

## COMMUNICATION TO THE PUBLIC: A KEY FACTOR WHEN THE POWER GRID NEEDS REINFORCEMENT AND EXPANSION

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### ABSTRACT

*The grid activity faces major investments in the years to come. In addition to fulfilling the EUs renewable energy directive, the power grid needs improvements and strengthening in order to meet future demands for smart grids and a higher energy consumption. For the consumers, this means a higher grid fee; in addition, the building of new power lines will affect many in their local environments.*

*Increased energy costs (grid fee) and line expansion provokes most consumers, often leading to local protests. This affects the energy sector's reputation, and it may also influence the official treatment and completion of new projects, which will have major socio-economic consequences.*

*How may the grid activity prepare for the challenges this poses with regards to the public? How may the sector ensure that it can concentrate on completing the projects on schedule, avoiding conflicts that damage the sector's reputation?*

*These questions will be answered on the basis of experiences from the Norwegian energy market. Data has been collected through quarterly surveys from 1997 until today. More than 62 000 energy customers have been interviewed. The aim of the research is to study developments in the population's attitudes towards, and knowledge about the grid activity, and how new projects affect people's attitudes towards the sector.*

*The paper opens with a description of the consumers' trust in the power grid activity, and the demands and expectations they have for secure power supplies. It then discusses the relationship between the power price the customers pay and their trust in the power sector, focusing particularly on the grid activity. Finally, the paper considers important focal points for the relationship with the public in a time where the energy sector needs popular support for the planned power grid investments.*

### ATTITUDES TO THE POWER SECTOR

Initially, consumers have high trust in the power sector's security of supply. 69% states that they have high or very high trust in the sector with regards to providing safe and reliable electricity supplies. No more than 3% state the opposite [1]. The Norwegian electricity customers'

satisfaction is understandable. According to the Norwegian Water Resources and Energy Directorate (NVE) [2], the electricity customers experienced less than two power breaches in 2012, and were deprived of electricity for one hour and fifty minutes in average. Fig. 1 shows that when the number of breaches per reporting point is reduced, the electricity customers' trust in the energy sector's security of delivery increases.

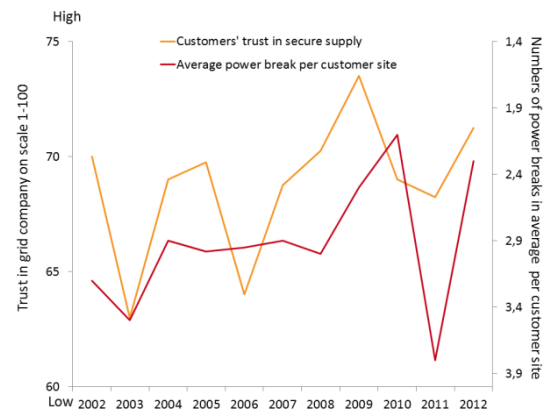


Fig. 1: The connection between average number of breaches per reporting point and electricity customers trust in the power sector's security of delivery.

### Increase in expectations to the power sector

At the same time, the population's expectations to the sector increase with regards to secure supplies, reaction time in case of damages and information in case of breaches. Only 41% of the Norwegian electricity customers say they received the information they felt they needed during the last power breach, a five percentage points increase from 2008. Concurrently, more respondents report that the breaches cause problems for their households. The share increases from 17% in 2011 to 22% in 2012 [1]. The results must be viewed in light of the increased usage of electronic appliances, and the fact that many experience that when these cannot be used, their freedom of action is infringed upon. Additionally, electronic appliances become more and more vulnerable to voltage fluctuations in the power grid.

### Skepticism to the pricing policy

While the consumers raise their expectations towards the sector's core activities, they remain highly critical to the level of the grid fee. About 30% of the consumers lack knowledge of what the grid fee is used for, and do not recognize the connection between security of delivery and the level of the grid fee. When electricity customers rank the power sector's achievements on the basis of how satisfied they are with their own grid company, security of supply ranks first, while satisfaction with the level of the grid fee ranks last (fig. 2). This can be interpreted as a failure to recognize the connection between secure supplies and the price they pay, or that they are unwilling to pay the price of a secure power grid. The assumption is strengthened by the fact that two out of three electricity customers (68%) are unwilling to compromise the quality of supply to be able to pay a lower grid fee.

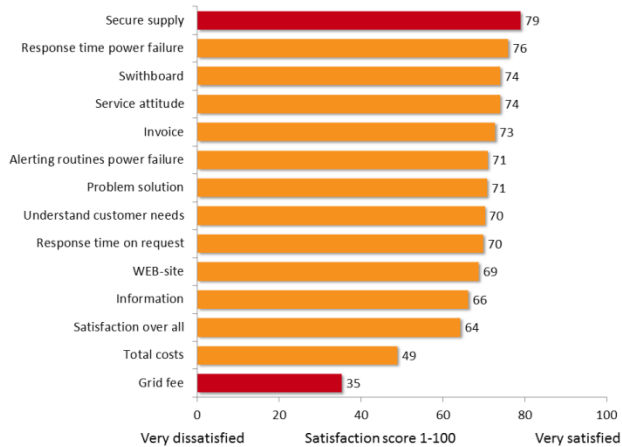


Fig. 2: Ranking of the power customers satisfaction with own grid company in different areas.

### Small activist groups heavily influence political processes

In Norway as in the rest of Europe, one now faces considerable investments in the power grid. In addition to the Norwegian commitment to increase the share of renewable energy in relation to total energy usage from 58% in 2005 to 67.5% in 2020, the power grid needs improvement and strengthening. According to Statnett (the national TSO), up to 10 bill Euros are to be invested by 2020 [3].

Developments of new, renewable energy production and new power lines have, historically, been met with local protests. However, research shows that several of the most controversial projects in recent years have had support in the majority of the population [4,5]. Several examples from Norway show that small activist groups have received heavy media attention, which has enabled them to influence

the political processes. However, the results show that today, no more than 2% of the population reject the need for grid development, either to secure national security of delivery or to increase the share of renewable energy in the system [1].

### Skepticism to the grid fee weakens the power sector's reputation

Even though there is popular support for specific projects, the consumers' skepticism towards the grid fee overshadows their attitude towards the power sector in general. No more than 14% of the consumers have high or very high trust in that the grid companies don't charge an unreasonably high price with the grid fee. 33% state low or very low trust. While the power sector's reputation score is 56 points, trust in the grid activity is a low 42 [1] (Fig. 3).



Fig. 3: Development of the power sector's reputation overall, and for the grid activity isolated, 2005-2013, shown as scores on a scale from 1-100. A higher value indicates a stronger reputation.

Calculations show that there is a clear correlation between the price the customers pay and their views on the power sector (correlation -0.845). For the retail activity, this is an issue of unpredictable energy prices (price variation). For the grid activity, it is the level of the grid fee. Even though trust in the grid activity has increased over the past years, it is still skepticism to the grid fee that keeps the total reputation of the power sector on a low level. Lack of trust in the grid activity is thus not due to concerns on how the grid operators carry out their core activities (security of supply, information in case of breaches and reaction time in case of damages), but rather distrust in the price politics.

## WHAT THE ENERGY SECTOR CAN DO

In Norway - as in many other countries – new, renewable energy production is being developed, in addition to the need of improving and strengthening the grid. In order to reach the EU's ambitious goals for renewable energy, about 600 major grid projects are being planned throughout Europe. Projects of this kind are often met with strong protests from local environmentalists. This generates negative publicity for the power sector, prolonged official treatment and delays in completing the projects. This means major socio-economic consequences and should be avoided. In addition, these investments will lead to a higher grid fee for the customers. Because of the strong correlation between the price paid by the customers and their attitudes to the power sector, there is reason to believe that the power sector will be facing vocal protests from the customers in the years to come. The question is how the power sector can handle these challenges in a constructive way.

### Increase knowledge and create understanding for the sector

As a monopoly activity subjected to strong, centralized government control, there is little the grid activity can change with regards to the grid fee. To gain the consumers acceptance for a higher grid fee resulting from new investments, it is necessary to increase the customers' knowledge on the frame conditions the sector must comply to: who determines the framework for the grid fee, and what the grid fee is used for. It is important that the customers are aware of what investments are carried out on the grid and what this means for the individual consumer. Likewise, the sector must communicate on the consumers' premises.

Research shows that information leads to increased understanding, thereby contributing to a more positive attitude towards the sector. This is documented in a study carried out for a local, Norwegian grid operator, Energiselskapet Buskerud, from 2005 to 2013 [6]. The first survey, carried out in 2005, showed that the grid customers were severely dissatisfied with the level of the grid fee (satisfaction score 26 points out of 100), and that many of the customers were dissatisfied with the operator in general (54 points out of 100). The analysis showed that what would be most effective on the general customer level of satisfaction was better information and a lower grid fee. As a grid operator, EB has little chance of influencing the level of the grid fee. The company chose to channel its resources towards strengthening customer information, emphasizing who determines the grid fee framework, what it is used for, and what this means to each customer. This was communicated with a clear message, in a simple manner through the channels where it is easiest to meet the customers. Yearly surveys from 2005 to 2013 indicate that

this has yielded a positive effect on the customer's attitudes towards the grid operator. The customers are growing ever more satisfied with the grid fee level, followed by an increase in satisfaction with the company in general. Fig. 4 shows that satisfaction with the grid fee increases from 26 out of 100 possible points in 2005 to 45 points in 2012. By 2012, the satisfaction with the supplier in general had increased with 15 points, from 54 in 2005 to 69 in 2012. The research also shows that the grid operator has strengthened its position, not only in relation to its own customers, but also in relation to other grid operators throughout the country [1].

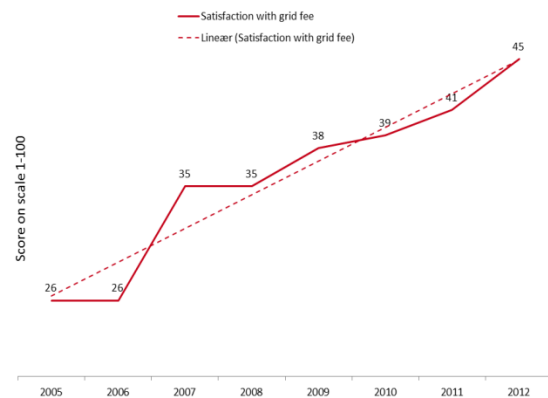


Fig. 4: *Energiselskapet Buskerud (EB): Development in customer satisfaction with the level of the grid fee, 2005-2012.*

### Invite stake holders to dialogue

While price levels are important, other factors contribute in shaping the population's attitude towards the power sector. Wind power and hydro power development, as well as new transmission lines have led to the involvement of environmentalists. Norwegian experiences show that small groups of activists often get substantial media attention. Despite having little popular support, they have still proven influential on further political processes. The most controversial projects were the development of the Alta watercourse in the 1980s, wind power development in general, and the construction of 9.2 km long transmission line from Sima to Samnanger in one of Norway's most attractive tourist areas. In the latter case, the Minister of Energy decided to reopen the case and get a new assessment a few weeks before construction was due to begin. The project was first started three

years after the concession was granted, and will not be completed on schedule, which has major socio-economic consequences. In addition, politicians and the power sector have spent resources on crisis management instead of focusing on their core activities.

### **Focus on information and communication**

Experiences from these and several other projects of the past decades show that information and communication are important success factors for the power sector; especially in a time where one needs the population's support for the developments and investments that are to be carried out. Three points are crucial:

**Firstly**, it is important that the sector is united and communicates an aligned message. This may be difficult due to the various players (producers, distributors and retailers). In relation to the public, it is nevertheless important to appear as a unified sector. This creates trust and credibility.

**Secondly**, the sector needs to spread information and generate understanding for the sector and frame the conditions it has to deal with. Monitor popular opinion on what may evolve into controversial projects before action groups and the media take a stand on the issue. In that way one will know what views are held by the majority of the population, and therefore the best way in which to communicate to the different stakeholder groups.

**Thirdly**, the sector needs to play a proactive role and invite stakeholders to dialogue; when new projects are launched, it needs to be communicated to the public as early as possible. Ensure that the public has factual and relevant information on what is to be done, why it is to be done, what infringements are necessary, and what this means to those affected (local communities) and to the general public. How the sector is viewed will fundamentally depend on access to information, proactive communication and building ambassadors among key stakeholder groups.

### **CONCLUSION**

The power sector faces major challenges in the years to come. Developing new, renewable energy while improving and strengthening the power grid will affect the consumers by increased grid fees, but also because the measure may involve infringing on the environment in which the consumers reside. Therefore, the energy sector must be prepared to face such protests. It is important that the sector knows how to handle this in good manner, ensuring that the projects are carried out according to schedule, while maintaining a good relation between the sector and the afflicted.

Research from the Norwegian market shows that it is important to increase the consumers' knowledge on the power sector and the conditions it adheres to. This must be communicated simply in a language the consumers understand and in the channels where the consumers can be met.

Information that is communicated must be accurate, adapted to the customers and well timed. When new projects are launched, information must be published early in the process on what is to be done, why, who is afflicted and how. The attention must be directed to the positive impact it will have for the population.

These kinds of measures could be beneficial for the relationship between customer and supplier. Increased knowledge leads to increased understanding and a strengthened reputation both for the individual power company and for the power sector.

A good reputation will strengthen the power sector's position with regards to the investments that are due in the grid in the years to come. It will make it easier to recruit the competence the sector needs to carry out the projects, and the sector will be able to achieve the projects. It will also make it easier to handle protests from the public, local landowners, tourist sector, politicians, environmentalists and media in connection to the projects.

A well-functioning core activity, a conscious strategy towards one's most important interest groups and good information routines will help the energy sector in a time where public support is needed for the work to be carried out.

### **REFERENCES**

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