

# Sustainable Energy Consumption: the Sufficiency Approach

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## Abstract

In certain industries it is common that companies have to deal with excessive demand. Different strategies are applied in such situations in order to secure long-term development of the companies. Typically, the companies tend to respond with two types of behaviour: either by restraining the production (increasing it only up to a certain point), or by resisting the pressure imposed on them by their customers. Both restrain and resistance represent reactive strategies, while there exists an alternative of proactive behaviour. One of the options for proactive strategy would be motivating consumers to act according to the principle of sufficiency in order to prevent excess in demand. Even though the idea of companies motivating their customers to consume less of their product might seem unrealistic, there are several examples of such behaviour, energy industry being the most obvious one. The purpose of this paper is to present a research proposal aiming to explore the relationship between energy providers and their residential customers through the perspective of sufficiency. A two-sided approach to the issue is proposed, first researching sustainable energy companies' perception of sufficiency promotion (unnecessary activity, responsibility, business opportunity, etc.) through thematic interviews, and secondly, researching the attitude of residential customers towards sufficiency promotion campaigns conducted by their energy providers through focus group interviews.

## Introduction

There have been many attempts to define sustainable consumption ever since this concept first emerged in the society. In 1994, at the Oslo Symposium a working definition of sustainable consumption was elaborated. According to this definition, sustainable consumption is about "the use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardise the needs of future generations" (Norwegian Ministry of the Environment, 1994). There is a number of uncertainties arising from this definition, especially when it comes to theoretical debates on what is sustainable and what is consumption. In addition, from a more practical point of view the question arises – what should be done and/or changed in order to achieve sustainable consumption. Salim (1994) claims that the concept of sustainable consumption implies the optimization of consumption in order to maintain the quality of services, resources and the environment over time. The call for optimization, however, requires explanation on what it would include. Robins and Roberts (1996) outline at least four major possibilities for optimization:

- efficiency enhancement
- service substitution
- consumption reduction
- consumption redistribution

All of them have already received considerable attention and much research has been conducted to explore the opportunities they offer. This paper, however, will concentrate on consumption reduction as one of the means to strive for sustainable consumption.

In relation to consumption reduction issue it is essential to mention that consumption is inherent to any kind of human activity. Daly (1996) claims consumption to be that part of human activity that “uses up” material, energy and other valued things. At the same time, Princen (1999) stresses that the defining characteristic of consuming behaviour is “material provisioning that permanently degrades material and energy to serve some purpose to the individual or to the group”. From the consumption reduction perspective there are two important conclusions to be drawn based on these definitions. First of all, that consumption is inevitable because it is an inherent part of human

activity, and second – that consumption serves a purpose. This means that even though it is not possible to avoid consumption in order to achieve sustainability it is still possible to reduce it significantly according to the vitality of the purpose it serves.

Consumption is so profoundly involved in the functioning of our society that it is almost impossible to describe all its different roles and influences. Jackson (2004) in his review of evidence on consumer behaviour and behavioural change summarizes the roles that have received most attention in research, historical and contemporary literature. In the first place is the functional role of consumption that allows to satisfy needs for food, housing, transport, recreation, etc. However, it is also emphasized that in the modern society consumption plays a role of utmost importance in identity formation, in defining status and distinction, social cohesion and belonging, dreaming and hedonic desires. Consumption is nowadays often connected to pursuit of personal and cultural meaning. (Jackson 2004, 6.)

Consumption can certainly bring a whole range of tangible and intangible benefits into the lives of consumers, but it can also become a disease (Peattie 1995, 82). Even when it comes to sustainable consumption, a lot of businesses associate it with increase in consumption of sustainable products, completely omitting the notion of sustainable patterns of consumption (Michaelis 2003, 917). It is not only a question of what is consumed, but also of how it is consumed. In some cases purchase decisions are more important than anything else, while in others the actual product use or pattern of use provide more opportunities to act in line with sustainability principles (Stern et al. 1997).

## **Energy Consumption: Opportunities for Sustainability**

In case of energy consumption both purchase and pattern of use decisions are important. For example, a decision to purchase energy produced with renewable resources would be environmentally responsible and advantageous. On the other hand, a firm commitment to reduce consumption of energy would be equally important in environmental sense, while a combination of these two decisions would be ideal. Consumption of energy represents a very particular case of consumption. American Heritage dictionary provides basic definitions of consumption from different perspectives (thermodynamic, biological, and social) and each one of them refers to energy. Thermodynamically, consumption means increase in entropy. Biologically, consumption is capturing useable material and energy to enhance survival and reproduction and, ultimately, to pass

on one's genes. Socially, consumption means using up material and energy to enhance personal standing, group identity, and autonomy. As can be seen, the very process of consumption is impossible without energy. Therefore, energy consumption is a basic need, an imperative condition for existence. So, parallel to the consumption itself – energy consumption is unavoidable, however it is possible to adopt a strategy of reduction in energy consumption in order to move towards sustainability.

The focus of this research paper is specifically placed on reduction in energy consumption in households through moderate use since the purchase of energy is a matter of basic need. In other words, when it comes to the goal of reduction, it is worth to consider the pattern of product use, that is energy. Furthermore, at this point it is necessary to make a distinction between two different modes of energy consumption: direct and indirect. The distinction between the two modes is based on the definitions provided by Steg (1999). Direct energy consumption of the household is determined by the primary energy required to make the necessary energy sources (gas, electricity and fuel) available and by the energy content of those energy sources. A household's indirect energy consumption is determined by the total primary energy needed to produce and transport the goods and services (and semi-manufactured goods) it uses and to dispose of goods after use. (Steg 1999.)

From the consumer point of view the distinction between direct and indirect energy consumption is an important one because the pursuit of sustainable consumption takes notably different forms, and requires different kinds of efforts from consumers. This is connected to the fact that material goods are important to people due to their vital symbolic roles related to status, identity and social cohesion (Jackson 2004, 6). So, since indirect energy consumption is about the material goods and services the households use, the indirect energy consumption patterns are the consequence of the social image factors listed above. The direct energy consumption, on the other hand, is not so strongly connected to the material goods and does not appear to have any symbolic role for the households since high energy bills have never been a source of pride or prestige.

## **The Concept of Sufficiency and its Implications in Energy Consumption**

The notion of sufficiency is by no means novel or revolutionary, on the contrary - it is difficult to trace just how old it is as it seems to represent one of the very intrinsic features of all matter existing.

The phenomenon of sufficiency is not something that can only be attributed to human kind, although it is probably easier to find demonstrative examples of this phenomenon in relation to human beings. Princen (2003) comments that all throughout the history societies have been developing many notions related to sufficiency: moderation, thrift, frugality, prudence, temperance, reverence and so on. All of those represent variations of sufficiency idea in every-day life to avert from self-destruction. However, the inherent nature of sufficiency to all matter does not make the numerous attempts to define it any easier. The notion of sufficiency is rather intuitive and, certainly, very individual. This fact makes it ever more difficult to develop a universal definition. Presently, the majority of existing definitions somehow make use of the word “enough” in connection to sufficiency. Indeed, “enough” brings in a bit more clarity, but again - on the intuitive level, with no preciseness. Princen (2003) describes sufficiency as a straightforward idea of being rational: “it is a sense that, as one does more and more of an activity, there can be enough and there can be too much”.

The question remains though – what is enough, and what is too much. In the sourcebook of the European Partners for the Environment (1995-96) the idea of sufficiency is linked to the well-being. Sufficiency is defined as “more well-being from less products and services”. Furthermore, it is elaborated that sufficiency implies human demands to be limited, and the limiting factor is the notion of “enough”, beyond which more wealth does no longer translate into more well-being. In the EPE sourcebook 1995-96 it is also emphasized that more well-being from less products and services does not mean less availability of products of services, but rather it means that a new mindset for the consumption of product and services.

Basically, what sufficiency really means is reduction of consumption, “living well on less”, a voluntary restriction in consumption levels (Young & Figge 2004). At the same time, Sachs (2002) goes even further and claims that sufficiency in resource consumption represents an “axis of justice”, around which the development should take place. So, Sachs (2002) practically equates sufficiency and justice, as he specifies that justice is about “learning to take less, rather than learning to give more”. Sufficiency is also perceived as one of the fundamental principles of sustainable development. For example, Peter Bartelmus (1999) points out that sufficiency in consumption needs to be combined with eco-efficiency because gains from pure efficiency could be offset by increased consumption encouraged by these efficiency gains.

The main criticism of sufficiency centers around the idea that lowering levels of consumption with current world population is highly unrealistic. Huber (1998) argues that even freezing (not speaking about lowering) current rates of consumption with the world population amounting to 6 billion would lead to the ecological catastrophe. However, he also maintains that even though it is very unclear what exactly are the limits of carrying capacities, applying moderation (that is sufficiency) as a precautionary principle appears to be the right strategy to follow because “every real system is finite within its niche in space and time” (Huber 1998, 11). So, the solution proposed comes down to the combination of three principles, which should lead to sustainability. It is insisted that sufficiency is just the starting point, a pre-requisite for efficiency, while the ultimate goal should be consistency – a strategy of qualitative change of the industrial metabolism by modernizing the basic structures of technology and products, allowing for a permanent turn-over of material flows on a large scale and in big volumes (Huber 1998, 19).

Finally, it is important to note the distinction between the idea of sufficiency and the principle of sufficiency, which was introduced by Princen (2003). He describes the idea of sufficiency as being commonsensical when some kind of risks are readily perceived and serious. For example, a lumber cuts down only a limited amount of trees a year even though he could have gotten more profit in the short run cutting down everything, but the perceived danger of not having any trees to cut down in the following years prevents the lumber from doing it. The idea of sufficiency begins to turn into the principle of sufficiency when a certain structure is needed for enactment, when more than intuitive perception of excess is needed to acknowledge it and act upon it. In order to manage any desires, which represent some kind of danger or risk to a person or to a society as a whole a set of guidelines, criteria and norms are needed. This is exactly when the intuitive idea of sufficiency turns into a principle of management. (Princen 2003, 44).

The interaction between the companies and residential customers in the energy industry serves as a good example of opportunities for the implementation of sufficiency principle. As previously described, direct consumption of energy in households is less subject to such influential consumption factors as social image and prestige due to its immaterial nature. Energy bills comprise a substantial part of household expenses, but they do not contribute directly to the image of the household. Of course, the indirect connection exists, since wealthier and bigger households probably use more household appliances, so more energy is used, and most likely that energy bills tend to be higher. On the other hand, it is not a fact that a higher number of household appliances causes significantly greater energy use, especially if not all of the appliances are used very

frequently, and if the majority of the appliances is energy efficient. On the whole though, it appears logical to assume that it is within consumer interest to have lower energy bills instead of higher ones due to two reasons: first, lower energy bills mean lower overall household expenditures, and second, high energy bills by themselves do not contribute to the prestige of the household.

Sufficiency in energy use, or, in other words, moderate use of energy represents an opportunity for the households to follow the path of sustainable consumption, while reducing the expenditures. Due to this fact alone, it seems that when it comes to the direct consumption of energy by the household, sufficiency principle in consumption stands good chances to be successfully implanted. The question arises though, how can sufficiency in energy be promoted among the residential customers, and who are the actors to promote it.

### **The Role of Social Marketing in Advancing the Sufficiency Principle**

There are different options to promote sufficiency in energy consumption, with various actors involved. Traditional approaches include education, dissemination of information through government-sponsored programs and agencies, or through non-governmental organizations, promotion campaigns through mass media, etc. However, sufficiency, as an idea promoting a certain change in the behaviour to contribute to sustainable development, is also subject to social marketing. According to Andreasen (1995), social marketing utilizes the tools, techniques and concepts of commercial marketing but in pursuit of social goals. In this context sufficiency in energy consumption can be presented as a social goal, urging to modify the behaviour of a certain consumer group for the benefit of the whole society. Moreover, Peattie & Peattie (2004) emphasize the fact that the majority of social marketing initiatives are focussed on changing behaviour to increase the well-being of the society, while the definition of sufficiency provided by the EPE sourcebook 1995-96 basically sums up to “more well-being from less products”. So, the very idea of sufficiency corresponds to the overall goal of social marketing, making it perfectly suitable for the advancement of sufficiency principle.

Kotler et al. (2002) provide a very clear and detailed definition of social marketing: “the use of marketing principles and techniques to influence a target audience to voluntarily accept, reject, modify or abandon a behaviour for the benefit of individuals, groups or society as a whole”. Based

on the latter definition it is then easy to define social marketing in relation to sufficiency in energy consumption, and within the proposed research framework of this paper:

*the use of marketing principles and techniques to influence a target audience of residential energy customers to voluntarily modify a behavioural pattern in energy consumption towards more sufficient ones for the benefit of society as a whole through advances towards sustainable consumption.*

This, in turn, allows to precisely define the task of social marketing (modifying behavioural patterns in energy consumption towards more sufficient ones), and the target audience (residential energy customers), and the overall motivation (advancement towards sustainable consumption) in framework of proposed research.

Peattie & Peattie (2004) note several differences that distinguish the “marketing mix” of social marketing from the conventional commercial marketing mix. First of all, social marketing does not feature “products”, but propositions that send out certain messages. So, in case of sufficient energy consumption there could be several propositions, such as “consume only as much energy as really necessary”, or “do not waste energy”, or “pay attention to energy-saving practices”, etc. Secondly, in social marketing accessibility is important, as opposed to place in conventional marketing mix. This is connected to the fact that social marketing is not based around physical products, that is why the key issue here is accessibility. For example, in the context of sufficiency gaining easy access to information or expertise about energy-saving practices would be important. Third, social marketing mix comprises costs of involvement instead of “price”. This is due to the fact that changing behaviour is often connected to time and effort costs, or costs of overcoming psychological barriers, rather than financial costs. In relation to sufficiency, such costs of involvement might be connected to the consumer effort of paying attention to his/her own energy consumption practices and learning how to change them towards more sufficient ones. Lastly, social communication is involved in social marketing, instead of “promotion”. This means that social marketers communicate to promote a particular social proposition or behaviour. The context of sufficiency therefore suggests that one of the key tools to promote moderate and reasonable use of energy would be communication between the residential customers and the social marketers (whoever they might be). This is an important conclusion in relation to the research questions, which will be discussed later on.

Peattie & Peattie (2004) also list a number of benefits of social marketing compared to conventional commercial marketing: customer orientation, emphasis on behaviour maintenance, flexibility, partnership opportunities, opportunities to “demarket” unsustainable behaviours. For example, Peattie & Peattie (2004) claim that social marketing is characterized by strong customer orientation, with a focus on understanding the issues from the audience’s point of view. This approach is particularly valuable in the promotion of sufficiency principle among the residential customers of energy companies due to the fact that with social marketing much attention would be paid to the actual issues and barriers that energy customers face while attempting to change their behaviour towards more sufficient one. The emphasis on behaviour maintenance is also important in sufficiency promotion, since consistent sufficient behaviour can only be achieved once the idea of sufficiency turns into a principle, which represents one of the tasks social marketing is called to accomplish.

Finally, Peattie & Peattie (2004) comment that certain issues in social behaviour are so important that they need to be regulated by the government, while other issues are so strongly related to the individual’s self-interest that they only require some information and education in the society. However, in addition to those there is a whole range of social issues where regulation is inappropriate, while education and information by themselves are not enough. This is where the approach of social marketing is particularly valuable – going beyond education and providing incentives for the desired behaviour change (Peattie & Peattie 2004). Sufficiency in energy use among residential consumers appears to be just the issue where regulation is inappropriate, while education and information might not be enough, and this is why there is a lot of potential for social marketing to help firmly establish the sufficiency principle and eliminate the barriers it might be facing.

## **Proposed Research, Motivation, Methodology and Expected Outcomes**

The call for sustainable consumption has taken various forms, and so far has mainly addressed consumers only. Consumer needs and wants are, of course, the basis for ever-increasing production, which is just a response to the ever-increasing demands. Numerous theories attempt to describe consumer behaviour and its susceptibility to various factors. Alan Durning (1991) describes consumption of our era as “skyrocketing” and calls towards a sustainable culture and ethic of sufficiency. The main question addressed to the consumers by the advocates of sustainable

consumption is “how much is enough?” The answer to this question might lie in another question: “are consumers really the ones who decide just how much is enough for them?” Pantzar (1996) argues that the needs of the consumers are all too often created and directed exogenously, i.e. shaped by such external forces as the press, industrial mechanisms and shopping malls. Indeed, it appears that these forces play significant role in the formation of consumer needs. Michaelis (2003) goes even further and comments that even the definition of sustainable development produced by the Brundtland Commission takes human needs as given, and fails to acknowledge the role of businesses and markets in helping to shape them.

The fact that human needs are partly shaped by businesses themselves, usually in their own favour is often overlooked. However, in order to make real progress in sustainable consumption it is necessary to explore the connection and the influence businesses produce on consumption patterns. This channel of influence represents an opportunity for sustainable development promotion, sustainable consumption promotion, or specifically – an opportunity to promote a sustainable pattern of consumption: sufficient one.

Sufficiency being quite a vague concept, with highly intuitive connotation is not easy to research. Furthermore, even though the discussion on whether sufficiency promotion should be a corporate responsibility among sustainable business is already taking place (Young & Figge 2004), it is quite difficult to find such examples in real life. Nevertheless, there are few examples, energy industry being one of the most obvious ones. It is not uncommon to come across posters, advertisements, commercials or leaflets reminding to be reasonable in energy use and/or pointing out certain common wasteful habits in energy use. Energy providers actually motivate consumers to be more rational in energy use, to be moderate, and that is to be more sufficient. Of course, not every energy company does that, but it is an existing phenomenon, and most probably something that every person has come across at least once in a lifetime.

So, at the heart of this research proposal lies an idea to explore the relationship between energy companies and their residential customers through the perspective of sufficiency. It is a fact that the companies are able to exert certain influence on their customers, so the overall purpose of the first part of the research would be to examine whether the energy companies that claim to be striving towards sustainability are willing to promote sufficiency among their residential customers, and whether they consider it a responsibility, a business opportunity (for example, in terms of networking and partnership opportunities) or whether they see it unnecessary to do any promotion

at all. Princen (1999) suggests that when the demand is overwhelming some companies in an attempt to maximize their long-term economic security tend to respond with two types of behaviours – restraint and resistance. Restrain means that the companies in response to high demand of some product will only increase production up to a certain point, which might be determined by a sense of ecological limits and by a risk-averse approach to long-term benefits. Beyond this point the production will be restrained. Resistance means that the companies will resist any kind of pressure imposed on them by excessive demand coming directly from their customers, or other sources. However, what is worth exploring in this case is whether any of the energy companies are willing to take on the pro-active behaviour, instead of reactive one. Strategic pro-active behaviour would mean promoting sufficiency among customers, and, therefore, avoiding the very situation of excessive demand.

It is assumed that the type of research conducted will be qualitative. Methodologically, first part of the research could be based on deep thematic interviews with the representatives of at least 3 energy companies (that claim to be sustainable). Initially, it would be necessary to explain the concept of sufficiency and the different forms it takes. The questions in the interview then would vary, but there would be at least three main questions:

1. Does your company promote moderation in energy use or sufficiency?
2. If yes, does your company consider sufficiency promotion (moderate energy use promotion) to be a responsibility, a business opportunity, or is it rather just a routine process?
3. What are the tools, or measures that your company uses to promote sufficiency?

The questions posed to the energy companies, as well as their replies are supposed to create a basis for the second part of research, which explores the perspective of the residential customers. In order to explore the strength and quality of the link/relationship between the energy providers and the customers it is essential to collect data from both sides. It is planned that the research from the consumer side will be based on focus group interviews. The groups will be formed according to the affiliation to the energy provider, so basically each group will consist of the customers belonging to one of the energy companies. It is intended that the focus group interviews will not be strictly structured and there will be room for discussion within the group, so the number of participants in each group will probably be limited to 10. This means there will be around 30 participants, and 3 groups. According to Kreuger (1988), focus group interviews enable the producers, manufacturers and sellers to understand the thinking of consumers. It is hoped that the interviews within groups

will provide more natural atmosphere and encourage the participants to speak freely. This assumption is based on the fact that qualitative research concentrates on words and observations to express reality and attempts to describe people in natural situations. In focus group interviews the key element is the involvement of people where their disclosures are encouraged in a nurturing environment. (Lewis 1995.)

During the focus group interviews, firstly, the concept of sufficiency will be introduced and described. Next, the participants will be encouraged to share their experiences in energy use with indirect questions relating to their everyday habits. It is intended to conduct the interviews in such a way that the residents would feel natural to share their experiences in order to obtain objective information and honest opinions. In other words, the questions during the interviews might be posed indirectly, discussions between the residents encouraged to reveal the attitudes and ideas on energy use. The main purpose of the interviews will be to obtain residents' opinions on several key issues:

- whether use of energy in the household is associated to effect the overall environmental situation;

Based on the replies of the energy company representatives about the tools and measures for sufficiency promotion:

- which efforts in connection to sufficiency of the energy provider were paid significant attention to;
- which ones appeared to be most influential;
- what are some of the typical means of cutting down energy expenses/ energy use practiced by the residents;
- general awareness on energy efficiency of different household appliances;
- general awareness on labelling of household appliances according to the energy efficiency criterion.

One of the possible problems connected to such interviews might be low participation rate of the residents due to lack of time or lack of interest. Therefore, it might be easier to conduct the group interviews as part of the existing meetings of residents at a particular household. The energy use

discussion can be included on the agenda of several meetings of the residents in order to ensure sufficient participation.

The intention of the two-sided approach in this research is to obtain both the companies' and the customers' perspectives on energy sufficiency, to reveal how effective is the interaction between the energy providers and their customers in the context of sufficiency, and to determine the most influential and effective tools that the companies apply in sufficiency promotion. It is also expected that the research will reveal whether the efforts of energy companies in relation to consumer sufficiency contain any elements of social marketing, and whether it is considered somehow beneficial to the companies. Furthermore, as it has been discussed in connection to social marketing, communication between the customers and the social marketers (in this case - energy providers) might be one of the crucial tools in promoting a social idea, like sufficiency. It is hoped that the outcomes of the research will be able to demonstrate whether this statement is true. In addition, one of the expected outcomes is the understanding of what is important to the residential customers when it comes to energy use and values, such as environment.

Lastly, the proposed research might also contain an additional phase three. This phase could be based on joint group discussions, bringing together representatives of energy companies and their residential customers. The groups would be divided in the same manner, except that now they will also contain one or two representatives from the company. Such open discussions could stimulate the communication and interaction, strengthening the link between companies and their customers. Moreover, they could provide useful insight for the companies on what is truly important for their customers serving for the improvement of the energy provision, and mutual satisfaction.

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