household energy saving solutions suggested by Throne-Holst, Strandbakken and Sto (2008).

8.1. Physical and structural barriers

A household's individual energy decisions are dependent on society's greater general physical structure (Throne-Holst, Strandbakken, Stø, 2008). The following physical and structural barriers were identified:

Households are a part of society's greater general physical structure.

The overwhelming majority is connected to electrical, telecom, water and wastewater networks. The degree and character of freedom of actions for individual households are largely dependent on basic historical traditions.

- **Small target group:** There is a very low level of home ownership in Switzerland; about 70% of the population rents a home or an apartment. So only a small group of people really have the power to install new heating or decide to retrofit the house. But, even those who own an apartment often are dependent on collective decisions by other apartment owners.

- **Lack of thermostats/ central heating system/ impossibility to regulate levels of heating:** Because of the high level of renting in Switzerland, many people are cannot regulate their own levels of heating, even if they wanted to change their heating behavior.
- **Living in the countryside:** People in rural areas are often poorly connected to public transport. Using public transport would require a disproportional amount of time and thus cannot be classified as an individual barrier.
- **No supermarket close by / no delivery service / no Mobility:** In close connection to the above mentioned barrier, i.e. living in the countryside, if there is no supermarket close by, it is difficult get by without a car. Combined with a lack of supermarket delivery services or no "Mobility" rental stations close-by, it is often not a personal decision to not have a car, but a structural barrier.
- **No standby mode on appliances:** The lack of standby modes on different appliances is one important structural barrier. Even if consumers did not want to use the standby function, they would not be able to do so because some appliances lack a button to fully switch off.

8.2. Cultural-normative and social barriers

Specific cultural norms may inhibit individuals from engaging in more energy efficient behaviors.

- **Aesthetic reasons:** Some people think solar panels do not look good and are afraid that the traditional look of their house will be destroyed. Nowadays, there are more and more solutions on the market to make solar panels look more aesthetically pleasing which people may still not know about. However, there are still many objections to renewable energy technologies such as solar panels from neighbors as they may be affected by glare or their view.
- **Warm temperature:** In Switzerland it is very common to have a very warm house during cold months. In general, the Swiss already begin heating in early autumn although the outside temperature is still far above cold temperatures. Having a warm house where people can wear a T-shirt during winter is a cultural barrier that must be engaged with.
- **Status symbol of a car:** Swiss people many times define themselves through their cars. Whereas in many other countries, one's home has a far more important than a car, in Switzerland it seems to be the other way around. This can be traced back to the low share of homeowners in Switzerland, which is historically and culturally rooted. Thus, a big, prestigious car is as a status symbol for many people.
- **Switzerland in the global context:** When Swiss people perceive their country as one of the global front-runners in terms of climate change, they are less willing to invest more into energy saving.

8.3. Knowledge barriers

- **Lack of information about energy efficient behavior or products:** Although there is a lot of information available, many people still don't perceive this. Some people do not know where they can get the information they require. Also, participants wanted more concrete knowledge of how to implement this new information in their daily lives.
- **Labeling for cars:** Labeling of cars was seen as complicated and difficult to understand. This is perceived as an important knowledge barrier in the field of transportation.
- **Enlargement of label difficult to understand:** The introduction of new extra classes on top of class A has made it quite difficult to understand the labeling. In order to prevent misunderstandings, a lot of information needs to be disseminated to help people understand this new labeling scheme.

- **Insufficient knowledge of cheaper public transport for families:** Although many attractive public transport offers for families exist, many still don't know about them, use a car instead and complain that prices for families are too high.
- **Awareness of existence of energy performance certificates low:** the GEAK (Gebäudeenergieausweis der Kantone) was introduced in Switzerland in 2009. The aim of the certificate is to create transparency between tenants and buyers. However, this is still voluntarily implemented and therefore awareness of existence of such a certificate is still very low.

8.4. Individual/psychological barriers

Individuals' willingness to change their behavior can be seen as a very large barrier, especially when talking about changes to an individual's personal habits and comfort zones.

- **Lack of trust in new renewable energy technologies:** The opinion that the amount of sunshine in Switzerland is not sufficient for solar power production is widespread. This lack of trust leads to a wait-and-see attitude towards PV by many people.
- **Short-term thinking:** Consumers, and landlords in particular, often only take investment costs into account while disregarding the entire life span of a product or a building.
- **Avoidance of discomfort:** Many people are not willing to sacrifice their comfort levels; e.g. taking a stroller onto a train causes discomfort but is actually not a structural barrier in Switzerland.
- **Convenience and habits of behavior:** Habits are usually very difficult to change as consumers are usually not comfortable with changing their behavior. E.g. switching off the standby function needs to be internalized before this becomes a "normal" habit.
- **Consumer inertia:** Although many people are conscious about environmental problems they often do not change their behavior due to laziness or time restrictions. In some cases, this problem can be overcome by choice editing by retailers, default settings of electricity providers to green electricity, or laws implemented by the government. In general, it needs to be "easy" for consumers to live an environmentally friendly lifestyle.
- **Not wanting to start first:** People often do not want to be the only ones fighting against climate change but would be willing to do so if other people around them did the same.

8.5. Economic barriers

- **High price for energy efficiency:** Improving the energy efficiency of a household requires a considerable financial investment. One obvious economic barrier is the idea that "it costs to be environmentally friendly". Choosing eco-friendly alternatives is often more expensive than conventional products.
- **Lack of cash or access to credit to pay for more efficient and expensive equipment:** Many people from poorer backgrounds do not have much cash available to buy, for example, an energy-efficient appliance which costs more and also cannot take out a loan at a bank.
- **Prices for public transport:** For some, owning a car is less expensive than using public transport.

8.6. Political barriers

- **Construction permits:** Construction permits were another barrier mentioned by many focus group participants.

- **Laws and regulations:** The laws and regulations developed by politicians at local, national and the European level have created frameworks, e.g. by setting the feed-in-tariff so low, many requests for solar panels have to be put on a waiting list.
- **Decision to enlarge the European Energy Label:** Generally, participants saw labels as very successful. However, consumers said they were confused by the enlargement of the European Energy Label with new classes on top of class A (A+, A++, A+++).

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10. Appendix 1: Description of the participants

Thursday, 24.9.09, 17:30

"Stable", 25-45 years, mid-low income

Name	Age	Gender	Profession	Owner/tenant	Household size
Beatrice	48	F	Commercial clerk / housewife	Tenant	4 persons
Patrick	36	M	Accountant	Tenant	1 person
Andreas	40	M	Customer service post office	Tenant	1 person
Iris	44	F	Housewife	Owner	5 persons
Monika	40	F	Housewife	Tenant	4 persons
Georg	40	M	Insurance expert	Owner	3 persons
Doris	40	F	Housewife	Owner	1 person
Michael	46	M	Instrument maker	Tenant	3 persons
Marcel	27	M	Mechanic	Tenant	1 person

Wednesday, 23.9.09, 17:30

"Stable", 46-65 years, mid-high income

Name	Age	Gender	Profession	Owner/tenant	Household size
Karin	47	F	Secretary	Owner	4 persons
Manuela	46	F	Housewife	Owner	3 persons
Ruth	65	F	Retiree	Tenant	1 person
Regula	48	F	Commercial clerk	Owner	3 persons
Jean Raoul	63	M	Retiree	Owner	1 person
Alfred	51	M	Bank clerk	Owner	3 persons
Gabriela	49	F	Student	Owner	2 persons
Christine	61	F	Housewife	Tenant	1 person
Hans-Peter	55	M	Pastor / teacher	Tenant	2 persons
Ernst	64	M	Retiree	Owner	2 persons

Thursday, 24.9.09, 20:00 "Transition", 25-45 years, low-mid income

Name	Age	Gender	Profession	Owner/tenant	Household size
Manfred	42	M	Automatic expert	Owner	3 persons
Daniela	31	F	Commercial clerk	Tenant	3 persons
Christian	37	M	Biologist	Owner	3+ persons
Sandra	38	F	Commercial clerk	Owner	3 persons
Doris	43	F	Nurse	Owner	3 persons
Eugen	42	M	Garage manager	Owner	4 persons
Marc	38	M	Technical clerk	Owner	1 person
Francesca	43	F	Shop assistant	Tenant	1 person
Christina	40	F	Housewife	Tenant	2 persons
Lucia	34	F	Research associate	Tenant	2 persons

Wednesday, 23.9.09, 20:00 "Transition", 46-65 years, mid-high income

Name	Age	Gender	Profession	Owner/tenant	Household size
Eveline	60	F	-	Owner	3 persons
Monika	46	F	Assistant in the pharmaceutical industry	Tenant	5 persons
Fredy	60	M	Caretaker	Owner	3 persons
Thomas	48	M	Commercial clerk	Owner	3 persons
Markus	49	M	Project manager	Owner	1 person
Käthy	57	F	Accountant	Owner	2 person
Andrea	48	F	Assistant medical technician	Tenant	1 person
Renzo	57	M	Merchant	Tenant	1 person
Christina	45	F	Housewife	Owner	3 persons
Peter	49	M	Consultant	Tenant	3 persons