



WP 6: Focus Groups **National report - Netherlands**

BARENERGY project, Deliverable D 26

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Introduction: the aims of WP-6

BAREENERGY is a European Union 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, importantly, to try to identify what could be the most effective levers or opportunities for encouraging change.

This report follows on from 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 therefore 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 was 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' (BAREENERGY, DoW, 2007:33). The aim of the focus groups interviews has been 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.

Methodology and the research process

Global methodology and issues

This section sets the scene for the report by considering in brief some of the practicalities of the research process of WP-6, particularly the research design and how the samples were obtained, but also the 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 will encourage 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 designed very much within this tradition therefore, 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 could be opened up to discussion amongst potential variables such as age, gender, income and household type.

Methodology for Dutch part of the study

Recruitment

Four focus groups were set up in the Netherlands. Two focus groups were conducted in Capelle aan den IJssel ('Capelle' for the remainder of this document) – a town close to Rotterdam in the strongly urbanized Western part of the Netherlands. Capelle itself has 65.000 inhabitants; the agglomeration of Rotterdam, of which Capelle is a part, has approximately 1.2 million inhabitants). The other two focus groups were conducted in Emmen, a medium-sized city of 94.000 inhabitants in the rural North-East of the country. By conducting focus groups in both the urbanized Western part of the country and the rural North-East the intention was to gain insight into possible differences between inhabitants of these two areas. Care was taken to ensure that all focus groups consisted of participants living in cities and participants living in smaller towns.

Ten people were invited to participate in each focus group (see Appendix A for a detailed overview of the participants' characteristics). In Capelle, one person did not show up. In Emmen, a total of five persons failed to attend the focus groups (two in one group, three in the other). This means that group sizes varied between 7 and 10 participants, and the total number of people participating in this study was 34.

The focus group sessions

The focus groups were led by a trained facilitator, who had received a translated version of the questionnaire guide which was created by the Barenergy team. The Dutch research company ICSB were responsible for participant selection and for conducting the focus groups. The focus group sessions lasted approximately 2 hours, including one short break.

All four focus groups were characterised by lively discussions. All participants seemed eager to talk about issues related to domestic energy use and to hear about others' ideas in relation to these issues. The focus groups were conducted in a pleasant, informal atmosphere in which the facilitator tried to stay in the background, allowing participants to freely discuss a variety of energy-related topics.

All focus groups were recorded on camera and the recordings were put on DVD.

Analysis

The DVD's were analyzed by a team of professionals from ICSB and Martijn Keizer, member of the Barenergy team.

Brainstorming exercise

The facilitator started all focus group by asking each participant to identify three ways in which they are currently contributing to a more sustainable society. The following activities were mentioned most frequently:

1. Using alternatives for cars whenever possible;
2. Recycling waste & purchasing recyclable products whenever possible;
3. Using energy-efficient light bulbs;
4. Using space heating as little as possible;
5. Turning off the lights whenever possible.

Reducing car use was a mentioned in all four focus groups and in both groups in Capelle, it was the first topic that was raised. Participants seemed to be strongly aware of the negative consequences of car use on the environment – possibly an effect of extensive information campaigns by the Dutch government on the importance of reducing car use (and driving energy-efficiently) for the environment.

Recycling waste materials was another topic that was raised by members of all four focus groups. Many participants indicated that they try use the different recycling options their municipality provides them with (such as separating glass and old paper from non-recyclable waste materials) and that they tried to avoid purchasing products that are wrapped in non-recyclable materials, such as cheese packaged in plastic boxes or apples wrapped in plastic foil. In one focus group, however, a brief discussion arose about the exact recycling possibilities in the Netherlands. Here participants indicated that the possibilities differ between municipalities, and that they did not understand why. However, they seemed well-informed about the possibilities in their own municipalities.

Using energy-efficient light bulbs was a third topic that was mentioned by many participants. Almost all participants were aware of the environmental benefits of using energy-efficient light bulbs. Some individuals indicated that they would like to try using LED-lights, but that so far it was difficult to find LED light bulbs in local shops. A number of participants mentioned the higher cost associated with purchasing energy-efficient light bulbs compared to ‘normal’ light bulbs, but others promptly explained to them that the reduced energy use and greater longevity of such light bulbs makes it attractive financially over the longer-term, as well as environmentally, to purchase energy-efficient light bulbs.

A fourth topic, mentioned in all four focus groups, was using ‘space heating’ as little as possible. Some participants called this ‘turning down the thermostat’ but in two focus groups, other participants argued that it is more important to limit the number of times space heating is turned on than reducing the thermostat setting by 1 degree Celsius.

A final topic that was mentioned by several participants was limiting the use of lights. However, in one focus group, a participant argued that lights do not use a lot of energy, while in other groups, participants agreed that it would be more important to replace inefficient light bulbs with more efficient ones than to reduce the actual use of

lighting. However, several participants still maintained that this is one way to reduce energy use in the house.

Theme A: Domestic energy use

A1. Factors influencing domestic energy use

Participants were asked to write down three factors that influenced their household energy use. Participants interpreted this assignment differently – some wrote down factors that influence their energy use on a general level, such as ‘cost’ and ‘saving the environment’, while others wrote down specific behaviours that influence their overall energy use, such as ‘turning down the thermostat’ and ‘using candles instead of light bulbs’. After participants had explained the reasoning behind their choices, they were asked to put each of the three factors they had selected in a table consisting of seven columns. Each column represented one reason individuals may have for their current energy behaviour/ to change their energy behaviour. By having to place each factor in a column, participants were forced to consider what the main motives for their energy behaviours are. Table 1 shows the seven motives participants could choose between, as well as the number of times each motive was selected as the main reason for a participants’ energy behaviour.

Table 1: Seven potential motives for participants to engage in or change energy behaviour and the number of times these motives were selected.

Reason	# of times
Cost	27
Environment	24
Comfort	13
Warmth	12
Habit	11
Effort/efficiency	5
Other	10

Table 1 shows that the cost of using energy and the environment are the two factors that participants selected most frequently when identifying the main reason for their domestic energy behaviour. Comfort, warmth, and habit were also mentioned as reasons for energy behaviour. It is important to note, however, that several participants had difficulty in selecting one leading motive for each behaviour. In many cases, two or more reasons played a role in the decision to engage in certain behaviour, as illustrated in the following quotes:

‘My original reason to do this is because of saving costs, but it is beneficial for the environment as well’

‘I do it because I’ve always done it, but I am also aware that it is good for the environment’

It seems that secondary motives were important to the focus group participants as well as primary ones. It was apparent from responses that if there was more than

one reason to engage in certain behaviour (or to avoid it), participants were likely to engage in it.

A2. Financial and environmental motives for energy use

In all four focus groups, the discussion on motives for changing energy behaviours involved an evaluation of the importance of financial (cost) and environmental motives. Although most? Participants indicated that the environmental motive plays a part in their decisions regarding energy use, each focus group came to an overall conclusion that the financial motive is more important in steering domestic energy use than the environmental motive. A summary of these discussions is provided below.

Cost

The cost of gas and electricity was a recurring topic in all four focus groups. Cost was mentioned as a primary or secondary motive by almost all participants, and in all focus groups there was quick agreement on the importance of financial costs and benefits as both barriers and motivators for changes in domestic energy use.

Financial costs as **barriers** for change:

'LED-lighting probably saves energy, but the cost of changing all the light bulbs and ensuring that all my lamps become suitable for LED-lights is too high for me to seriously consider changing to LED lighting'

'I'd like to have solar panels, and I have looked into purchasing them... but it's simply too expensive, and government subsidies always run out really quickly. So it's simply not feasible for me'

Financial costs as **motivators** for change:

'I turn the thermostat down to gain a little extra for myself, to save some money'

'I make sure that all electrical appliances are unplugged when I leave my house – that way I save all the electricity that would otherwise be wasted by appliances that aren't even doing anything!'

In three focus groups, participants mentioned the importance of the costs of energy as motivators to energy-saving behaviours in young adults. Participants agreed that it is important that people become aware of the cost of using energy in order to encourage them to save energy.

'When students move out of their parents' home, they are suddenly confronted with the fact that wasting energy costs money. When people become aware of the cost of using energy, they become more interested in measures to save energy'

'Seeing the energy bill made my son change his energy habits; as a student, he did not pay for the energy bill himself, but now that he lives in his own home, he's

suddenly turning off the lights whenever he can, turning down the thermostat... Having to pay for his electricity and gas himself has really changed the way he uses energy'

What is apparent from these quotes is that participants did not only see financial costs as a barrier, but also as a potential motivator for sustainable energy behaviour.

Environment

The environment was one of the main reasons why participants tried to save energy. However, not all participants agreed that the environment in itself is a reason to change energy behaviours. In one of the focus groups in Emmen, five out of eight participants agreed that the environment alone is no reason to change domestic energy use. This is in stark contrast with the discussion on the importance of financial costs, which were considered important almost immediately by all participants:

'I am not particularly interested in the environment... I want to know whether I can save money by changing my energy behaviour, not whether it is good for the environment or not'

'I think about the environment, and the future of my children, a lot... I want them to grow up in a pleasant environment. So I try to do what I can within certain limits... (pauses)... saving energy should not be too costly, and I still want to be comfortable...'

The environment seemed to influence energy behaviour as a *secondary* rather than a *primary* motive. Participants were aware of the environmental benefits of saving energy, but environmental benefits alone were not sufficiently motivating for some participants to change their behaviour:

'I put on some extra clothing when I feel cold in my home – I try not to turn up the thermostat unless it's really necessary. I do it because it's good for the environment... but also because it saves me money'

The quotes on this page show that the environment was regarded as a reason for engaging in energy-reducing behaviour, but that for most, the environment alone was an insufficient reason to act. The participants wanted to see that pro-environmental behaviour benefited themselves as well as the environment before they were willing to engage in relevant practices.

Another way in which the secondary nature of the environmental motive became apparent was the importance of the cost of sustainable energy. Half of the participants used energy from sustainable sources at home, and all of these participants were aware of the benefits for the environment of using this type of energy. However, only four persons chose to use energy from sustainable sources *because* of the environmental benefits of doing so; all others did so primarily because they could save money by switching to a different energy provider.

'I know that using energy from sustainable energy sources is better for the environment, but if they (the energy company) cannot guarantee that the electricity price will be the same, I do not want to change my energy provider'

'I switched to sustainable energy because of the price'

A3. Changing domestic energy use through structural changes

When discussing participants' willingness to make changes in their domestic energy consumption in the future, many participants indicated that the main period during which they would consider changes is when they move to a new house or when they make significant changes to their current home. Six participants who were in a transitional face (recently made changes to their home/moved house) indicated that they had made alterations to their house to make it more energy-efficient during the building works/before moving into the new house. Participants in a stable face, who have not moved in the past few years, had made few large changes to the house itself – they had focused more on saving energy by changing their behaviour.

When participants were asked what stopped them from making changes right now, financial reasons dominated the discussion. Participants indicated that they would like to make certain changes, such as installing solar panels, improving the insulation of the house, or improving the efficiency of the heating system, but that the cost involved is too high to seriously consider doing so. In all four focus groups, all participants agreed that more government subsidies should become available to individual consumers to promote the energy-efficiency of houses. Participants also agreed that they would be likely to invest in energy-efficiency measures if the price of energy were to go up – another indication of the importance of the cost of energy as a motivator for change in domestic energy use.

A4. Behavioural changes vs. structural changes

Participants were asked to indicate whether they would prefer changing their behaviour or make structural changes to their homes in order to save energy. Some lively discussions arose, with different outcomes in different focus groups.

In the first focus group in Capelle, most participants indicated a preference for changing their house rather than changing their behaviour. The reasons for this preference were that they thought that it would be possible to achieve more savings by making structural changes than by changing their behaviour, and that many structural changes aren't actually that difficult to accomplish:

'You can achieve more by replacing an old heating system than by wearing an extra layer of clothes on some evenings'

'Installing double glazing is not that difficult – I had it done while I was on holiday, and by the time I got back it was completed'

The second group in Capelle had a strong preference for making behavioural changes, because they reasoned that this would be more cost-efficient.

'Changing your behaviour does not cost you anything; making changes to your house does'

In the first focus group in Emmen, participants agreed that changing behaviour and changing structural features of the house should go hand in hand. They stated that individuals should try to make their house as energy-efficient as their budget allowed, because this will encourage the largest savings. But at the same time they pointed out that individuals should also try to limit their energy use by changing their behaviour, because it can also contribute significantly to overall savings. As examples of behavioural changes the participants mentioned shorter showering times and lowering the thermostat settings. However, they did add that there are limits to the extent to which individuals can change behaviour:

'I try to save energy wherever I can: lowering the thermostat, shorter shower time... but I do take care that my home remains comfortable as well; it is important to have a comfortable home.'

In the second focus group in Emmen, several participants state that they had already changed their behavioural routines as much as they thought they could, saying they had done this to save money. Making changes to the home was not popular in this group – most participants feared that it was not price effective:

'I have already changed my routines – close the doors, turn the thermostat down, use less water. I found out about it on the Internet, it said I could save €700 a year by doing this. I tried it, and it's true. The savings, that is how I got interested'

A5. Using energy from sustainable sources

To check whether the participants knew about sustainable energy, they were asked to name sustainable energy sources. All participants immediately mentioned wind energy, solar energy, and hydropower. Other sources, such as biomass, were less well known. The participants generally held positive attitudes towards sustainable energy, although some admit that they had never really thought about it. In Capelle, most participants had switched to energy from sustainable sources, and the environment was mentioned as an important reason for doing so. In Emmen, about half the participants used energy from sustainable sources, with financial considerations (a lucrative offer from an energy company) being the main reason for switching to sustainable energy:

'I switched to sustainable energy because it is better for the environment – there were no downsides, the price was the same and the electricity is the same as well. I do not understand why other people do not switch as well.'

'I cannot see the advantages of using sustainable energy. It only costs a lot of money as an individual to switch, and there is plenty of oil and gas still available!'

Several participants indicated that they would be interested in generating electricity themselves, but that this was difficult due to planning regulations and high initial costs. Participants saw a clear role for the national government to make it easier for individuals to generate their own sustainable electricity:

'I would like to have a windmill in my back garden – I looked into the possibility, but the municipality will not allow it'

'Generating electricity with my own solar panels would be ideal... but government subsidies have stopped and it is too expensive to purchase them on my own'

A6 Section conclusion

Financial costs motivate behavioural changes

Potential financial savings were the primary reason for most participants to try to reduce their energy use. The positive effect of saving energy for the environment was appreciated, but it was seen as a preferred side benefit, not as a sufficient reason to try to save energy in itself.

Behavioural changes vs. structural changes

Participants expected to be able to save more energy by making structural changes than by changing their behaviour. However, there were doubts about the cost-effectiveness of making such changes, and these doubts often stopped participants from making them.

Windows of opportunity

Participants indicated that they were likely to look at the potential for structural changes when they are moving to a new house or when they are engaging in significant renovation works in their current home. During these windows of opportunity, doubts about the cost-effectiveness of structural changes seemed less important than when participants were not moving house or renovating their current home.

The cost of energy as a motivator for change

As the link between the price of energy and one's own energy consumption became clearer, participants became more interested in saving energy. Energy bills can be used as a motivational tool, as long as the information on them is clear.

Governmental action: Planning regulations and subsidies

The participants expected the government to provide more help when individuals wanted to generate their own sustainable energy. Planning regulations were regarded as overly strict and difficult to understand, while subsidies were seen as too small and too difficult to apply for – the amount of paperwork required put many people off.

Theme B: Household appliances

B1. Factors influencing the choice of a new appliance

The discussions about household appliances and energy use started with a series of questions about the role of energy consumption when buying a new household appliance. These discussions showed that the importance of factors such as purchase price, energy consumption, and design vary strongly for different types of appliances. Television sets, for example, need to have aesthetic features and offer all the options a consumer requires. It was clear that the amount of energy a television set uses was of little importance during the consumer choice process. When purchasing a refrigerator, however, energy use was one of the main criteria used to make a choice, along with the price of the refrigerator itself.

When asked to elaborate on these differences, participants indicated that with appliances such as television sets, which are used in the living room in a highly visible position, the design of the appliance is more important than its energy use:

'With appliances that are highly visible, energy consumption is less of an issue. You want to have a good-looking TV or stereo set, not some ugly thing in the middle of your living room'

Participants indicated that they were unsure about the actual energy use of television sets compared to refrigerators. Some participants thought that refrigerators used more energy than television sets, but others stated that this depended on the type of television set that was in use:

'I think the refrigerator is more important for the environment, because of its energy use, because it is active all the time. A television set is in use for a few hours a day only'

'The energy use of refrigerators is more important, I think... Refrigerators are very large, while a television set is only small...'

'Whether you buy a flat screen or an ordinary television set makes a large difference in energy use... But in the end you want to buy a good-looking one, because everyone can see your television set, it's a status object'

Participants felt that they were not provided with sufficient information about the energy use of different electrical appliances. They noticed commercials on television about the energy consumption of different types of appliances, but they were unsure whether they could trust the manufacturers of the appliances. They also pointed out that these commercials also tended to focus too much on large appliances such as refrigerators or tumble dryers, neglecting smaller appliances such as television sets or DVD players. Most participants did not know how much energy a television set consumes.

'With refrigerators, you have these labels you can look at to find out about their energy consumption. They do not do that with televisions, do they?... (unsure).'

When asked to name appliances for which they paid attention to energy consumption, participants were quick to mention tumble dryers as an appliance they do not use or used as little as possible because of its energy consumption. Other large household appliances, such as washing machines and refrigerators, were also mentioned as appliances for which energy consumption is an important purchase criterion. In two focus groups, a separation between 'household appliances' and 'luxury appliances' was made – household appliances are appliances that are 'necessary', such as refrigerators and washing machines, while luxury appliances include television sets, DVD players, and stereo systems. Participants indicated that energy consumption is an important criterion when purchasing household appliances, but that it is not important when choosing a luxury appliance:

'A television set is part of the appliances in my household, but it's not really a household appliance... it's more of a luxury thing. Luxury things have to look good and offer all the options you like – whether they consume a lot of energy or not is not that important'

Participants indicated that they would pay more attention to the energy consumption of 'luxury appliances' if they were to receive more information:

'I do not know how much energy a computer uses... If I'd know, I'd pay more attention to it. Because I do not know about the energy use, I choose a computer based on the price, the specifications, and the ease with which I can purchase it.'

When asked whether they paid attention to the price of the energy an appliance uses as well as the purchase price, most participants indicated that they did. However, they also stated that they found it difficult to comprehend the information provided to them, and that they would pay more attention to the cost of using an appliance if the information became clearer:

'If I know that the energy use of an appliance costs me €200 a year, and it's only €50 more expensive than an appliance that costs €100 a year in energy, I would buy the appliance that has a higher initial price'

'If they'd clearly state how much money an appliance costs each year in energy costs, I'd take it into account, but I cannot understand these labels...'

B2. Energy labels

All participants knew the EU energy label. However, as the last quote of the previous section indicates, many participants had problems understanding the information provided by the labels. In three focus groups, participants called for 'financial information' – information about the cost of the energy used by the appliance rather than information about the amount of kWh, as participants did not know how to translate this information into the amount of money it would cost them to use the appliance. All four focus groups agreed that purchase decisions were made mainly on the basis of financial considerations, so providing financial information helps consumers to make the best choice.

Almost all participants looked at the energy label when purchasing a type of appliance that carries this, but most indicated that the information on the label is not decisive in their decision – the purchase price is more important. People were willing to buy a product with an A label instead of an appliance that used more energy, as long as the price of the A label product was not too different from the price of the other available products.

In one focus group in Emmen, four people stated that they did not trust the information on the label – they thought that the government and the manufacturers were trying to manipulate the consumers' purchase behaviour.

B3. Using household appliances

More than half of all participants indicated that they turned off appliances after they had used them. Some participants also unplugged appliances that cannot be turned off (e.g. microwave oven with an electric clock that cannot be turned off). Most participants turned off appliances for safety reasons rather than to save energy:

'I always turn off the computer after using it... and the television is never on stand-by'

'I unplug appliances after using them because of safety reasons. Water cookers are known to cause fire easily – I am careful to unplug my electrical devices.'

Two participants from a focus group in Emmen indicated that they leave on most of the appliances in their homes. They stated that they do so because it is easier than turning everything on and off all the time:

'I think it has to do with age... I'm more focused on comfort nowadays than I used to be. It's more comfortable to have appliances turned on, that's why I do it'

B4. Who is responsible for lowering energy use through appliances?

The focus groups discussed whose responsibility it is to reduce the amount of energy used by household appliances. Three parties were considered: The government, the producers of the appliances, and the consumers themselves.

In the focus groups in Capelle, the initial focus was on the role of the producer. The participants agreed that producers try to convince consumers to purchase new appliances by making them as cheap as possible, while not informing consumers sufficiently about the cost of the energy that is required to use them. Producers were also said to try to convince consumers that they need more and more appliances – if fewer commercials would be broadcast on television saying that everyone should buy appliances, less appliances would be bought and energy would be saved.

'Producers try to convince you to buy lots of appliances, like plasma TV's, by offering deals like 'buy now, pay in two years time!'. This stimulates the purchase of additional appliances, leading to a waste of electricity'

'Producers should be challenged to provide appliances that are more energy-efficient. Governments should make strict norms on energy-efficiency, forcing companies to be more innovative when creating new products. This way, companies will put energy-efficient products on the market for consumers to buy'

In the focus groups in Emmen, participants focused heavily on the role of the consumer and the government. In both focus groups, people started by saying that it was one's own responsibility to purchase 'good' appliances, and that you cannot hide behind producers or the government to justify your own decisions. However, all participants also agreed that in order for individuals to make the right choice, they needed useful, trustworthy information. Most participants in Emmen expected the government to come up with this information, although three participants did not believe the government would inform people honestly:

'Individuals decide which products they want to buy, and they should be free to do so. But in order to be able to choose an energy-efficient product, I need information about energy use, and I think the government should provide this information'

When asked about the consumers' willingness to reduce their energy consumption by replacing appliances by more energy-efficient ones, most participants indicated that they are only willing to do so if the new appliance offers new features and/or if the old appliance is no longer functioning properly. In both focus groups in Emmen, participants indicated that they have used their refrigerator and washing machine for years, but that they are not interested in replacing them with energy-efficient alternatives unless their current appliances break down.

'My washing machine stills functions perfectly. Why would I buy a new one? It'll cost me a lot of money, and it's a lot of hassle too.'

Participants were also asked how they would react if they found out that a product they would like to buy consumed a lot of energy. Most participants indicated that, if they wanted the product, they would buy it regardless of the amount of energy it uses. The participants also stated that this also depended on the availability of alternatives – if an energy-efficient alternative is available that is equally functional and cheap, participants would choose this alternative; but if the alternative was less functional or more expensive, they would stick to their original choice, even if it consumes a lot of energy:

'It all comes down to the same thing: If two products are equally practical and the price is comparable, I will choose the energy-efficient option. But if there are differences in practicality or price, those differences are more important to me.'
(widespread agreement)

B5. Section conclusion

Purchase price is more important than energy use

The purchase price of an appliance was considered to be a more important criterion when purchasing a new appliance than the amount of energy it uses.

Most participants indicated that they were not willing to pay significantly more for energy-efficient appliances.

Luxury appliances vs. household appliances

Participants paid little attention to the energy use of luxury appliances like television sets or DVD players. When purchasing household appliances, however, energy use was an important reason to choose a particular appliance (though still less important than price and practicality).

Information gap

Participants felt that they received sufficient information about the energy use of large household appliances such as refrigerators and washing machines, but not enough about the energy use of luxury appliances such as television sets or DVD players.

Presenting the information differently

Energy use would play a greater role in purchase decisions according to many of the participants, if clear information about the yearly **cost** of the energy an appliance consumes was available to consumers, instead of information about the amount of electricity an appliance uses.

Turn off or plug out

Many participants turned off household appliances after using them, and some of them unplugged their appliances completely. Most of the participants who unplugged appliances did this for safety reasons, not because of energy savings.

Responsibility for change

Consumers, producers, and governments all have to contribute to decreasing the amount of energy used by household appliances. Governments should apply stricter rules on energy use of appliances to make sure that the least energy-efficient appliances are no longer for sale. Producers should be more innovative, offering more efficient products, and consumers should make the right choice. However, to make sure consumers are able to make this choice, the government should offer information about the energy consumption of appliances.

Theme C: Travel and fuel consumption

C1. Reasons for using a car

Almost all participants owned, or have access to, one or more cars. In Emmen, all participants used cars regularly, in Capelle, only one participant did not use a car. However, no participant had chosen not to use a car because of the environment. The one person who had no access to a car lived in the centre of a city, where she got around quicker using a bike or public transportation than a car.

The reasons for using a car were different in Capelle and Emmen. In Capelle, participants stressed the freedom a car affords them; the cost of using public transport; and the difficulty of using public transport as the main reasons for using a car. Possible reasons for reducing car use were (in order of perceived importance): the cost of owning a car; getting fresh air/exercise by cycling instead of driving a car; and the environment:

'I only use the car for longer distances, otherwise I prefer to cycle. But for long distances, using a car is the most practical way to travel'

'A car is much more practical than using public transport, and if you compare the environmental damage of my car to the damage done by large factories, my car has no impact at all'

'I'd sooner reduce my car use because of the cost of driving a car than because of the environment; but driving a car is so much easier than using alternatives that I do not really consider reducing my car use.'

'We have two cars in my household.. Every now and then I consider whether it would be possible to go back to owning just one car, because of the cost, and the environment... but it's just not feasible, with the distances we have to travel to go to work'

'I like to cycle during the summer – I love the exercise, and it saves me money as well'

In Emmen, participants emphasized that it was virtually impossible to manage without a car, because public transport access is poor and distances between towns and villages are large, making it difficult to cycle everywhere. Reasons to consider reducing car use were (in order of perceived importance): the cost of owning and driving a car; the environment; and the limiting effect of car use on the expansion of the public transport network. It was interesting that in relation to this last point two participants noted that extensive car use works as a barrier for significant investment in public transport, because government will wrongly assume that there is no demand for public transport:

'It's impossible to manage without a car in this area... everything is so far away, and public transport is very poor. There are hardly any buses and train connections to the rest of the country are far too slow, making them inadequate compared to cars.'

C2. Changing to a different mode of transport

Only a few participants had tried to reduce their car use in any significant way. In Capelle, two participants had tried. Both did so because their cars broke down. They cycled and used the train instead of driving by car, but the difficulty of going on holiday with young children without a car made them start using a car again. Others had tried to stop using their car to go to work, but a lack of comfort (having to cycle in the rain and the cold) made them fall back into their old driving habits. Most participants had never seriously considered cutting back on car use, because they could see no adequate alternative:

'I tried to live without a car for half a year, and it went ok. But by the time we wanted to go on holiday, it was not feasible... You cannot go on holiday with three small kids without a car'

'I tried not to use a car to go to work for two months.. but cycling, with all the rain... I was just fooling myself, I was never going to keep it up'

'I cannot see myself living without a car.. I might switch to a hybrid car at some point, for the environment, but not using a car at all? It's just not feasible.'

In Emmen, no participants had seriously tried to reduce their car use. Again, the participants emphasized that it was virtually impossible to manage without a car if you lived in the countryside:

'If I need to go to the supermarket, that's 6 km away from my home. There is no bus service. I can't cycle that distance every time, it just takes too long'

'If I need to visit people at the hospital, that would take almost an hour by bike! You just can't manage here without a car'

'I've made a conscious decision to buy the most energy-efficient car I could find, because I know about the negative consequences of car use... But not using a car is simply not feasible, it's not an option'

Participants were asked to indicate what should change to make alternatives for car use more attractive. The following points were mentioned:

Changes required to make alternatives for car use more attractive

- Making public transportation free/much cheaper than it is now;
- Improve public transport access;
- Make sure trains and buses arrive on time;
- Improve the practicality of using public transportation – make sure that travelling by public transport does not take additional time compared to driving a car;
- Raising taxes on car ownership and car fuel.

There was a strong focus on cost – participants argued that if car use would become more expensive and public transportation would become cheaper, people may be tempted to try to reduce their car use. In Emmen, the accessibility of public transport was also a serious issue:

'If you live in a large city, you can take the metro or the tram to go somewhere, it's easy. But in smaller villages, you just can't go anywhere; you need to drive a car'

When comparing the cost of driving a car with the cost of using public transport, participants seemed to focus solely on the cost of fuel use, which made their comparison unbalanced. Participants seemed unaware of this flaw in their comparison:

'If I compare the ticket price of using the train with my fuel costs, it's just not reasonable. You cannot expect people to take the train!'

'If you have to choose between buying a train ticket to go to Amsterdam for €14, or paying for fuel that costs €15, it's an easy choice isn't it? You'll always go by car!'

Overall, a combination of practicality, comfort, and perceived differences in costs appeared to be the main reasons why people stuck to using cars. Some people reduced their car use in summer, because they wanted to exercise by travelling by bike, but this was not a permanent change – people cycled 'when they felt like it':

'I like to cycle in the summer, if it's not raining. But if the weather forecast says there will be rain, I'm happy to use my car!'

One participant also noted that government messages on the use of private cars seemed to be quite mixed – on the one hand, government is telling people to reduce their car use, because it is important for the environment, but on the other hand, policy measures seem to stimulate car use:

'The government is always talking about solving congestion problems, adding additional roads... And the price of train tickets increases every year... We are not stimulated to try to reduce our car use at all.'

C3 Negative effects of car use on the environment

Almost all participants were well aware of the negative consequences of car use for the environment. This did not stop them from using a car, though – most participants did not feel personally responsible for the negative environmental effects caused by their car use:

'If they'd make fuel cleaner, cars would not be so damaging for the environment'

'Why should I be bothered by the negative effects of car use? The government earns loads in taxes on car ownership and car fuel! We are all stuck on congested roads, and the government sees the money streaming in!'

C4. A car-free future

None of the participants believed that the car would be replaced by other modes of transport in the foreseeable future. Participants agreed that the desire for freedom, privacy, and comfort will continue to encourage people to use cars rather than public transport, no matter how advanced public transport would be in the future. The focus groups did expect cars to get cleaner however, with advances in electrical cars as the main hope for the future. On specific routes, for example from smaller towns into large cities, they also thought that better public transport connections may result in less people using a car to go to work. This would not, however, lead to people not using their cars at all – they would still want to use a car to go on holiday, to visit friends, or simply to go for a drive:

'It's my privacy as well; I'd rather sit in my car, heater on, listening to music, than having to sit in the train next to someone I do not know'

'We are all wealthy people, living in a wealthy country... We want to have our comfort'

'We'll still use cars, because they provide us with freedom and comfort. But the kind of car we use will change.. I think we will start using electrically powered cars, and cars will get smaller, more like 1-person vehicles that take little room and consume little energy.'

C5. Regulations aimed at reducing car use

When asked whether regulations should be put in place to discourage the use of gas-guzzling cars, many participants stated that those regulations were already in place. Some thought that there were too many regulations already and that all car-related taxes seemed to be differentiated according to the fuel of the particular car that was owned:

'I drive 50.000 km a year in a reasonably big car, so I pay more taxes than someone in a smaller car driving less. I think that's ok, I am willing to pay extra for the luxury of driving a comfortable car'

(Reaction to the previous quote) 'But you are paying additional taxes already! Government has already built all kinds of differentiation mechanisms into the way they tax car drivers. I think there should be less regulations, not more.'

Two participants argued strongly that there should be stronger regulations, however, stating that gas-guzzlers should not be build in the first place:

'Car manufacturers should cease to build these large SUV-type cars... If consumers cannot buy them, these cars can never cause damage to the environment.'

'Car manufacturers should be punished for selling these gas-guzzling cars.. they are the party that should be fined'

Most participants agreed that it was a good thing that the use of gas-guzzlers is discouraged to some extent. However, many doubted whether these regulations are effective:

'I do not think that the people who like these SUV-type cars, rich people, are bothered by an additional tax.. They will just buy the car they like best'

Real gains in fuel economy could be made by promoting working from home and improving public transport, according to most participants, not by outlawing gas-guzzling cars:

'More employers should allow there employees to be flexible with their working hours.. this would help decrease congestion problems, leading to less environmental damages from cars driving slowly on congested roads.'

'Employers should be much more flexible with working times. Why do they care whether you turn up at work at 8.30 am as long as you meet your targets?'

'If there would be new tramlines, and better busses, it would help to decrease car use more than having additional regulations'

C6 Section conclusion

People like driving cars

Almost all participants drove cars. The main reasons why they did so are freedom and comfort – hedonic reasons, indicating that people choose to drive a car because they *like* to drive.

People do not like using public transport

Public transport was perceived to be impractical, with long waiting times, delays, long travel times, lack of privacy, and lack of comfort. Participants did not perceive public transport as a realistic alternative to using cars.

People may be tempted to use public transport on specific routes

If good (i.e. quick, cheap, and easy-to-use) public transport connections existed between the home and the workplace, several participants would be tempted to use these rather than use their car. However, they would not stop using cars completely – cars were still seen as necessary for going on holiday, meeting friends, and making unexpected trips.

Urban and rural areas differ

Although all participants indicated that car use was inevitable, and that public transport did not offer a feasible alternative, there seemed to be more scope for car use reductions in urban areas than in rural communities. In urban areas, people perceived the use of public transport or a bike instead of a car as *uncomfortable*; in rural areas, people perceived the use of alternatives to car use as *impossible*.

Seasonal differences

Many participants said they would be willing to use a bicycle instead of a car – as long as the weather is nice. People made a conscious decision to cycle, stating costs, the benefits of exercise, and the environment as reasons to do so, but the lack of comfort during colder months meant they often did not make a definitive switch from car to bicycle – they only cycled when it suited them.

Finances are important – but calculations are flawed

One reason people gave for not using public transport was the perceived costliness of doing so. However, this argument was based on a comparison of the price of public transport tickets with the price of fuel needed to complete the same distance by car. This comparison can be seen as flawed logic, because other costs incurred by using a car are omitted. But people did not seem to be aware of this mistake. Increasing this awareness may make the cost of travelling a reason to choose public transport rather than a reason to avoid it.

Save the environment – Improve the fuel-efficiency of new cars

In each focus group, participants indicated that they would be interested in using electro powered cars or other innovative fuel-efficient kinds of transport, as long as comfort and freedom levels provided by the cars they were currently driving could be upheld. There was little support, however, for a tightening of regulations regarding the purchase and use of gas-guzzling cars.

Theme D: Wider issues

D1. Knowledge about energy use

Many participants indicated that they knew little about energy issues. They had no real knowledge of their own energy use, and they were unfamiliar with at least some of the ways to reduce domestic energy use that had been discussed in the focus group. It was interesting to see that participants described taking part in the focus groups as ‘very useful’ and ‘interesting’. All participants agreed that it was important to know about ways to save energy. The primary reason why they wanted to learn more was clearly because they could save money by saving energy; the environment was barely mentioned as a reason why participants wanted to learn about saving energy:

‘I think most people do not think about the amount of energy they use.. It would be good if more people did, a lot of energy can be saved if more people knew how to do so.’

‘Everyone knows about unplugging appliances and not using stand-by settings, but I am sure there are many other ways to save energy most people have never heard of’

‘I want to know more about the energy consumption of my appliances so I can make the right decisions and reduce my energy consumption... I see now that doing so leads to substantial reductions in my energy bill.’

'The environment.. I just don't live with the environment in mind. I wasn't raised like that, and I do not feel responsible. All this talk on the television about environmental problems... I'm not interested to be honest'

'I don't do it (save energy) for the environment alone. If that's the only reason, I'm not interested. I only do it because I can save money'

Several participants pointed out that they had difficulty finding 'correct' information. Information is available, for example through television commercials and advertisements in magazines, but participants did not know whether this information could be regarded as trustworthy. Why would a company that sells electricity want to inform you about ways to save energy? Could you trust the information given by this company?

'One day government tells you that there is sufficient oil available worldwide to last another 50 years. Next day, some oil company says it's enough for another 100 years. Who is right? I do not know who to trust.'

'I am always wondering 'who is providing me with this information? What is the reason they are telling me this?'

Another problem mentioned by many participants was the clarity of the information given. Many participants were not interested in reading long articles about energy use; they wanted clear tips on how to reduce their energy consumption. This clarity was often missing in the information that reached them. A specific example of this problem is the energy bill – participants indicated that the bill is difficult to understand, and lacks information about reducing energy use:

'Quite a lot of information is available nowadays.. about energy-efficient light bulbs, and thermostat settings... But it's always either really brief, on television, or too long, those long articles in newspapers.'

'I don't really understand the energy bill – all those numbers. And I think it is stupid it only gives me information once a year; I'd like to receive information more often, giving me more insight in the effects of my behaviour on my bill.'

'The energy bill should be used as an information tool – if those energy companies really want us to reduce our energy use, why not help us by providing additional information?'

Something that would also help, according to participants in two focus groups, would be telling people how much money they can save by implementing certain changes instead of telling them about the number of KWh. This point was made earlier during the discussion about energy labels – if information is provided about actual financial consequences of using an appliance, people would be more likely to take this information into account:

'To assess whether certain savings are worthwhile, I'd like to get information about savings in euro's. I know the value of a euro, it means something to me. I don't know how to value a KWh or whatever it is called'

'Confront people with their behaviour... Show people that they are wasting energy, and that it is costing them (money) and society (the environment).'

The participants were generally critical about the role of the Dutch government regarding energy savings. Several participants questioned whether the government was committed to reducing energy use. Participants were also critical of the subsidies provided by the government to promote reductions in household energy use – the subsidies were regarded as too small and the paper work required to apply for them was regarded as a barrier to their effectiveness:

'I do not believe government truly cares whether someone uses less energy or not.. They are not reducing their own energy use, are they?!

'The government should give the right example.. I don't think they are performing well right now. I think they are insincere when they claim that they care about energy use and the environment'

'Government should provide more subsidies for insulation measures.. I'd like to improve the insulation of my own house, but I cannot afford it myself.. If the government would provide a subsidy, I'd do something about it.'

'What I hear from other people and read in the newspapers is that takes a lot of effort and a lot of time to apply for energy-related subsidies. If the government is serious about reducing energy use, they should do something about this!'

D2. Advising consumers

Some participants reiterated their mistrust in messages from the government or private companies. It appeared that people did not fully trust information about energy efficiency unless the information is supported by more than one party (i.e. government + company; company + consumer organisation). People often lacked access to the actual tests that are used to measure the energy consumption of household appliances or cars, meaning they have no way of finding out whether the information they receive is 'true' or not:

'Some consumer organisation says that people can save money by only using the washing machine at night. But my energy company never mentioned this. I don't know if it's true or not, how can I find out?'

'I want to know how they calculate the savings I am supposed to make by installing insulation in my house, or by using my car less.. Who can guarantee that this research is trustworthy?'

People were least inclined to trust information provided by private companies. Consumer organisations were regarded as the most trustworthy, but many participants searched for information provided by other organisations before they accepted information from an organisation as 'true'. Sometimes it was unclear to participants which organisation was providing the information they received, which reduced their willingness to pay attention to the information:

'Private companies must have their own reasons for giving you information. They want to earn money, right? That's why companies selling double glazing are always saying it's amazing for the environment. How do I know they are not just lying to me to earn money?'

D3. Awareness of government initiatives

Participants were asked to indicate whether they were aware of a series of government initiatives designed to reduce consumer energy use. The government initiatives included two subsidy opportunities for individuals to improve the energy-efficiency of their own home (tax benefits for people implementing insulation measures and subsidies for individuals asking for professional advice on how to improve insulation in their home effectively); an information campaign to increase awareness of energy-efficient driving behaviour; an overall campaign aimed at improving awareness of the importance of saving energy; and a subsidised loan individuals can apply for to help them cover the costs of renovation works (as long as those renovation works lead to an improvement in energy-efficiency of the house).

Most individuals knew about the campaign to promote energy-efficient driving behaviour, while the opportunities to apply for subsidies to improve home insulation were known by only a handful of participants. In Emmen, more participants knew about the insulation subsidies than in Capelle:

'I only know one of these (initiatives)... it's scandalous really; everyone should now about this, right?'

'I know about the insulation ones... I thought about renovating my house a few months ago, and a contractor told me about these subsidies.'

'I've heard about the driving campaign, I saw that on television. I've never seen anything about the other four though.'

When asked whether the government initiatives had had an observable impact on participants' lives, more than half of the participants indicated that they had changed their driving style as a result of the government campaign to promote fuel-efficient driving behaviour. The other initiatives had less impact on participants' behaviour and only one or two participants had taken action as a result of becoming aware of the opportunity to apply for subsidies to increase the energy-efficiency of their house:

'The driving campaign did change my driving behaviour – I started to think about saving fuel more after seeing the commercials on television.'

The main reason why participants were aware of the driving campaign, and decided to do something with the information, seemed to be the scope of the information campaign – participants had seen it on television, read about it in the newspaper, and heard about it on the radio. Several participants stated that by offering information this way, it became almost impossible for individuals to avoid hearing about the message:

'Repeat, repeat, repeat... People need to hear a message a hundred times before it really starts to work'

'I've seen it on TV... It's been on it for months, hasn't it? I saw those commercials several times a day for a time.'

'I remember hearing about the possibility to get someone to look at your house, to help you with energy-saving measures.. But I only remember because it's on the list, I think I've only seen information about it once or twice before.'

One other reason offered by participants for the relative success of the driving behaviour campaign was the clarity of the messages. The campaign consisted of several clear examples of ways in which people can change their driving style. Participants noted that these examples were easy to understand. The information about improving home insulation was more difficult to understand however, with long texts explaining how to apply for subsidies, and the procedure seemed difficult. The participants agreed that for an information campaign to be effective, it should consist of clear messages and easy-to-follow examples, because long texts and difficult instructions put people off:

'The government often sends out these long leaflets about all sorts of things I can do to save the environment. I don't read them, it's far too much! If the message is short and simple, it reaches more people.'

'The thing I liked about the driving campaign was the simplicity of the messages – you had these billboards, and they simply said 'Change gear earlier to save fuel'. It's messages like that that help you change your behaviour, easy to understand with a clear indication of what you should do'

D4. Information sources

The discussion about the awareness of government initiatives showed that the television is an important source of information about ways to reduce energy use. Other sources that were mentioned by several participants were newspapers, 'experts' (e.g. people working in hardware stores or contractors), and family and friends. All participants agreed that campaigns worked best if they use a variety of channels to reach their audience:

'Some people watch television all the time, they can be reached by commercials. Others read newspapers, it's best to use newspaper ads to reach them. And if people see the same message in different places, that's a good thing right? It's all about repeating the message.'

Participants did not expect that people will be annoyed or angered by reading the same message time and again. The feeling seemed to be that as long as the message is framed correctly, people will become more likely to act upon the message each time they are confronted with it.

'If it's a clear message, like the one about changing gears and saving fuel, it will not cause irritation... It's only a short message, it doesn't take a lot of time to look at it. Furthermore, if people are already saving fuel, they can feel pleased about themselves every time they read the message; it's a reminder that they are doing well.'

D5. How to make society more sustainable

All four groups agreed that government, companies, and individual consumers all need to do their bit to make sure that significant changes in energy consumption would be achieved. It was pointed out that a more sustainable society benefits everyone, and therefore everyone should be asked to contribute. There was a strong sense, however, that environmental problems needed to be solved on an international rather than a national level – and some participants argued that the Netherlands is doing a lot more than many other European countries when it came to solving environmental problems and saving energy. Others agreed, and some participants concluded that 'the others' should act first. Several participants objected to this, saying that everyone should try to contribute. However, the feeling that it wouldn't be fair if the Dutch would have to sacrifice comfort or money for the environment while others did not was apparent in all four groups:

'All parties should do their part... Governments, manufacturers, and consumers should work together, otherwise real changes are not feasible.'

'The Dutch government is always trying to move first, to be an example to other countries... We should stop trying to do that, and wait for other countries to do something about energy reductions too'

'We are told to drive less, shower less, consume less.. all because of the environment. In other European countries, this does not happen at all'

'Everyone should contribute as much as he/she can – it does not matter where you live or what others do, it's your responsibility to do your part to save the environment'

D6. Section conclusions

Soundbites work

The focus group participants indicated that they preferred learning about ways to save energy through brief messages which include clear suggestions for behaviour change. However, participants also indicated that they required more insight into how information providers determine whether behaviour changes will be effective in order to fully trust this information. This apparent contradiction means information providers have to strike a balance between brief, clear suggestions for changes in energy behaviours and providing

sufficient background information to convince consumers that the suggested changes in behaviour will indeed lead to a reduction in energy consumption.

Information should be everywhere

Participants indicated that they did not mind receiving information about energy-related issues repeatedly. Information seemed to be most effective when it was offered via more than one channel – combining for example television commercials, billboards, and newspaper advertisements seemed to be more effective than focusing on one medium only.

Cost remains the single most important factor to inform people on

According to the discussions, people wanted to know about the financial cost of energy-related changes first. It was only after knowing that the cost is acceptable that they were interested in other factors such as the environment or comfort. Information campaigns could serve this need by including financial information in energy-related messages. This is especially relevant when providing information about new appliances people may want to buy. The focus group participants want to know, for instance, the financial cost of the energy used by the appliance, not the amount of kWh it uses.

Trust in information sources is problematic

Many participants displayed a strong sense of mistrust towards the providers of energy-related information. Private companies were viewed with particular suspicion, as many participants suspected them of hidden agendas, but government initiatives were also deemed as not trustworthy by many. The focus groups mentioned a combination of several sources providing the same information, and transparency regarding the methods with which information was required as two ways to increase trust in the message that is being conveyed.

People wait for others to make changes before they do so themselves

Almost all participants tended to talk about others not doing enough for the environment before focusing on ways in which they would be able to contribute themselves. This 'it is not my turn to act' mentality was especially prevalent in Emmen, but participants in Capelle expressed similar feelings. They stated that 'as long as I am doing more than my neighbour to save energy, and as long as the Netherlands is doing more than most other countries to save energy, I do not have to consider additional ways to reduce my own energy use.'

Conclusions

Differences based on age and housing situation of participants

Age

The importance of age differed strongly between the focus groups in Capelle and the focus groups in Emmen. In Capelle, the influence of age hardly featured in discussions, and younger and older participants tended to agree with each other on most subjects. Clear divisions between younger and older participants never occurred. In Emmen, however, participants frequently referred to age as a variable that affects domestic energy consumption, and clear divisions were visible between older participants and younger ones.

The older participants in Emmen (> 50 years old) tended to be less interested in environmental issues than younger participants; strongly motivated by financial or comfort motives; and more likely to voice their distrust in both private companies and the government. The older participants felt strongly that whether or not someone wanted to save energy should be a private decision, not something imposed on an individual by the government. In one focus group, a heated argument occurred between three older men and two younger women after one of the men had stated that he couldn't be bothered engaging in pro-environmental behaviour 'because by the time the environment is ruined, I'll be gone.' The younger women accused him of being selfish, after which the other two men spoke out in support of the 'selfish' man. This discussion was an example of the differences between the younger and older participants in the focus groups in Emmen: The younger participants were more aware of environmental issues, and felt a stronger obligation to do something about these issues by reducing their energy use, while the older participants were only interested in private benefits of saving energy, such as saving money or increasing comfort levels.

What is important to note is that this age difference occurred only in Emmen, not in Capelle. One possible explanation could be that in the 1950's and 60's, in rural parts of the Netherlands, environmental issues did not play a central role in peoples' upbringing, while in the urbanised Western part of the country, environmental issues were better-known. This explanation was raised by two older participants in Emmen – they stated that they were not raised to be aware of environmental issues.

Stability of the housing situation

The discussions about energy savings through structural changes in the house (e.g. insulation, double glazing) resulted in a division between people in a stable housing situation and those in a transitional phase. People in a stable situation tended to focus on the costs of making structural changes where doubts about cost-effectiveness and fears about the difficulty of implementing major changes seemed to stop them from making those changes. People in transitional phases focused more strongly on the potential benefits of making structural changes and they were more interested in the possible energy savings than in the potential costs of making the changes. This shows that a real window of opportunity for structural changes opens up when people move house or renovate their current home.

Overall conclusions

Domestic energy use

Cultural-normative and social barriers

- A strong self-interested outlook on energy issues is an important barrier – participants were only interested in making changes in their energy behaviour

if these changes would lead to personal benefits; societal or environmental benefits were insufficient motivators for behaviour change

Knowledge barriers

- Energy bills are difficult to understand - Financial benefits are an important motive for reductions in energy use, but participants indicated that they do not see the effects of behaviour changes in their energy bill because they do not understand the bill.
- Lack of knowledge about ways to apply for government subsidies prevented participants from making certain structural changes, such as installing solar panels.

Individual/psychological barriers

- The desire for a comfortable house overrides the willingness to reduce energy use – reductions in energy use are acceptable as long as they do not make the living environment less comfortable.
- The need for people to perceive a relation between their energy bill and their energy behaviour (also cultural barrier).
- Structural changes to the house are perceived as ‘troublesome’ – the work required to make structural changes prevented participants from doing so. This barrier is temporarily relieved when participants are changing house or renovating their current home..

Economic barriers

- Initial investment required for structural changes to the home prevented participants from making those changes.
- Lack of trust in the cost-effectiveness of structural changes prevented participants from making these changes (also knowledge barrier).

Political barriers

- Application procedures for subsidies are difficult (also knowledge barrier).
- Municipalities can be very strict with building regulations, preventing people from making energy-saving changes to their home.

Household appliances

Cultural-normative and social barriers

- A strong focus on initial purchase cost
- Low levels of trust in information provided by private companies and government agencies.
- Perception of certain appliances as ‘luxury products’ – For these products, the way it looks and the things it can do are evaluated as more important than the amount of energy it uses.

Knowledge barriers

- A clear lack of knowledge about the amount of energy ‘luxury appliances’ use.
- A lack of ‘feeling’ for the meaning of 1 kWh – participants indicated that they do not know how to value a kWh.
- Participants found it difficult to calculate the number of years it would take to earn back the added initial purchase cost when purchasing an expensive, energy-efficient appliance.

Individual/psychological barriers

- Luxury products are evaluated as status-enhancing objects rather than as energy-consuming objects. This focus on status overrides any energy-related considerations.
- Participants (especially older ones) were not inclined to replace their current appliances with new, energy efficient ones. Replacing working appliances was seen as a waste of materials and money, even if it may be cost-efficient to do so.

Economic barriers

- Initial investment required to purchase energy-efficient appliances prevents participants from making those changes.
- Lack of trust in the cost-effectiveness of purchasing an expensive, energy-efficient appliance instead of a cheaper alternative. (also knowledge barrier).

Political barriers

- Lack of trust in information about energy-efficiency of electrical appliances prevents participants from acting upon this information.
- Participants want government to enforce stricter rules on producers of appliances to ensure that the least energy-efficient appliances are no longer produced.

Travel and transport behavior

Physical and structural barriers

- Participants were interested in using more energy-efficient types of transport than their current car, as long as it provides similar freedom, comfort, and value-for-money. Such an alternative was deemed to be not available at the moment (also individual & cultural barrier).

Cultural-normative and social barriers

- General reluctance towards using public transport
- Privacy of driving in one's own car is stated as an important factor in transport-mode choice – Participants indicated that they do not like having to share a cabin with other persons.
- Strong focus on personal benefits – benefits of a car (perceived as cheaper than using public transport, privacy, comfortable) are on an individual level, while benefits of using public transport (environment) are on a societal level. Personal benefits influence participants' behaviour more strongly than societal benefits.

Knowledge barriers

- Participants appeared unaware of the actual cost of using a car – they only took the cost of fuel into account when comparing cost of driving a car with cost of using public transport. This unfair comparison was used to defend the choice to use a car.

Individual/psychological barriers

- Participants tended not to believe that their car use makes a difference for the environment – comparison with large companies led to the conclusion that private car use does not matter for the environment.
- Comfort of driving a car is valued highly by participants; public transport is perceived as uncomfortable.
- Participants like to cycle short distances, but only if the weather is agreeable.

Economic barriers

- Cost of using public transport was perceived as high compared to cost of driving a car.

Political barriers

- Some participants did not believe that the Dutch government is sincere when it promotes the use of public transport because of tax income from car use.

Wider issues

Cultural-normative and social barriers

- General reluctance to engage in any energy-saving behaviour that brings no clear, (almost) instant personal benefits. Reducing pressure on the environment is not a sufficient reason to motivate people to save energy.

Knowledge barriers

- Government subsidies are little-known – Many participants knew little about the availability of various subsidies to improve the energy-efficiency of houses.
- Participants had difficulty understanding how they can benefit personally from investments in energy-efficient appliances, cars, or structural changes to their home. Information should be focused on the potential personal benefits of these actions, as personal benefits appear to be the most potent motivator of energy-saving behaviour.

Individual/psychological barriers

- Trust in information sources (government, private companies, NGO's) is generally low. Participants wondered about 'the true motives' behind the information provided by these organizations.
- Participants tended to understate the importance of their own energy behaviour by referring to the total amount of energy used in the Netherlands. This lack of believe in positive outcomes prevents participants from reducing their energy use.
- Participants were pointing at what others ought to do rather than considering what they could do themselves to save energy. Most participants felt that they had already taken significant steps; others should follow before they were willing to further reduce their energy use.

Appendix: Participant characteristics

Capelle, group 1

Age	Household composition	Housing situation	Income level	Education level
69	2	Stable	Lower/middle	Lower
38	1	Transition	Higher	Higer
49	4	Stable	Middle	Middle
62	2	Stable	Middle	Lower
35	2	Transition	Middle	Higher
42	1	Stable	Middle	Higher
37	5	Stable	Middle	Higher
31	3	Transition	Middle	Middle
33	Na	Transition	Higher	Higher
32	1	Transition	Middle	Middle

Capelle, group 2

Age	Household composition	Housing situation	Income level	Education level
69	1	Transition	Middle	Higher
41	4	Stable	Higher	Higher
46	2	Transition	Higher	Higher
55	2	Stable	Middle	Higher
43	3	Transition	Middle	Middle
40	4	Stable	Middle	Middle
26	2	Transition	Middle	Higher
23	2	Transition	Middle	Middle
38	3	Transition	Middle	Higher

Emmen, group 3

Age	Household composition	Housing situation	Income level	Education level
33	2	Transition	Lower/middle	Lower
66	2	Stable	refused to tell	Higher
32	5	Transition	Middle	Higher
38	Na	Transition	Lower/middle	Middle
61	2	Stable	Middle	Middle
64	2	Stable	Middle	Na
Na	Na	Na	Na	Na

Emmen, group 4

Age	Household composition	Housing situation	Income level	Education level
62	2	Stable	Lower/middle	Middle
55	2	Stable	Middle	Lower
64	2	Transition	Lower/middle	Lower
36	4	Transition	Higher	Middle
30	3	Stable	Higher	Higher
40	3	Stable	Higher	Higher
50	1	Transition	Lower/middle	Na
Na	2	Na	Na	Na