

## Electricity Consumption: Should There Be a Limit? Implications of People's Attitudes for the Forming of Sustainable Energy Policies

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### **Authors' note**

Our interest in socially and environmentally sustainable development derives from a deep concern for the current global state of affairs. The effects of climate change are felt dramatically in many parts of the world (one of us has done fieldwork in West Bengal where the number of floods and cyclones is increasing and in Kenya where droughts are threatening people's livelihoods). In countries like Norway, however, the pressing global concerns seem distant, and consumption levels remain high. In light of this, we are concerned with Western policies and the apparent lack of willingness to introduce efficient tools for change, which seems to be a task that policy has largely left up to the individual consumer. As an economist interested in the multifaceted aspects of behaviour and an anthropologist trying to understand and convey people's own perspectives and realities, we aim to show how interdisciplinary approaches, together with people-centred empirical material, could contribute to the forming of policy for sustainable development.

**Keywords:** Electricity consumption, savings, attitudes, market, norm

## 1. Introduction

This is a people's movement directed towards our authorities! It is soon time to start using the good old H3 tariff. Those who use less than 20.000 kWh (which covers what is most necessary for sustaining a minimum standard of living) should be able to buy electricity at a very low price, while those who use more should pay more. In this way we will get a more socially responsible profile so that those who over-consume and live in luxury will also pay more per kWh. (Facebook 2013)<sup>1</sup>

This quote from a Facebook campaign launched in Norway in 2010 calls for re-introducing a two-price system for electricity. The initiative came in response to the relatively high electricity prices during the winter of 2010. As most Norwegian households use electricity for heating, some families froze, according to the media. By mentioning the "good old H3 tariff", the actionists were referring to a former pricing system which encouraged consumers to maintain stable consumption below a given level. Consumption above the limit was defined as over-consumption and was charged up to five times more per unit (NOU 1998:419).<sup>2</sup> By using words like "socially responsible" and "luxury", the Facebook initiative linked the argument for a two-price system to a question of fairness. They thought the former system had ensured a fair distribution of limited electricity resources amongst households in Norway.

This paper presents a qualitative study of people's attitudes towards electricity and electricity consumption within the Norwegian market context. The aim is to examine people's attitudes towards electricity when they are presented with appeals for sustainable electricity practices (savings and renewable energy guarantees). As in any kind of market, the principle embedded in the Norwegian domestic electricity market is that the pricing system is supposed to allocate scarce resources in the most efficient way. In practice, this implies that there are periods of considerable scarcity<sup>3</sup> when electricity prices may double or even triple, when the authorities and the press remind consumers about the importance of saving electricity. However, purposes other than allocating resources in an efficient manner could also serve as a premise for energy policy. A pricing system could also seek to allocate resources in a fair manner. The extent to which Norwegians perceive electricity in terms of market efficiency, fairness or other moral criteria is a central part of this study.

We draw on theories that assume that different types of logics motivate behaviour. Amartya Sen and Karine Nyborg make distinctions between logics

<sup>1</sup> The Facebook campaign was named "We who demand a differentiated electricity price now! (H3 tariff)". (Vi som krever differensiert strømpris nå! (H3 tariff)). The site only obtained 105 followers/likes. The population of Norway is five million.

<sup>2</sup> The two-price system was common in Norway up to 1980, a decade before the introduction of a market system for electricity in 1991. In the former system, the reference for over-consumption was power (e.g. 3kW) rather than energy (kWh), the unit referred to in the campaign.

<sup>3</sup> In economic terms, scarcity is a central premise for making efficiency considerations. If there were no scarcity, a good would have no market value. However, we follow popular rhetoric and use the term to denote a perception of national electricity scarcity as opposed to a normal state of affairs.

that are based on individual self-interest on the one hand and logics that originate from an individual's concerns as a member of society on the other (Sen 1985, Nyborg 2000). Sagoff (1988) pointed to a similar duality and introduced a dichotomy between consumer and citizen logics. Westskog et al. (2011) and their model on energy behaviour develop this theory further by focusing on various factors that affect a given type of logic for action. This model incorporates the social and material structures that surround and affect individuals when they perform a given behaviour. Developed as an interdisciplinary approach, the model also includes a multi-level perspective, focusing simultaneously on individuals, groups and the societal level. A focus on logics will facilitate the analysis and categorisation of people's attitudes towards electricity, consumption and savings, as well as a comparison between people's own logics and the logic embedded in the Norwegian electricity market. We argue that insight into people's perceptions of electricity and what they regard as a fair pricing system may be the key to forming policies that would have legitimacy in the population and would produce sustainable effects (cf. also Winther and Ericson 2013). Hence, we end this paper by indicating how the results may be used for informing policies towards a more sustainable consumption pattern for electricity.

## 2. The Norwegian Electricity Context – A Historical Glance

Before the deregulation of the Norwegian electricity sector, prices were determined by the authorities. Vertically-integrated utilities handled production, transportation and supply, and were required to conduct detailed energy planning. The cost of increased production or transportation was evaluated in relation to the cost of obtaining electricity savings for the end user, and such analyses informed strategies for securing electricity supply (Eikeland 1998). Many households were subject to a two-price tariff on electricity, referred to as an H3 tariff. The purpose was primarily to limit the outtake of power because of the limited capacity of the electricity grid. Customers were charged a higher rate per kWh when they exceeded a certain power level (kW). Accompanying this system, a wattmeter was installed in people's home. This metering device showed customers when they exceeded the limit (NOU 1998). In the 1980s the two-price system was replaced by a new tariff (H4) in which the price per kWh remained the same irrespective of people's power outtake and consumption.<sup>4</sup>

The Norwegian electricity sector was liberalized in 1991 and included a household market from the start. The purpose of deregulation was to achieve higher economic efficiency in resource utilization (Bye and Hope 2005). Consumers were given the opportunity to choose their energy supplier in a competitive market.<sup>5</sup> The transportation of electricity was not deregulated and

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<sup>4</sup> The shift from H3 to H4 is said to have been made with a concern for stimulating energy efficiency (NOU 1998:420). Apparently, many people did not understand the wattmeter and the H3 tariff.

<sup>5</sup> As of 1 July 2013, there are 85 energy suppliers on the Norwegian Competition Authority's list of energy suppliers offering electricity to private consumers in Norway (Konkurransetilsynet 2013).

the power grid is still a natural monopoly in which prices are regulated. Owners of the grid have a duty to deliver electricity to consumers irrespective of which energy supplier the consumer chooses. Both network companies and energy suppliers issue electricity bills to their customers. Customers may choose various kinds of contracts depending on what their supplier offers. Progressive charges are not practiced.

Eikeland observes that one of the effects of deregulation was that the duty to find solutions to environmental challenges became institutionally fragmented (Eikeland 1998). Further, producers, network companies and suppliers all received economic incentive to increase the volume of electricity trading. As Eikeland argues, this placed a new kind of responsibility on the individual consumer to choose energy-efficient solutions (Eikeland 1998: 922),<sup>6</sup> which would obviously be closely linked to the price of electricity.

In Norway, 96% of electricity production is hydropower (NVE 2011), and a large supply of hydropower has resulted in electricity prices that have been historically low compared to the rest of Europe, which poses a challenge to realising energy saving potentials. The country exchanges power with other countries, but the variation in electricity prices is considerable (see also Bye et al. 2010). The authorities have a policy of promoting energy efficiency as well as a shift towards more renewable sources.<sup>7</sup> Hence, in addition to being customers in a market, electricity consumers are sometimes also positioned within a saving discourse.

### 3. The Logics Behind Energy Consumption

We draw on theories that assume there are a range of potential logics for action. An early study by Sen (1985) points to two types of logics in people's reasoning. He makes a distinction between "well-being" and "agency". The well-being aspect is based on people's individualistic preferences or self-interests (see Sen 1987). The agency aspect comprises the opinions and beliefs that individuals hold, for instance about different policies in a society. An individual's preferences could be based on both a well-being and an agency perspective. Later came Sagoff's book *Economy of the Earth* (1988), which focused on a similar dichotomy: Sagoff made a difference between "consumer" and "citizen" logics. The consumer role is the position you take when you are primarily concerned with your personal or self-regarding wants and interests. As a citizen, on the other hand, you are concerned with and behave according to the public interest. Thus, you focus on the community rather than on your own immediate well-being. The

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<sup>6</sup> Eikeland holds that "a basic normative assumption underpinning any system of market-based trading is consumer sovereignty – supply of goods and services are supposed to be driven by consumer demand. Indeed, both the UK 1989 Electricity Act and the Norwegian 1990 Energy Act state the major responsibility that consumers have for choosing energy-efficient end-use solutions."

<sup>7</sup> See for example the aims of ENOVA, a state enterprise owned by the Norwegian Ministry of Petroleum and Energy: <http://www.enova.no/about-enova/about-enova/259/0/>

position of an individual may shift contextually (Sagoff 1988: 8).<sup>8</sup> Nyborg's (2000) "Homo economicus – Homo politicus" distinction has much in common with Sagoff's consumer–citizen dichotomy. Homo economicus is a person who maximises his own well-being, whereas a person acting in the logic of Homo politicus puts himself in the role as an ethical observer, and tries to consider what is best for the society (Nyborg 2000: 309–10).

As indicated, individuals might base their choices on logics other than the traditional economic one. As a consequence, people might also use different logics depending on the particular issue in question (Westskog 1997). When issues relating to policies come on the table, a homo politicus or citizen logic would often be the one that guides behaviour or views. The same would often be the case when people are asked to explain their opposition to policies and/or their willingness to act according to such policies. Acknowledging the strength of situational and contextual factors that influence what logic comes into play also has methodological implications, as we discuss below.

Westskog et al. (2011) develop a framework for understanding the various factors that produce a given logic and rationale for action. The model is useful for studying the degree of coherence between logics on different levels (i.e. the individual, the group and the societal levels), but in this paper we focus on the degree of coherence between logics embedded on the system level (electricity) and the logics held by people themselves. The model incorporates the social and material structures that surround and affect individuals when performing a given behaviour.<sup>9</sup>

When the logics held by people are known to policymakers, the implementation of policies that are attuned to the yielding logic is likely to be understood and could potentially have the intended effects (*ibid.*). This is so because people operate under the same logic as the one within which the policy was formulated. Similarly, Kahan et al. (2011) discuss the importance of communicating in a way that is consistent with the cultural cognition of people. Cultural cognition refers to the tendency of people to form perceptions of risks and facts that are in accordance with their own values (Kahan 2010). Hence, coherence between policy and the field in which people operate enhances acceptance (see also Winther and Ericson 2013).

Conversely, if policymakers erroneously believe that individuals are operating under the same logic as the one underlying a given policy, the introduction of the policy might result in behavioural effects other than those the

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<sup>8</sup> Nyborg's (2000) "Homo economicus – Homo politicus" distinction has much in common with Sagoff's consumer–citizen dichotomy. Homo economicus is a person who maximises her own well-being, whereas a person acting in the logic of homo politicus puts herself in the role of an ethical observer, and tries to consider what is best for society.

<sup>9</sup> There is a distinction between societal structures on the one hand, which are the existing elements that make up a society, and policies of various kinds that influence but do not determine behaviour on the other hand. In the model, hard policies (taxes, regulations) fall into the category of material conditions that may or may not change people's logic for action (e.g. the smoking law affected people's morality when it came to smoking in private homes). Soft policies often intend to directly affect societal norms and values, and may or may not succeed in providing such shifts. In this paper we do not discuss each of the factors on all three levels further, but are concerned with the resulting fields or logics for action.

policymaker expected or in no response at all. Throughout this paper we will present several examples of conflicting logics that lead to the misunderstanding of policies, protest and types of behaviour other than those intended by the policymaker.

## 4. Methodology

Our empirical data derives from 18 in-depth interviews with people in their homes and eight focus group sessions attended by 64 people in total. The first round of interviews was conducted in Asker (a town 30 km west of Oslo) in February 2011. The main purpose of these interviews was to get customers' responses to different types of information on energy saving being tried out in a field experiment with Hafslund Nett.<sup>10</sup> We conducted nine interviews with both men and women, all living in detached houses.<sup>11</sup> The second round of in-depth interviews was conducted in August and September 2012 in Follo (30 km east of Oslo) and Askøy (an island lying 20 km outside of Bergen). These interviews focused on the families' use of displays to visualise energy consumption.<sup>12</sup> Here we conducted nine interviews with families living in apartments and detached houses.

Semi-structured interview guides were used during the two rounds of in-depth interviews. In all cases we covered general questions on energy behaviour, as well as if, how and to what extent the interviewees try to save electricity, and how they regard electricity consumption in a societal context. We also asked if they consider electricity to be a right or a commodity in line with other commodities traded in a market. Finally, the interviewees were asked about their views on energy policies aimed at reducing energy consumption.

We arranged focus group sessions in December 2009.<sup>13</sup> Four sessions were held in Kirkenes (Northern Norway) and four in Oslo. All sessions included eight participants and the groups were age and gender specific.<sup>14</sup> The discussions were led by a moderator from Synovate, who used a focus group guide developed by the researchers for structuring the two-hour discussions. In both places,

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<sup>10</sup> These interviews formed part of the project "Do customer information programmes influence electricity consumption?", financed by the Research Council of Norway (2009-2011), project no 190769/S60. Hafslund is a major energy supplier in Norway serving most of the Oslo area with electricity. The Nett division is responsible for the transport system of electricity within this energy supplier company.

<sup>11</sup> The reason why we only interviewed individuals living in detached houses was that only households from this category had been included in the field experiment.

<sup>12</sup> These interviews formed part of the project "ESPARR - Energy savings: From regulation to realisation", financed by the Norwegian Research Council (2012-14), project no 216473/E20. We recruited these families from a list of approximately 80 households who had volunteered to test out the display "eWave" in their homes for about one year, related to a project at SINTEF. 8 out of 9 in our sample expressed a high concern for saving electricity.

<sup>13</sup> The recruitment of participants was handled by Synovate via telephone using the telephone register or by contacting people who had previously volunteered to participate in focus groups.

<sup>14</sup> The four groups in each place consisted of men aged 30-45, men aged 50-65, women aged 30-45, women aged 50-65, respectively.

people were exposed to, and were asked to comment on, information material regarding electricity.<sup>15</sup> In addition, all groups were asked general questions about electricity, their energy behaviour at home and what they do for saving energy, including the reasons for this. The participants were also asked if they regard electricity as a right or as a market good in line with other goods, and if they think that people are entitled to use as much electricity as they want as long as they pay for it.

These conversations did not take place in the context of normal, everyday life, especially during the focus group sessions that were organised outside of people's homes. Thus, the answers can sometimes be seen as reflecting people's attitudes towards electricity use in general, not their personal electricity use at home. Participants were also aware of the agenda of this research and were presented with material promoting either savings or renewable sources. Moreover, the phrasing of some of the questions, e.g. "are people entitled to use as much as they want", may have been interpreted as biased (e.g. it sounded "wasteful"), thus leading people to give answers in a sustainable, normative direction. To some extent, we therefore assume that people's statements were influenced by their underlying expectation that normative, "right" answers would be appreciated. However, the variation in people's responses and their often-nuanced accounts signal that they were not uniformly directed to provide certain type of answers.

## 5. The Logics - Electricity as a Commodity or Common Property? Allocation Within National Borders

I am not a Communist, but when it comes to electricity I am somewhat of a Communist. This is a national thing in my eyes. It's ours. It's our rivers that we have devastated. We are the ones who built the dams.

1/Nikolai, male participant in Focus Group 8, Kirkenes, 2009

The quote above illustrates an often-stated view among interviewees and focus group participants: Norway's hydropower is a renewable resource that belongs to the Norwegian population (Winther and Bouly de Lesdain 2013). There is a clear distinction in our material between the views expressed on the management of scarce electricity resources within Norwegian borders and the export of this resource. In this section we discuss people's views on the management of electricity within Norwegian borders. We turn to the issue of exports later on.

In the collected material, people's perceptions of electricity, consumption and savings can be divided into two main categories that correspond to the consumer and citizen logics, respectively. The groups that articulated these distinct logics were fairly equal in size.<sup>16</sup> The main findings will be presented below. But first,

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<sup>15</sup> In Kirkenes the focus group participants were presented with information about electricity with a renewable guarantee, and in Oslo the material contained information about electricity savings.

<sup>16</sup> It is difficult to quantify people's statements in a precise ways. In the focus groups participants were influenced by each other; thus if one person made a strong argument, others would tend to

an introductory description of how we arrived at these categories is in order. When people were asked if they thought that electricity is a commodity or a common property, they often hesitated. To elaborate, we asked if they thought that electricity is a good in line with other goods such as sugar and coffee, which are traded in a market, or if they think that electricity is something different. Many said that it is different from other goods in that it is something “needed.” or an “infrastructure”. Others simply stated that electricity is a market good. To address moral and normative issues, we went on to ask participants in the focus groups if they think that there should be a limit to individual consumption. We used people’s answers to this question, and similar statements from the interviews about the need for a “limit”, as the main criterion for placing respondents into one of the two categories.

### 5.1 The Consumerist Logic; Electricity Managed as a Commodity

Many respondents expressed the view that people have a moral right to use electricity as much as they want. “As long as I pay for it, it is OK” (Lars, 4/Focus Group 3, Oslo). “We have the right to use a commodity that we pay for” (Ola, 2/FG 4, Oslo). In line with a consumerist logic, this view follows the Energy Act of 1990, which is the legal basis for the current electricity market in Norway and mainstream economic thinking. The scarcity of the electricity product should be regulated by market forces in the same way as other products and services in a market economy. This makes electricity a product in line with other market products.

Regarding the potential environmental costs of producing and consuming electricity, some said that these should be integrated into the electricity price (FG 3, Oslo):

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|------------|--|
| Moderator: | So you think that we may use as much as we want as long as we pay for it?  |
| 4 Lars:    | Yes, if nature is affected, the price will be increased. Then you cannot afford it and that is how the regulation works. |
| Moderator: | So you think that the price increases if nature is affected?   |
| 4 Lars:    | Yes, and then you must find alternative ways to keep warm if you lose your job or something.                             |
| Moderator: | (addressing the whole group): Do you think that the price increases if the environment is affected?                      |
| 8 Helge:   | Yes.   |
| 4 Lars:    | Yes.   |
| Others:    | Yes.   |
| 2 Kenneth: | I think the price should encourage people to save.   |

Following the logic of market thinking, the argument is that if negative environmental effects occur because of electricity production or consumption, this should be regulated by increasing the price in accordance with the cost of the

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agree. Also, the open approach adopted during the interviews implied that the questions were not identical in every interview (see Section 4).



effects on the environment (externalities in economics). The last comment by Kenneth links the issue of price back to savings, and underlines that individuals are not morally obliged to save but will do so when the price rises. A few participants regarded regulations as unacceptable per se: “There are enough restrictions in life. We don’t need restrictions on everything.” (Geir, 2/FG 8, Kirkenes). Economic liberalists would make the same argument, favouring the free market and opposing government intervention. This view can be interpreted as belonging to a consumerist logic, although in a more extreme direction and not in line with economic theories on the effective allocation of resources.

In sum, people in the consumerist group expressed their adherence to and moral support of the liberal Norwegian electricity market. They did not think that individuals have a moral obligation to limit consumption, which is an issue to be solved through pricing mechanisms in the market. This finding may not be surprising given that Norwegians have become habituated to their role as consumers in the electricity market, which was introduced more than 20 years ago. Approximately one quarter of Norwegian households has chosen a supplier other than their local one (NVE 2011: 74-5). What we find interesting is that a considerable share of our respondents seemed to follow a different logic than the pure market logic when it came to their perceptions of electricity and savings.

## **5.2 The Citizen Logic; Electricity Managed as a Common Property**

In this group of respondents, which we refer to as citizens, electricity tended to be associated with “necessities” and “infrastructure” rather than with a typical market good. They share the consumerist view that Norwegian hydropower belongs to the population, but they take the common property idea further and use it as a reference for how they believe electricity should be managed. They believe that there should be a limit to individual consumption. Their arguments were sometimes anchored in altruistic perceptions such as environmental concerns or a moral obligation to save (e.g. “Norway uses far more electricity than other countries, so we should reduce consumption”). But most of the citizens directly referred to the problem of scarcity, the need to allocate resources and the burden of saving electricity in a fair manner, as we demonstrate below. Many would highlight the importance of ensuring that nobody freezes when prices are high. To ensure affordable prices for all, some suggested introducing differing prices, which we will treat in the next sub-section. When the moderator asked participants in the focus groups if they think that people are entitled to use as much electricity they want as long as they pay for it, all four of the female focus groups began a discussion about conspicuous consumption. Miriam said, “It shouldn’t be unlimited in terms of how much you can use. If there is a cabin that consumes as much as four households...” (4/FG 5, Kirkenes). Within the male focus groups, some argued for the need to limit exaggerated consumption as well. Johannes also expressed his critique: “I have even been to cabins in Geilo that have heating cables outdoors to prevent the foundation from freezing” (4/FG 8, Kirkenes).

There has been a trend in Norway to construct new cabins of considerable size, fully equipped with modern appliances (Aall et al. 2011). These are not for all, and critiques of “cabin castles” are sometimes referred to in the press. Many participants made associations with this kind of practice when asked about people’s right to consume as much as they want. By referring to the cabin discourse, participants in effect distanced themselves from the problem of scarcity and how it should be solved.

When arguing for the need for some kind of limit to consumption, citizens often implied that they think some groups are currently over-consuming without having to pay accordingly. By this, they indicated that they do not regard electricity as an ordinary commodity in line with, say, sugar or coffee, where there are no limits to the level of consumption. When voicing such critiques of other groups, the citizens seemed just as concerned about being subject to policy appeals for reducing consumption as they were with personally having experienced the drawback of peaking prices and high electricity bills. In other words, appeals to reduce consumption trigger debate about justice. Many people found it unfair that ordinary people are asked to save electricity. Some asked why they should try to save when wealthy people, industry and even public buildings over-use electricity, such as when street lights are kept on all the time. Maria said:

It’s not only about the household, it’s the whole thing. You see the shops with Christmas lighting and all that. We’re supposed to work as a team. You cannot just tell private people that now you have to save. (8/FG 2, Oslo).

Inga, in another group, stated:

I become a bit irritated when we see these people who construct cabins of more than five hundred square meters, keeping the heat on everywhere. Am I supposed to save while they... I think it is nearly despicable. If everybody is supposed to save, then everybody has to contribute. If we’re all supposed to save, everyone has to take part. (5/FG 5, Oslo).

The view that resources should be distributed in a fair manner, as expressed by Maria and Inga, has a parallel in egalitarian thinking. Egalitarian principles in ethics assert that the best social policy is one where the welfare of the society is maximised subject to the constraint that all individual members should enjoy equal benefits from society (see e.g. Myerson 1981). Egalitarian principles could be interpreted as giving each individual an equal right to use a resource, for instance by arguing that each individual should have an equal per-capita right to pollute (see for instance Baer et al. 2000).

Embedded in citizens’ arguments were issues of responsibility<sup>17</sup> and how to encourage individual energy savings. As illustrated in the quotes above, many people find it provoking to be asked to save when they believe that other groups are using much more electricity. This may trigger an unwillingness to save electricity for reasons of sustainability. Several studies have documented that

<sup>17</sup> Nyborg (2000) terms this a «homo politicus» with shared responsibility as opposed to a homo politicus with sole responsibility. Both types of homo politicus is in line with what we have termed a citizen logic.

when people perceive the burden to be unfairly distributed, their own motivation to act altruistically will decline (see for example Fraselle and Scherer-Haynes 2007).

In sum, the group referred to as citizens thinks that electricity consumption should be restricted in some ways. The underlying premise is that electricity is a common, national resource which should be managed in a fair way. In contrast to the consumerists, they put forward the view that a person's level of consumption is a moral issue and that the distribution of electricity has to do with justice.

## 6. Policy Solution for Bridging Two Logics: A Progressive Pricing System

Policies for reducing electricity consumption were discussed during the interviews and focus group sessions. Across the different logics, and particularly among families who were testing out displays,<sup>18</sup> many respondents suggested a two-level pricing system as a tool to obtain savings (cf. the Facebook campaign). Citizens would tend to come up with this idea on their own initiative as a tool to obtain savings in a fair way. For example, on the issue of cabins and conspicuous consumption, Hilde followed up and proposed how fair prices could be set:

I totally agree. We see these cabin palaces with all kinds of electric equipment, and then they talk about people in general and say they should save, and the electricity becomes more and more expensive. We have to think about the fact that there are people living on a minimum pension who can't afford it. If we don't have enough electricity, we have to focus on the ones who waste electricity and large office buildings that keep the lights on 24 hours. It's not right. Then we have to do it this way – that if you use more than a certain amount, it will be twice as expensive. We need a kind of norm that says this is how much it takes to heat a house, this much we have to accept as the ordinary price, and then those who want luxury will have to pay more. (2 | FG 5, Kirkenes).

Some of our consumerists who adhere to the logic of the market also mentioned a two-price system when asked what kind of policy could lead to electricity savings in Norway. Above we referred to Kenneth, who argued that the price (rather than moral obligation) should encourage people to save. When asked specifically what would make people save, he suggested a special tax on consumption beyond a certain limit: "The state could put a tax on [consumption] over a necessary level, for example over 20 000 [kWh]" (2/FG 3, Oslo). Another man, Per, expressed a high moral and altruistic concern for saving (which he and his wife were observably also practicing), thus we consider him a citizen. He also

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<sup>18</sup> Among the 18 interviewed families, the two-price system was most often brought up and/or appreciated by individuals who had voluntarily been testing a display showing electricity consumption in their homes. Out of nine interviewees with display families (Follo and Askøy), two suggested a two-price system on their own initiative, four were positive when we mentioned such a system, one preferred setting different prices for day and night, one preferred higher prices for businesses than households, and one did not respond to the question.

held in-depth knowledge about the electricity market and seemed to trust its organisation except on the issue of producing enough incentives for savings. To make more people in Norway reduce consumption, Per recommended, “I think it would have been even better if in Norway you could get cheap electricity for the initial amount you use and then pay for your over-consumption. Then you would be much more concerned with that peak” (Interview no 2, Follo, Norway).

Hilde and Kenneth’s arguments for such a system differ. To Hilde, and probably other citizens, the two-level pricing system is viewed as having a role to play in allocating scarce energy resources and the burden of saving in a fair manner. She suggests introducing a new or modified market mechanism in order to solve the issue of justice to obtain a fair market for electricity. In contrast, Kenneth proposes the two-price system, not as a solution to a moral problem, but as a pragmatic solution for obtaining savings at large. Per is situated between the two, feeling a personal responsibility to save and behave altruistically, but seeing the two-price system as a way to also obtain energy savings at the societal level.

Because such a system appears justifiable within both of the logics treated in this paper, the two-level pricing system appears to be a promising tool for obtaining energy savings. A norm would signal the level of consumption that is considered necessary.<sup>19</sup> Consumption below this level should be priced reasonably low, while consumption above that level should be priced much higher. Here, the pricing system would not only be a mechanism that contributed to an efficient allocation of scarce resources, but also one that establishes the norm for consumption and how the burden of saving should be distributed.

## 7. Exports: The Common Evil

The issue of exports represents an area of highly conflicting logics between those for electricity and systemic policy and those held by people, including nearly all our respondents. The exceptions were a few citizens who maintained that exports are good for environmental reasons. Historically, hydropower was developed in Norway by building dams and regulating rivers, which might be argued belong to the people of Norway through the regulations of the Outdoor Recreation Act (1957). The Norwegian “Right to Access” (*Allemannsretten*) is regulated through this law and is based on an old consuetudinary law called the “*Allemannsrett*”. This law safeguards the public right to access and passage through the countryside as well as the right to spend time there.<sup>20</sup> In that regard, regarding the rivers and water basins as common property is reflected in old norms as well as in the law on the right to access the countryside. This might give rise to a low level of acceptance for policies that

<sup>19</sup> Respondents who argued for a two-price system said that they realised the difficulty of deciding how a given norm should be set. It is illustrative that among three people who gave their specific opinions on what the limit should be, all suggested a level for “normal” consumption that corresponds to their own consumption (ranging from 10 000 to 20 000 kWh per year).

<sup>20</sup> In general, people can pass through, camp and spend time on uncultivated land even if it is private property. There are some specific regulations that limit this, but the overall policy is clear. See Government 2011.

appear to be leading to the export of the common property.<sup>21</sup> Rather, people in our material, both consumerists and citizens, overwhelmingly questioned the export of electricity.

Jon said:

I feel that the water here in Norway belongs to me. When they reduce the level of water in the reservoirs, I think it's wrong. The fact that the companies exploit the water in the early autumn to make money during the winter when it becomes empty and we have to import ... I find that system to be wrong. I can see the arguments for such a system, but considered in isolation, I think it's wrong. (Interview no 5, Asker).

This interviewee argues that because electricity for him is a common Norwegian resource, it is not right that producers and suppliers focus on making a profit and managing the resource so that Norway must import [apparently expensive] electricity from other countries. This issue has been hotly debated in Norwegian media, especially in periods when electricity prices rise and the water magazines in hydropower dams are reduced (e.g. Facebook 2013).

From a consumerist point of view, the request to regulate Norway's export with surrounding countries could be understood as a call for establishing a boundary in terms of how far the consumerist logic should apply: For those who belong to the community that owns this common commodity, the resource should be handled according to standard market principles. For those who do not belong to the society that shares this common resource, other rules should apply; thus people in other countries should not have access to this resource in the same way that Norwegians do.

Figure 1 sums up the empirical findings. The group referred to as consumerists follows the market logic embedded in the system up to the point where electricity is exported through power exchange with other countries, after which they call for regulation. The other group, referred to as the citizens, also perceive Norwegian hydropower as a resource that should primarily benefit the Norwegian population. They call for regulation vis-à-vis the outside world to ensure that the country does not export electricity before Norwegians have fulfilled their needs at a favourable cost. In addition, the citizens call for

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<sup>21</sup> Norway exchanges electric power with its Nordic neighbours Sweden, Denmark and Finland (the four countries also form part of a common market: the Nord Pool spot power exchange) as well as Russia and the Netherlands. This interconnectedness implies that the power price in Norway is dependent on the conditions for generation, transmission and consumption in the Nordic region as well as other European markets to which the Nordic countries are connected. Because of the high share of hydropower in Norwegian (Nordic) power supply, variations in precipitation and temperature result in considerable fluctuations in power prices (The Ministry of Petroleum and Energy 2013: 52). Hence, in years with low precipitation and winters with low temperatures, total consumption in Norway is likely to be higher than total power production and in this case, electricity (annual net volume) is imported from abroad (ibid.: 57). With opposite conditions, Norway exports electricity. For example, in 2012 Norway produced 146.4 TWh electricity of which 128.8 TWh were consumed inside Norway. The remaining power (12%) was exported (Statnett 2013).

appropriate consumption norms, as they are concerned with the question of fair resource allocation in Norway.

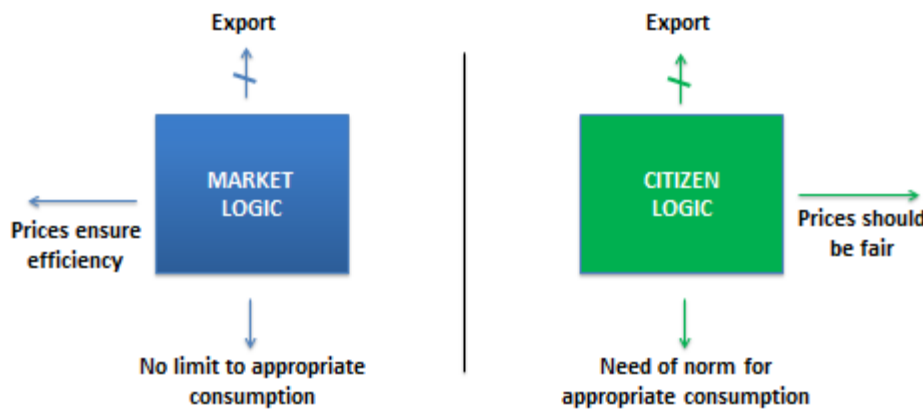


Figure 1: Two kinds of logics for perceiving electricity and appropriate pricing systems arising from the Norwegian material. The “broken” arrows towards export illustrate that the market logic and the citizen logic do not apply for the case of export. Very few respondents mentioned that Norway also imports electricity from neighbouring countries.

## 7. Conclusion: The Importance of Coherence in Logics

Our findings show that the Norwegians under study employ two different logics when it comes to electricity consumption and savings. They all share the view that electricity is a common Norwegian resource, and most respondents are therefore highly sceptical towards what they view as a unidirectional export (i.e. disregarding import) of Norwegian power to surrounding countries. However, in terms of how the common resource should be managed within Norway, two distinct groups emerged from the material that was collected through 18 interviews and eight focus group discussions that included 64 participants. We have drawn on theories on logics for action (Sen 1985, Sagoff 1988, Nyborg 2000, Westskog et al. 2011) to interpret the results.

The logic underpinning the electricity market in Norway largely resonates with the viewpoints of about half of our respondents, who we have referred to as consumerists: “As long as I pay for it, it is OK.” The market logic is mainly the one underlying the Energy Act (1990) and much of policy-making vis-à-vis electricity in Norway. However, this market logic is at odds with the views that are expressed by the other group of respondents, which are based on a citizen logic. With regard to situations of scarcity, the citizens think that “luxury” consumption should be restricted in some way in times of cold weather and high electricity prices. Given Norway’s more than 20 years of liberalised markets in the household sector, this finding, along with the emotional intensity with which citizen-arguments were sometimes put forward, are striking.

The sources of the problem of conflicting logics seem partly linked to the observation that the Norwegian electricity system itself entails a double set of messages. On the one hand, it presents a market-based system in which people are invited to purchase and use electricity in the same way that they buy and consume sugar and bread. On the other hand, policy makes sporadic appeals for saving electricity, particularly in periods when scarcity is perceived to be a problem (cold season, high prices). Thus according to the situation, electricity users are asked to *switch* between various logics of action. In this light, it is perhaps little wonder that they have mixed views and moral judgements about consumption and savings.

Moreover, we believe that the high degree of complexity associated with the electricity market, together with the volatile prices and uncertainty, contribute to blurring picture of the kind of logic that yields (or should yield) in this field. Ordinary people tend to have fragmented knowledge about the technical and financial aspects of the electricity (see Winther and Ericson 2013 for a treatment of customers' "ignorance", a state created by the system). As a result, they hold on to the overall, national discourse on electricity in which electricity is seen as a common Norwegian resource (prolongation of rivers and lakes) and where "export" is regarded as the main problem. Electricity exchange represents an area of highly conflicting logics between the policy and system level on the one hand and electricity users on the other. The "problem of export" most often came up in conversations on the potential for achieving electricity savings, reflecting that people tend to see these issues as interlinked. When there is a lack of coherence between the logics, people hold onto the one(s) entailed in the system. Thus, a conflict may arise that negatively affects people's willingness to voluntarily engage in energy saving activities.

Our results indicate that a two-level pricing system that takes into account a call for justice could potentially merge the two kinds of logics make them more coherent, resulting in a higher motivation for energy savings; many of our respondents advocated this pricing system in Norway. Such a system has also been proposed in France (Assemblée Nationale, 2012). This would entail merging the market and citizen logics by placing a cap on normal consumption while at the same time retaining the basic components of the market system. Inefficiencies in an economic sense would of course be a result of progressive pricing. However, faced with the possibility of increased energy savings through a price system that signals the level of consumption that is considered necessary for all, this could outweigh the disadvantages of these inefficiencies.

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