The ethos of energy efficiency

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Abstract

This paper analyzes the moral aspects of household energy use and energy efficiency, and introduces the concept of the ethos of energy efficiency. Based on focus group interviews and domestication theory (Sørensen et al. 2000; Sørensen 2006), it examines how consumers make sense of energy efficiency issues. Rather than focusing on economic concerns, the interviewees framed matters of energy consumption and energy efficiency in terms of moral considerations. Four partly conflicting moral positions were identified as being constitutive of the ethos of energy efficiency: saving, merit, needs, and entitlement. These moralities provided the interviewees with arguments related to their decisions on energy consumption and efficiency. Arguments were made subject to moral calculations, through which the four moral positions were seen to moderate each other.

Keywords: Energy efficiency, households, energy use, domestication, moral arguments

Introduction

Energy efficiency has been a long-standing political challenge, because it has proved difficult to realize the potential of energy savings in most areas of society. In OECD (Organisation for Economic Co-operation and Development) nations, a main focus has been on increasing the energy efficiency of buildings, vehicles, appliances, and industrial operations (Geller et al. 2006). Less attention has been given to the ways in which

households consider their energy consumption and how they may be motivated to spend less. Commonly, policymakers have framed this as a primarily economic issue. However, social scientists have shown that such a framing is too narrow (Lutzenhiser 1988; Aune 1998, 2007; Shove 2012, 2003a, 2003b).

Building on these and other contributions, this paper analyzes the considerations people present when they are asked to account for how they use energy in their homes, with energy efficiency presented as a backdrop. How do they navigate different concerns, such as cost and comfort, when confronted with expectations of increased energy efficiency in their households? How do people explain their actions with respect to engaging (or not engaging) in energy efficiency measures in their homes? This paper maps and discusses the arguments that people draw upon when providing such accounts. In turn, this paper may improve the effectiveness of policy measures designed to motivate energy efficiency in households.

The analysis is based on a series of focus group interviews that were conducted in Norway. The Norwegian context is interesting with respect to the concerns raised in this paper. Norway is a small country, affluent in energy but with fairly long, cold and dark winters. Relatively cheap hydropower electricity is used for heating, and this energy is considered environmentally friendly. Furthermore, Norway is a large exporter of oil and gas, which is of great economic importance. Norwegian energy efficiency policy has been dominated by an approach emphasizing economic, rather than technical, efficiency (Karlstrøm 2012). Moreover, this has spilled into policymaking with respect to households, in which people have been expected to consider their energy use in economic terms and to be motivated to save money through energy savings. In this way, energy efficiency has primarily been considered a behavior that should be managed through economic rationality.

This predominantly economic frame is reflected in the label "energy economisation" (ENØK), the main term used to characterise Norwegian energy efficiency policies and activities (Sørensen 2007; Sørensen and Ryghaug 2009). Energy economisation is primarily based on the idea that energy should be used in an economically optimal way. This idea has resulted in a governmental policy proposing primarily economic incentives, including

information, to instigate energy efficient behavior. This policy is also proposed as a strategy for relevant actors (e.g., within the building industry) to increase energy efficiency within their domains (Sørensen and Ryghaug 2009). However, the effects of energy economisation policies have, at best, remained unclear.

Moreover, Norwegian policymakers have, over a long period of time, presented contradictory beliefs about the rationales underlying household energy consumption – particularly in relation to electricity (Karlstrøm 2012). This has provided an ambiguous context for individuals reflecting on their energy habits. The most common assumption among policymakers has been the fairly simplistic idea that households reduce their electricity consumption when prices increase. However, in political debates, household consumers have been argued to have knowledge and moral deficits. The assumption of a knowledge deficit has been used to explain why price incentives may not work, since consumers are believed to know too little about energy efficiency and the electricity market to interpret prices in the way that policymakers would expect. The moral deficit argument emerges from policymakers' belief that many households waste energy.

More recently, policymakers have begun to perceive household consumers as potential *investors* in energy efficiency. The driving forces behind such investments, it is argued, may be electricity cost considerations, but also policy instruments like subsidies, information and demonstration projects (Karlstrøm, Sørensen and Godbolt 2009). Thus, the context of households' sense-making with respect to their energy use – in particular electricity – contains partly contradictory ideas about households being price-conscious, uninformed, wasteful and investment-oriented.

This paper explores such sense-making through the concept of ethos. Ethos refers to a set of guiding beliefs or values. I identify and analyze important elements of the ethos of energy efficiency by studying accounts of energy use and energy efficiency concerns. Making sense of energy efficiency means engaging with the economic effects of energy efficiency practices and technologies, as well as the knowledge of such technologies. Moreover, people are faced with a continuous public debate over climate change.

The resulting ethos of energy efficiency does not need to be consistent or free of contradictions. Rather, we should expect the ethos to make different kinds of action sensible. Thus, people need to navigate potentially conflicting beliefs and values in their enactment of energy efficiency. How should we analyze and understand such processes?

Making sense of energy efficiency: Knowledge, meaning and practice

While energy efficiency has been achieved through stricter building codes and improved houses, consumer energy behavior has proved more difficult to change in the same direction. Hence, to gain a more comprehensive picture of energy consumption and everyday life, we must study the social and cultural dimensions of energy use (Aune 2007; Aune and Sørensen 2007; Shove 2012, 2003). What is involved in such concerns?

According to Owens and Driffill (2008), energy behavior is influenced in complex ways by factors such as price, awareness, commitment and trust, including a sense of moral obligation. For instance, the fact that individuals' pro-environmental attitudes rarely result in significant shifts in behavior, or that these attitudes are apparently inconsistent, should not come as a surprise (although this is often offered as a paradox). Also, the enactment of routine habits, cultural norms, practices, social networks and fashion must be assumed to influence energy consumption. This includes the dynamic interplay of human agents and technologies in socio-technical systems that structure patterns of energy consumption in everyday life. Social scientists have framed energy use as a choice shaped by dominant conceptions of comfort, cleanliness and convenience, which are embedded into the built environment (Aune and Sørensen 2007; Shove 2003a; Shove 2003b).

Social science research on energy consumption and energy behavior offers different ways of understanding and conceptualizing energy efficiency as a social issue. In contrast to findings from economics and environmental psychology, insights from the social sciences show that energy demand is not only an individual construct, but also a social construct, in that

institutional and cultural contexts influence energy behavior and attitudes. More recently, an alternative set of social science approaches has emerged. These approaches can be categorized according to the ways in which they frame energy efficiency, and include:

- the economic sociology frame, which focuses on investigating actual economic behavior and analyzing empirical settings to understand energy use and choice, in order to reveal the complexity of the social nature of "economic" behavior (Biggart and Lutzenhiser 2007; Ek and Söderholm 2008, 2010; Thøgersen et al. 2010; Winther and Ericson 2013);

- the community frame, which presents low-carbon communities as a potential solution for four persistent problems in energy demand-side management: social dilemmas, social conventions, shared infrastructures and the helplessness of individuals when faced with the enormity of climate change (Aall et al. 2007; Barr and Gilg 2006; Heiskanen et al. 2010);

- a frame focusing on technology, innovation and (lack of) communication, which claims that energy inefficiency is mainly due to the communication gap between experts and laypeople, with experts seen as failing to understand why households behave "irrationally," because they fail to grasp consumers' logic of energy use (Heiskanen and Lavio 2010; Hyysalo et al. 2013; Palm 2013);

- a frame emphasizing the role of barriers and re-defining how barriers should be categorized, which may lead to new suggestions for addressing the energy efficiency gap and to different policy recommendations (Abrahamse et al. 2005; Carlsson-Kanyama and Lindén 2007; Slocum 2004; Thollander et al. 2010; Throne-Holst et al. 2007; Vringer et al. 2007); and

- the energy culture frame, which, through a critique of a strictly rational economic view of the consumer, analyzes many factors that shape energy consumption

patterns (e.g., values, activities, technologies, habits, etc.) (Aune 2007; Gram-Hanssen 2010; Stephenson et al. 2010; Young and Middlemiss 2011).

This paper draws primarily on the latter frame, but focuses, in particular, on sense-making processes. The energy culture frame suggests that consumer energy behavior can be understood at its most fundamental level by examining the interactions between cognitive norms (e.g., beliefs, understandings), material culture (e.g., technologies, building forms) and energy practices (e.g., activities, processes). These three core concepts are highly interactive, and are also linked to an outer ring of wider systematic influences on behavior (also referred to as the "contextual soup"). Furthermore, the framework is change-oriented rather than deterministic: "wider social, environmental and economic forces *structure* but do not *determine* people's cognitive norms, practices and material cultures" (Stephenson et al. 2010: 6127). This interdisciplinary framework is designed to identify clusters of "energy cultures" – similar patterns of norms, practices and/or material culture – as a tool for understanding the potential and possibility for sites of action to achieve behavioral change.

Like Stephenson et al. (2010), Aune (1998) categorizes the variation in energy consumers' behavior, attitudes and material environment as different "energy cultures." This paper aims to dig deeper into the rationalities and norms that help shape energy cultures, and hence to influence the enactment of energy efficiency. It studies consumers' ongoing negotiations over everyday life, energy consumption and climate concerns, to provide more information on what I have chosen to label the "ethos" of energy efficiency. This ethos is the set of shared values, norms and beliefs that guide energy use in a given context, and represents a sense-making resource with respect to the economic incentives, information and instruments used to make households more energy efficient.

The ethos is studied through the use of domestication theory (Sørensen et al. 2000; Sørensen 2006). This user-centered perspective helps to clarify how knowledge and information are selected, transformed and, eventually, used in people's everyday lives (Sørensen et al. 2000). Moreover, it allows for clarification of the beliefs and values involved in this process. Analyzing the domestication of the hybrid of technologies and knowledge that constitutes

energy efficiency issues means studying the development of practices, the construction of meaning and the processes of learning with respect to the area or object of concern (Sørensen et al. 2000; Sørensen 2006). In order to be appropriated, energy efficiency issues (including policy) must be given meaning, understood or learned and acted upon, either positively or negatively (Aune et al. 2011).

It should be assumed that the ethos of energy efficiency guides the processes of domestication. When people account for their symbolic, cognitive and practical domestication of energy, they implicitly describe the ethos of energy efficiency through the arguments they use to explain how they manage energy efficiency issues. Four issues emerged as prominent in interviewees' domestication accounts:

- the role of electricity prices;
- investments in energy efficiency;
- knowledge of energy efficiency; and
- the explicit role of values and beliefs in accounting for energy consumption and energy efficiency measures in the household.

The analysis is structured by pursuing these issues consequently, in order to identify elements of the ethos of energy efficiency.

Method: Focus group interviews

This paper is based on nine focus group interviews with 44 participants (19 women and 25 men), conducted in 2009. The interviewees differed in terms of age, education and work experience. There was also considerable variation in political views and knowledge of and attitudes towards energy efficiency and consumption. An important goal of researchers with focus group interviews is to get closer to interviewees' understandings of the topic of interest by observing verbal exchanges within the group (Morgan 1997; Stewart et al. 2007). Since accounts and opinions are produced and clarified throughout interviewee interactions, focus group interviewing is a well-suited qualitative method for exploring attitudes and concerns. The participants in the interviews were not statistically representative of the

Norwegian population, but they provided considerable diversity with respect to age, gender, occupation and geographic belonging. They were recruited through existing social networks and discovered through snowballing (Morgan 1997; Stewart et al. 2007). The interviews took place at familiar locations, such as interviewee workplaces and homes.

Since the purpose of the focus group interview was to learn about participants' experiences with and perspectives on energy efficiency and energy use, I used a semi-structured interview guide that accommodated participants' own input (Morgan 1997). My role as a moderator was to manage the discussions, follow up on interesting points and see that everybody had a say. The main topics in the interview guide were the participants' everyday energy use, their efforts to increase energy efficiency and their understanding and opinions of energy policy and the energy market. The interviews lasted for approximately one and a half hours, and they were taped and transcribed verbatim. Here, interviewees are referred to with fictive names so their anonymity is preserved. The data analysis was inspired by grounded theory (Strauss and Corbin 1998). I examined the interviews for categories, which were each given a label or a code; I then grouped these codes to find related sub-categories that might be linked to more comprehensive categories. How did the interviewees make sense of energy efficiency?

Domesticating energy efficiency

As noted previously, the analysis is structured around four issues: (1) price, (2) investment thinking, (3) knowledge and (4) explicitly expressed values and beliefs. The dominant role of the economics of energy efficiency in policy accounts makes the issue of price a good place to start. How, and to what extent, were economic arguments invoked in discussions of energy use and energy efficiency?

Price consciousness

To begin, although many of the interviewees argued that the economic benefits of saving energy were too small, they were still concerned with their electricity bill. Several

interviewees said that keeping their bill down was their main motivation for saving electricity. So, did they? Their responses were ambiguous. The cost-oriented interviewees said that they tried to save electricity to save money, but admitted that they used all of the energy they needed to make their everyday lives comfortable. Some complained about high prices, while others did not think that they paid too much for their electricity or were less concerned with price. Thus, price consciousness – to the extent that it was articulated – was primarily an awareness of price levels and not necessarily focused on reducing consumption when prices rose.

Nevertheless, some interviewees were concerned with the graphical information in their bill that compared their current level of consumption with that of the previous year. This graph motivated them to be concerned about their electricity consumption:

Else: When I get the bill, there are some sort of graphs that say "now you have used this much more than last time" and then I think; okay – I need to try to limit myself a little (…)

Int.: So, when you get those graphs and information about how much you have used compared to last year?

Else: Yes, it works for me. Because I am not going to remember how much money I paid last year, but I look at… I mean, I see that it is more or less than last time, kind of… (laughter) (…) If I see that it has increased, then I try to use less electricity, but then I forget it again… So, I do not know.

Ingrid: I am like that too. Every time I see those graphs it is like, "Oops, I have used more than last year."

Else and Ingrid claimed to be concerned with the graphs on the electricity bill, and said that these graphs helped them keep track of their electricity consumption. However, this was not necessarily translated into electricity savings. It seemed that saving money was not so important as feeling that consumption was under control and not increasing.

The interviewees claimed to be intent on engaging with energy efficiency, but the possibility of saving money in this way was not emphasized. Like Else, they either forgot how much money they paid for their electricity or did not consider energy costs sufficient for changing their energy habits. They could afford to buy the electricity they needed to maintain a comfortable lifestyle, but this did not mean that they wasted energy. Many of the interviewees stressed that people should not waste energy – expressing a symbolic dimension of energy efficiency wherein moral reasoning was more outspoken than economic concerns.

This ambiguous domestication of energy efficiency may have been due to the relative affluence of the interviewees, but previous studies suggest that this pattern of ambiguity has been quite stable in Norway over several decades (Aune 1998; Godbolt et al. forthcoming). We also know that the consumption of electricity in Norwegian households has increased only a little since 1990, and has been relatively unaffected by population growth and the steep increase in household income (Hille et al. 2011). Could this be a result of a public interest in investing in energy efficiency technologies?

Investment orientation

As discussed above, the price of electricity did not provide sufficient motivation for interviewees to change their everyday lives to save energy. According to the interviewees, the price of electricity did not provide much motivation for investment in energy efficiency technologies, either. Still, Norwegian households invest considerable amounts in refurbishing their homes, which contributes substantially to energy efficiency (Hille et al. 2011). What drives this activity?

Shove (2003a) argues that expectations of comfort, cleanliness and convenience influence consumption patterns, and this is also relevant to the use of energy. Especially in relation to investment in sustainable heating, the data indicate an orientation towards convenience and comfort. The interviewees who claimed to have invested in new, more sustainable heating

technologies (mostly air-to-air heat pumps) were well-established families. Their motive for this investment was not reduced energy consumption, but better and more stable heating. Some appreciated the lower electricity bill that the heat pump could provide, but a more comfortable lifestyle was their main motivation for engaging with this effort of energy efficiency.

However, economic considerations were important when explaining the decision *not* to invest in energy-saving technologies. Typically, the young and the elderly interviewees said that they were not in a position to invest in such equipment, because it was expensive. Younger interviewees, between 25 and 35 years old, also claimed that they would not benefit from such an investment because they would most likely move in a matter of years. Also, those of 65 years and older thought they might move or even die before the investment paid off. These economic arguments probably served as an excuse for not doing anything, even if the investment would have likely been profitable.

Apparently, the interviewees had not domesticated energy policy to the extent that their investments in improving energy efficiency were motivated by political or economic concerns. Increased comfort was what they wished to achieve through investment in energy-saving technology. Did they lack knowledge?

Knowledge

A main effort to make Norwegian households more energy efficient has been led by public information campaigns (Sørensen 2007). Still, policymakers suspect that a lack of knowledge explains the public lack of engagement with energy efficiency (Karlstrøm 2012). However, people tend to interpret knowledge in ways that fit their everyday life choices (Irwin and Michael 2003). This is no different in relation to energy efficiency. My interviewees claimed to engage in energy saving behaviors that were convenient for them, such as turning off lights, using an energy-saving shower head, filling up the dishwasher, recycling garbage and lowering the indoor temperature. If changes involved hard work or were time consuming (such as hanging up clothes to dry instead of using a tumble dryer), they did not

do it.

Clearly, such accounts of enacting energy efficiency reflect an emphasis on convenience, wherein people choose the energy efficiency efforts that fit their everyday lives. Still, the interviews showed that, by and large, they had domesticated energy efficiency with respect to symbolic content. They knew that they were supposed to save energy for economic and environmental reasons. However, many interviewees said that they had trouble figuring out how to save energy in a substantial way:

Fredrik: Individually, the way we live our lives? Well, it is there all the time... saving electricity, saving gas, saving this and that. Take the bus...

Lars: But to really understand, you need to look up these things yourself (…). I do not feel that we get any information by anyone, especially not by the politicians. Maybe it is not their job either.

Int.: Is it difficult to understand why you are supposed to *act* like you do?

Fredrik: No, more the technical part. Like, what are the right things to do? You hear about it through the media, but still...

The interviewees agreed about minor issues – for instance, that energy-saving light bulbs are more efficient than regular light bulbs. However, they found it more difficult to determine the smartest way to save electricity through one's choice of heating systems. Often, interviewees in the focus groups would continue to discuss the degree to which different options, such as lowering the indoor temperature, would actually save electricity, given that a cold house had to be re-heated. Moreover, there were moral disagreements between interviewees. In the exchange below, Mari suggests that the smartest way to save electricity is to reduce the indoor temperature. She is countered by Hans:

Mari: The best way to save electricity is to lower the indoor temperature with two or three

degrees. (…) Here in Norway (…) it is like a sauna indoors compared to other countries. In Chile in South America, it was very cold inside although it is a warm country. That made us think about these issues in another way (…). We have a "comfortable" indoor temperature that I'm sure we can reduce a couple of degrees.

Hans: But isn't that because – I mean, here it is so cold outside, that we have to go inside to get warm (…). They [people in South America] go inside to cool themselves.

Mari: Yes, but we walk around like this [pointing to herself wearing a T-shirt]. It is not comfortable for us if we have to wear a sweater, or wear socks or something like that. So, that is a comfort zone for us – we prefer to have a tropical temperature inside our houses.

As we can see, moral issues concerning comfort and convenience arose in discussions of how energy efficiency should be enacted in everyday life. Mari criticized Norwegians for not being willing to reduce their levels of comfort, while Hans argued that Norwegians had a right to enjoy high indoor temperatures because of the cold climate. This suggests that values are more important than knowledge in the domestication of energy efficiency.

Values and beliefs

As we have seen, economic considerations and a lack of information, to some extent, influence the (lack of) domestication of energy and energy efficiency. However, in the analysis of the interviews, the prominence of moral arguments quickly became evident. Moral considerations appeared to be more prominent and more important with respect to the outcome of domestication. What was included in the moral exchanges in the focus groups?

To begin, moral arguments were widely used to explain and defend comfortable lifestyles; for example, the argument was made that living in a cold country gives one the right to use more energy. The fact that Norway's electricity comes from clean hydropower was also invoked as a reason for not saving energy. Some interviewees claimed not to understand why

they should reduce their consumption of electricity because of environmental concerns, since hydropower is "green and clean." Other actions were deemed more appropriate: "Don't use your car, or… There are plenty of other things we can do instead of turning off the lights. I mean, the electricity in Norway is already sustainable – there is so much hydro power" (Astrid).

There were, as already discussed, some elements of thriftiness in the moral deliberations that took place in the focus group interviews. However, these were mainly voiced as wishes to avoid further increases in energy use. First and foremost, other moral concerns were articulated. For example, Hans argued in the quoted discussion above that Norwegians have a right to consume electricity because of the country's cold climate. Astrid said that consumption of electricity is unproblematic because, in Norway, electrical power is green; she also argued that people should engage in other environmentally friendly activities. Rather than interpreting this situation as indicative of a moral deficit, it would seem more appropriate to see it as an expression of moral surplus.

This would be in accordance with Owens and Driffill's (2008) observation that energy attitudes and behavior are influenced in complex ways by factors such as commitment, trust and moral obligation. Typically, the interviewees said it was important to them to feel certain that their efforts made a difference in a larger context. They also claimed to feel a moral obligation to contribute to a greener future. On the other hand, interviewees' engagement with energy efficiency seemed restricted by a sense of the futility of individual action; this is similar to observations in other studies (e.g., Levin 2003; Ryghaug et al. 2011; Ryghaug and Næss 2012). The more the interviewees understood the complexity and challenges of the global energy problem, the more powerless they felt: "What does it matter what I do in my own home as long as the Norwegian government keeps on pumping up all that oil?" If there was a moral deficit, this was placed with other actors, such as politicians and industry agents, who were felt to fail to enact climate change mitigation and to solve other environmental problems related to energy.

Thus, consideration of economic and knowledge aspects of energy use and energy efficiency

were moderated by partly conflicting moral issues, indicating the importance of the energy efficiency ethos with respect to the ways in which domestication is enacted. What elements are included in this ethos, and how should it be characterized?

Navigating the ethos of energy efficiency: Dealing with moralities

To begin, it should be noted that it seemed crucial to the interviewees to be seen as recognizing the importance of energy efficiency in their everyday lives. One way of expressing this was by arguing that energy saving is important for economic, as well as environmental, reasons. We may interpret this as a *morality of saving*, emphasizing thriftiness, but it was moderated by interviewees' claims that they had to use the energy they needed. They were quite aware of the environmental consequences of their actions, and some expressed guiltiness relating to (for example) traveling by airplane or driving a car too often. The resulting ambiguity is nicely illustrated by the following exchange, in which we learn how energy use reflects old habits more than new knowledge or moral engagement with these issues:

Fredrik: I do not reflect very much upon my energy use. I guess it is more about the habits you are used to – if you are an energy saver or not. And in that case, there is a lot of room for improvement.

Int.: What do you mean by that?

Fredrik: I could probably take quicker showers and turn off the lights, and all that.

Lisa: No, my luxury is to shower as long as I want. No saving shower – as much water as possible! When I brush my teeth, I try not to let the water run too long, and I turn off the lights and that kind of stuff. That is my small contribution. So, I guess I can shower as long as I want to... (laughter).

Clearly, Fredrik and Lisa knew what would be a politically or morally correct practice. The

morality of saving was definitely present in their discussion. Fredrik, for instance, admitted that his energy practices would be better if he were to decide to put some effort into them. Thus, he had domesticated energy efficiency symbolically and cognitively, but less so practically. Further, the morality of saving was moderated by a *morality of merit*, clearly expressed by Lisa, above. Efforts to save energy in some areas were seen to merit relative wastefulness in others; this is sometimes referred to as a rebound effect. Some interviewees who engaged in climate issues defended their actions in a similar way. For instance, the following argument was used: because I don't drive a car (which the interviewees seemed to perceive as the worst thing to do), I deserve to take some liberties in other areas of energy use.

Another set of arguments was based on a *morality of needs*. Many interviewees claimed that they lacked the option to save energy – that they had to use whatever energy they were currently using in order to manage their everyday lives. For example, clothes needed to be washed and dried, dishwashers were constantly full, houses had to be heated and cars were irreplaceable. Several interviewees blamed their kids for their households' high consumption of energy: the kids showered too much, they wore their clothes only once before laundering them and they had to be driven to school and leisure activities several times a day. Through these arguments, children provided justification for interviewees' high energy consumption.

A key issue, of course, is how "necessary" is defined in the context of energy abundance and relative affluence. For the interviewees, this seemed to hinge on a balance between sobriety and luxury in everyday life. Like Lisa in the previous quote, many interviewees felt that they needed and deserved some energy luxury in their lives; they accessed this luxury through things like long showers and warm indoor temperatures. Green habits were used to justify not so green habits in other areas. In addition, some felt that they had a natural right to use all of the energy they needed to enjoy everyday life without having to justify their energy practices. This latter group expressed a *morality of entitlement*, believing that access to plentiful energy is a self-evident privilege.

In part, the morality of entitlement was linked to modernity. Interviewees expressing this morality believed that modern societies ought to be able to produce a sufficient amount of sustainable energy. Consider the following exchange:

Erik: But according to what I can do here in my house (…) I would like to have a solar panel and be sort of self-sufficient. Yes, I like that idea. There is a lot of idealism in that, I believe. But, I am still not concerned about saving electricity. I am into *making* electricity (…). When I cannot do it, I will use whatever I need. Whether it is made here or not. We use whatever is necessary. According to our needs.

Richard: Yes, but I believe that we are talking about saving energy, not consuming it. It is like, the energy needs to be saved, and that gives an economic benefit.

Int.: Yes, you believe that people should save energy, right?

Richard: Yes, and by that I mean that you don't necessarily need to make things that use more energy, although they might be sustainable.

Erik: I totally disagree with you on that.

Richard: Yes, yes, no, because if you look at the consumption of energy – that is what is the problem. You use more than you need.

Erik: Well, the goal is that everybody gets the opportunity to use the amount of electricity or energy they need, but the challenge is that you then need to produce that energy in sustainable ways. And use alternative methods, and there we are… We have come a long way, and—

In the above discussion, Richard clearly represents a morality of saving; for him, energy efficiency is about using less. Erik, in contrast, argues from a morality of needs, but also from a morality of entitlement perspective. He believes that modern societies ought to provide

sustainable energy in sufficient quantities, and that this should be the main energy challenge. The exchange between Erik and Richard points toward another crucial and contested issue concerning energy efficiency and sustainability: Who is responsible for solving these problems? Some of my interviewees suggested that Norwegian consumers should take extra responsibility and set a good example for the rest of the world, because Norwegians have the resources to do so. Other interviewees, as we have seen, found it hard to understand why Norwegian consumers should lower their energy use, since most energy used in households is provided by renewable hydroelectric power.

In addition, the issue of responsibility raised a question about which actors should take the lead. Several of my interviewees felt that it would be unfair to make demands on regular people who only use the energy they need to manage their everyday lives. The following dialogue highlights this issue:

Knut: The fact that I drive a car to work and back home again, means nothing for the well-being of the globe. I am fed up by everything being pushed down on ordinary people like me – why do we have to save and save and save? And at the same time, other people do as they please.

Int.: When you say other people...

Knut: Then I think of industry for example. The Americans spew out crazy amounts, the Chinese, the Indians do it... What we do in this small city means nothing.

Julie: But if everybody thinks like that – as long as everybody else does it, I can do it too... I think that we have to turn around and start with ourselves. That is the easiest thing to do. It is a lot harder to change other people. (...)

Knut: But the demands are always made on us as individuals, and in a global context I do not believe in that.

According to Knut and several other interviewees, personal practices do not matter in the larger context. These interviewees felt that possible contributions, such as turning off lights or using an energy-saving showerhead (etc.), do not really help. This *morality of externalized responsibility* was usually expressed through feelings of frustration and powerlessness. Julie, in the exchange above, voices a *morality of internalized responsibility*, and argues that everybody is obliged to do what they can to help solve the problem. She and other interviewees argued that it is easier for people to change their individual habits than to improve the energy practices of actors such as large industrial companies.

To summarize, we have observed four main moral positions with respect to energy efficiency: (1) the morality of saving, (2) the morality of merit, (3) the morality of needs and (4) the morality of entitlement. In addition, with respect to the responsibility of enacting energy efficiency, we saw external as well as internal placement. Thus, the ethos of energy efficiency consists of four sets of moral arguments and two opposing positions with respect to the responsibility for action. How did this translate into domestication?

Ethos and actions

Adherence to the morality of saving tended to mainly produce feelings of guilt among the interviewees, because of their failure to reduce energy consumption. Seemingly, more women than men struggled with such guilty consciences. Several of the interviewed men were reluctant to believe that their energy practices made a difference to climate change, while the women tended to be more committed to climate change mitigation. Nevertheless, the women also questioned the effect of their individual changes in behavior:

Anne: If I believed that my small screen could contribute to us avoiding the climate changes… Because I do believe that something is going on. Something that is not good for us. Right? But, then again I think that one should concentrate on bigger changes regarding other more important areas, before I start using less water in the shower or something like that (…)

Int.: That your personal consumption becomes very small in the larger context?

Anne: Yes, that it doesn't matter. You think about it when you are able to. But, I guess I'm just not that committed. Previously I was – I have become less focused. Yes (laughter). (…).

Mari: In the Western countries, we excel at questioning the climate issues – whether these changes are due to our behavior or not. Right? (…) We manage to explain that these problems are not our responsibility. But, at the same time – we are aware of the fact that we pollute. Right? We also justify our actions like this: "My small screen – what does it matter when all the others… the Americans and the industrial chimneys…" I can't do much about the industrial chimneys, but I can do something about my old car. Right?

Anne expressed a sense of futility. She and many other interviewees doubted that their energy behavior was significant in the global context. Still, the morality of saving induced efforts to reduce energy consumption, and many of the interviewees argued, like Mari, that they should take responsibility to save energy. Environmental engagement was also an important reason to be concerned about energy consumption.

According to Karlstrøm et al. (2009), policymakers argue from a point of view that positions the ethos of energy efficiency as a set of economic concerns influenced by prices, opportunities to invest in one's home and proper information. The focus group interviews provided a different idea, in that interviewees argued for energy efficiency on a mainly moral basis, with reference to an underlying ethos. This ethos was observable when interviewees explained *why* they acted as they did.

Interviewee accounts included what could be considered moral calculation practices. At the outset, the observed moralities were contradictory in terms of the actions they rationalized. Seemingly, the morality of saving was most frequently drawn upon. However, this morality tended to be moderated by concerns related to needs, merit and entitlement. To navigate this normative terrain, the interviewees made moral calculations – on the one hand, on the other hand, and so on. The effects on the domestication of energy efficiency were ambiguous. Some claimed to make efforts to save energy, but most interviewees seemed to

domesticate energy efficiency and energy use in a stalemate fashion. They wanted to save, but, on the other hand, needs, merits and entitlements evened out their efforts. Furthermore, most energy efficiency activities were obscured as comfort initiatives.

This outcome also reflects the ambivalence related to the responsibility of making energy consumption sustainable. As we saw, interviewees' views on this were based on moralities of internal or external responsibility, or some mix of these. In their domestication of energy efficiency, many interviewees seemed frustrated and powerless. They doubted that their energy practices really mattered in a global context, and they felt that it would be unfair to ask regular consumers to take action while big companies and nation states were overlooked. Others argued in the opposite way, claiming that everyone should consume energy efficiently. These interviewees' moral calculations tended to emphasize the morality of saving, while those who externalized responsibility put more weight on needs, merits and entitlements.

Conclusion: The ethos of energy efficiency

This paper has explored the ethos of energy efficiency – a set of guiding beliefs or values – through an analysis of the way in which Norwegian households domesticate energy and energy efficiency. This led to the identification of important elements of the ethos of energy efficiency. We have observed that economic motives were marginal in the interviewees' domestication of energy efficiency. Furthermore, the interviewees claimed to be confused about smart energy efficiency behavior, but this was mainly related to political issues, rather than knowledge. Thus, the ethos appeared to mainly consist of four partly conflicting moralities concerning (1) saving, (2) needs, (3) merit and (4) entitlement, with respect to energy. These moralities could be seen in the interviewees' accounts when moderating each other, as well as when making economic arguments.

Apparently, it was crucial to the interviewees to present themselves and their opinions in a way that recognized energy efficiency as an important concern in their everyday lives. Many

of them argued that energy saving is crucial for economic, as well as environmental, reasons, and made this argument through a *morality of saving* that emphasized thriftiness. The morality of saving was first moderated by a *morality of merit*, through which efforts to save energy in some areas merited relative wastefulness in others. Many of the interviewees also claimed to lack possibilities for saving energy. This set of arguments was based on a *morality of needs*, which also hampered the morality of saving. Through the morality of needs argument, interviewees argued that they had to use whatever they were currently using in order to manage their everyday lives. Finally, the morality of saving was moderated by a *morality of entitlement*. With this reasoning, access to plentiful energy was seen as a self-evident privilege – a natural right to use all the energy needed to enjoy everyday life without having to justify energy practices. A final moderating factor was ideas about whose responsibility it is to act: Did the interviewees feel responsible (showing internalization), or did they feel that responsibility lay with someone else (showing externalization)?

As we have seen, the interviewees domesticated energy efficiency in dialogue with their ethos of energy efficiency. Above all, we observed that symbolic domestication was co-produced with the ethos of energy efficiency. Further, in their domestication of energy efficiency, many of the interviewees seemed frustrated and powerless. Obviously, their lack of energy efficiency domestication to produce new practices was excused through reference to the moralities of needs, merit and entitlement. Also, the morality of externalized responsibility was an important factor behind this.

What is achieved by invoking the concept of an ethos of energy efficiency in understanding how households relate to such issues? Previous research on energy cultures has observed similar features underlying the lack of engagement with energy efficiency, but the focus on ethos as featuring distinct and partly conflicting moralities is a step forward in clarifying how households make sense of their consumption of energy and energy efficiency efforts. Moreover, it elucidates the way in which decisions are shaped through specific processes of moderating moralities, providing diversity with respect to processes of domestication.

This means that effective energy efficiency measures must relate to the described ethos and

the resulting diversity in the domestication of energy efficiency. The moral reasoning should be addressed by diversifying policy instruments, and also by making visible the fact that energy efficiency matters and that energy efficient activities are a shared responsibility.

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