

A report commissioned by
Nordic Energy Regulators (NordREG)

Market Entrant Processes, Hurdles and Suggestions in the Nordic Energy Market - the View of the Market

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Executive Summary

The Nordic electricity market has been undergoing extensive change in recent years in order to harmonize the models and processes, to make it easier for suppliers to enter and compete in the market. But what does the industry think? More importantly, what are the experiences and opinions of those who are trying to, or considering competing in the market? What still needs to be done to enable a level and attractive competitive playing field that will deliver the true benefits of competition for consumers in the market?

VaasaETT was commissioned by NordREG to identify the market entry and operational hurdles facing suppliers and other providers of services to customers (such as ESCOs). The objective was to map out the market entry and operational processes and challenges facing companies that enter their own national market as competitors, but especially also companies that enter one or more Nordic market from another or enter the Nordic market from outside the Nordic region.

In mapping market entry and operation processes the objective was not to define all Nordic market processes, but to understand what new market entrants go through, when entering and operating in the market, that constitute hurdles to market entry and to those entrants subsequently remaining in the market. The emphasis was therefore on identifying the critical process principles and issues rather than creating a detailed process map.

The research took place between spring and autumn 2014 through interviews and questionnaires conducted throughout Finland, Sweden, Norway and Denmark. Altogether 84 organisations were represented by the research, in addition to the Nordic regulators and NordREG.

All findings in this report represent the finding obtained through this research. Any hurdles and barriers have been suggested by respondents. The report aims to generally represent the aggregated body of opinion from the research, not the opinions of individuals, but naturally each of the findings are supported by more or less respondents. Market processes have either been described by the interviewees and questionnaire respondents, or are simply factual descriptions of the market.

The research is not intended to be statistically significant, the response rates are too small, as would be expected in a market where the number of participants is less than the number of respondents that would normally be researched in a quantitative survey. However, the numbers are definitely considered representative and indicative due to the broad mix and proportionately large base of respondents.

The findings of the research are positive and constructive. Without doubt the changes in the market are heading in the right direction. Conditions for competition are improving and competition is increasing substantially. But change is not happening fast enough for many players in the market and a number of fundamental hurdles to competition remain and need to be addressed urgently if full competition is to flourish and truly benefit consumers in the Nordic electricity market.

This report identifies 67 Hurdles and associated Suggestions. Some Suggestions relate to multiple Hurdles however, and some Hurdles do not have any Suggestions associated with them since there are not always known or realistic solutions to challenges. In summary however, the main messages of the report are the following:

The Right Direction

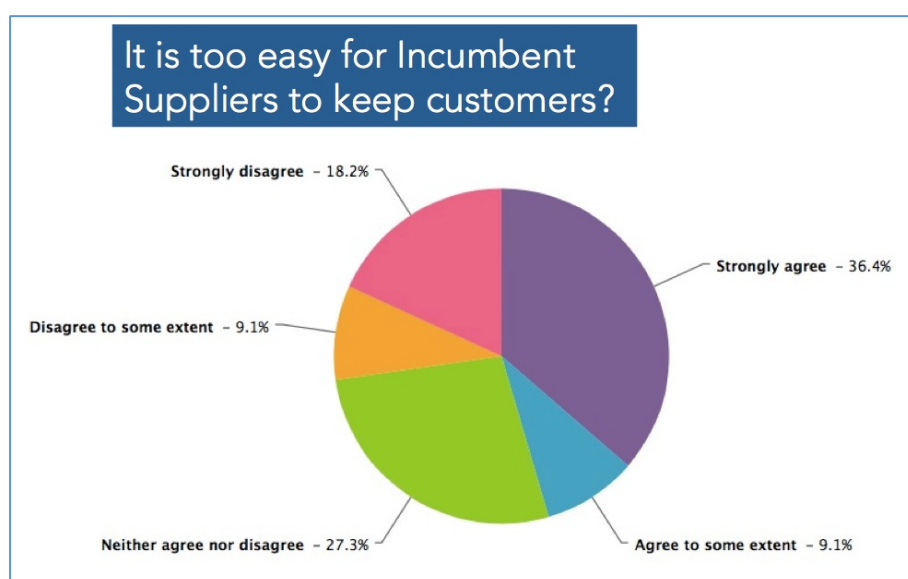
The overwhelming feeling gathered by the research from those companies that are driving competition, is that the direction of change is broadly correct, that there are no absolute hurdles and that processes are generally working well. There is also complete support for greater harmonization, a supplier centric model and combined billing.

There are however many hurdles facing new entrants and suggested ways to deal with those hurdles:

Incumbency Control

After 11-18 years¹ of full liberalisation² of electricity markets in the Nordic region, incumbent suppliers - those that have not had to win most of their customers - still serve the majority of customers in their incumbent areas and still do not need to compete heavily in order to survive. There are many types of incumbent suppliers ranging from highly active and innovative - some have grown massively through customer acquisition and or entry into other Nordic markets - to what could be termed relatively inactive and traditional Incumbent suppliers. But in general incumbent suppliers, especially those integrated with their local DSO business, are seen as representing a barrier to the success of other players in the market.

Incumbent suppliers generally have the most profitable customers - the ones that do not switch and the ones who have never changed to a more competitive contract - and they can use the income from their valuable customers to fund discounts for (only) the customers who might otherwise leave (price matching). The prices necessary for keeping customers do not even need to be as low as the prices necessary to win them, since it is easier (often preferable) for a customer to stay where they are than to leave. Incumbent and existing suppliers are even able to find out when brokers or winning suppliers are in the process of obtaining customer information essential for a switch - allowing them to approach that customer to give them a better offer - and it has been claimed that they sometimes even seem to know ahead of time during the switching process that a switch is taking place - allowing them to pre-empt the switch in some cases. They are even often the first ones to know (it has been claimed) when a customer in their bundled DSO area moves home. Integrated bundled utilities furthermore have additional cost sharing opportunities.



Being an incumbent supplier is such a major advantage that new entrants can never really compete on a level playing field. New entrants' cost-to-serve is often higher (due to smaller economies of scale), their customer lifetime value is typically massively lower, their brand awareness needs to be grown from nothing, and they have to offer a better deal even to have the same customers. And this is even before the costs of entering the market and winning customers are taken into account. It is not easy competing against incumbents. Integrated incumbent suppliers also benefit from brand bundling - the combined awareness and familiarity generated by the supplier and a DSO having the same brand - the integrated

¹ The Norwegian market was first in 1996, followed by Finland (1998), Sweden (1999) and Denmark (2003).

² The date at which all customers are allowed to choose their supplier without restriction (such as having to change

² The date at which all customers are allowed to choose their supplier without restriction (such as having to change meter or pay to switch supplier). Some restrictions on times when switching can take remained after the date of full liberalisation.

supplier's brand is also partly paid for by the branding activities of the DSO and the years incumbent marketing that may have occurred prior to market liberalisation.

It is therefore not necessarily a sign of success of a competitive market if customers switch from one incumbent supplier to another. It indicates more competition than if the customer had not switched at all, but it does not impact competition as much as if the customer had switched to a new entrant. Market share of new entrants is therefore an important definition of successful competition. Unless incumbents lose enough market share, they have no need to fear competition, no need to truly engage in it. There is no need to be afraid of new entrants taking a few percent of the market, or swapping customers with other incumbents. Competition thus needs new entrants to take damaging market share away from incumbent suppliers.

Incumbent power, including also remaining bundling of distribution and supply, and bundling of DSO and their bundled supplier brands should therefore be seen as a major and fundamental hurdle to competition that would need to be removed if a level competitive playing field is ever to exist.

Supplier Centric, Now

Most active suppliers strongly support a supplier centric model, but as the industry does not know exactly how the market will look at the end of it, they are delaying their investments. Many players are frustrated at the pace of change. The supplier centric approach is seen as essential not only to help the supplier build a more focused and complete relationship with the customer, but also to reduce the opportunity for customer win-back activities by integrated suppliers.

"In the Nordics, the most important task is to carry through the implementation of the new market model (main principles supplier centric, including combined invoicing)" Nordic Utility

Combined Billing and Billing Freedom

Competitive suppliers want to be able to offer combined billing, even if it is not made mandatory - although they want it to be mandatory. Large numbers of customers won by competitive suppliers are then lost soon after because integrated incumbent suppliers are able to offer them combined bills while the competitive suppliers are not. The combined billing alone may not be enough to motivate the customer to return to their incumbent, but combined with familiarity, price matching (or price-undercutting for selective customers) and locality, the allure of their former supplier can be enough to win back the customer. If the customer is won back within one year, as often happens, the competitive supplier will probably have lost a substantial sum of money on the customer, making customer acquisition, in some cases, a no sense business.

Related to combined billing is billing freedom. In the name of transparency for customer protection, billing structures are regulated to a point that some suppliers feel inhibits innovation in tariffing and related services. Transparency and tariff variety are seen as complimentary if done in the right way.

One Model

If the market model is not the same, the processes that take place in it can never be sufficiently similar. There are concerns that the Danish Model is different from the rest, and through the different speeds of change in the other markets, combined with differences of opinion on key issues such as combined billing and the data hub, the look and feel of the market model is going to be fundamentally different in each of the Nordic markets.

"The targeted market model main structure should be the same from the beginning. Differences - e.g. with regard to invoicing principles (one invoice or two invoices) will create entry Hurdles" Nordic Utility

To what extent are Nordic Processes the same across the Nordic market?

	Average	Max	StdDev
Denmark and Sweden	33.33	70	24.08
Denmark and Finland	23.75	47	20.10
Denmark and Norway	30.00	30	0.00
Sweden and Norway	36.33	50	19.33
Sweden and Finland	49.00	66	20.65
Finland and Norway	27.50	40	16.39
Nordic Markets as a whole	27.67	60	14.99

Process Cloning, Not Similarity

As one company put it, "we do not care which process is used, Swedish or Norwegian, we just want the processes to be the same, exactly the same".

"The devil is in the detail. There is no way we will ever achieve similar enough processes to enable trans-Nordic systems unless one national system is transposed onto the others" Nordic Utility

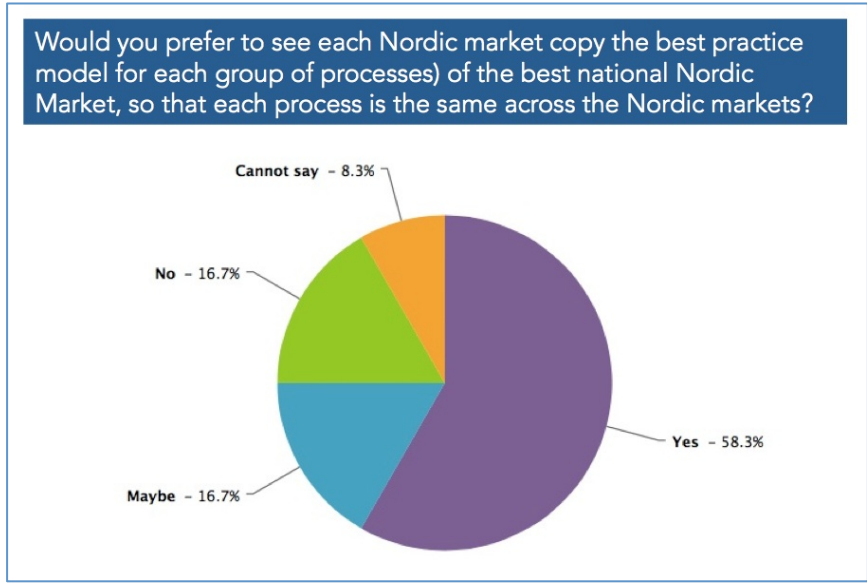
In order for suppliers to base their operations fully on one single system/process base, a high level of harmonization is required also on detailed level, far more than is expected under the current process of harmonization. Suppliers would strongly want them to be the same, but if they are not the same, then they should at least be very similar. The problem is that when market processes are not the same in each market, the systems used to support them are also different, or at least run separately. The forthcoming Nordic Balance Settlement system is an example of where harmonisation has been broadly successful. There is a strong desire from the suppliers for more of this degree of harmonization.

To what extent are your Company's Systems the Same across the Nordic market?

	Average	Max	StdDev
Denmark and Sweden	41.67	100	36.01
Denmark and Finland	55.67	100	31.94
Denmark and Norway	13.00	26	13.00
Sweden and Norway	17.25	39	13.97
Sweden and Finland	30.60	58	17.93
Finland and Norway	20.00	40	14.14
Nordic Markets as a whole	24.60	66	21.16

There is particular need for harmonisation in data exchange: the protocols, content and timeframes. As one company said: "our success depends on automating our systems, so that we can use the same in (one Nordic country) as (the other Nordic country). For this, the processes need to be exactly the same...communication is the biggest hurdle to competing in (the other Nordic country)". Of course communications are not the only processes that need to be harmonised, all market processes do, as

discussed extensively in this research report, but some are clearly more significant than others in terms of the costs that are caused by the lack of communication.

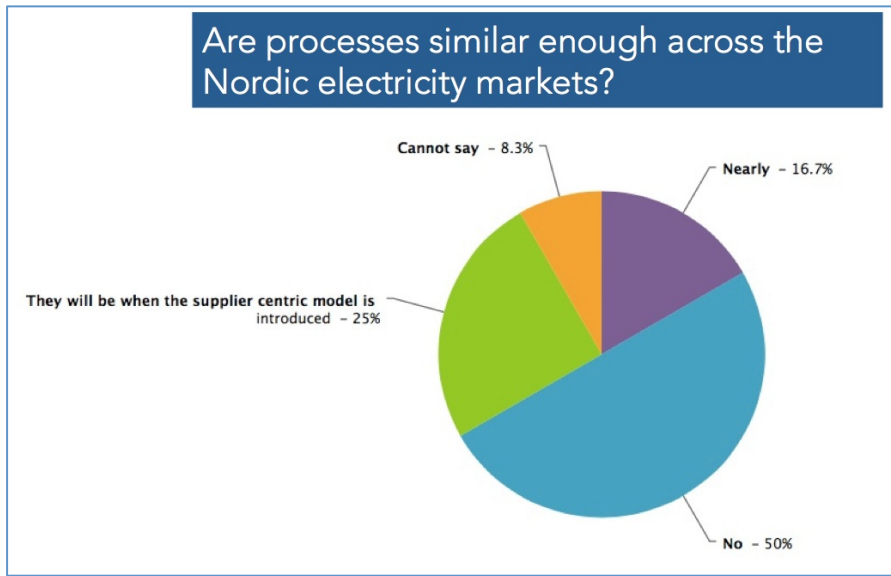


In order to achieve harmonization, extremely detailed mandated plans need to be developed. One supplier said "there will be significant differences in the detailed rules if the national implementation is based only on general frames." A Nordic market handbook would appear to be a good tool for the achievement of this.

If the market models and processes were the same, or at least similar enough, it would also enable the development of Nordic market-wide systems services to capitalise on those services, providing one stop shop systems for use in all market. This would make entry into multiple markets almost as simple as operating in one market. As one supplier put it "we want a Nordic market without borders".

"A Nordic "Market handbook" (such as Marknadshandboken" in Sweden) is a good idea. The mind-set could be that the handbook would be a key tool for a player that is/plans to be active in several markets. Such a handbook would also bring forward the differences between the national routines and would also be a good tool for NordREG in their monitoring of the market and identification of Hurdles"

Nordic Utility



Easier Access to Customer Information

A major concern of new entrant suppliers tends to be the difficulty in obtaining the necessary information on a customer in order to initiate a switch. This can be due to poor data quality - for instance the information the new supplier obtains from the customer does not match out of date or inaccurate information the DSO has about the customer, and so the switch cannot be initiated - or it can (it is claimed) be due to a lack of cooperation of some (and it is only some) DSOs. In the case of Sweden, for instance, an initial concern is that the new supplier requires information from the existing supplier before a switch is initiated, and this provides the existing supplier with the opportunity to then contact the customer and pre-empt the switch from ever taking place. Data hubs, improved supervision of data quality and removing the opportunity for suppliers to be pre-warned are some of the suggested solutions to this.

Data Hub Imperative

There is almost universal support for central data hubs. Once again the general feeling from competitive players is that it does not matter which hub model is used, but the sooner it is introduced, the better. The data hub is seen as completely essential for simplifying the complexity of participant relationships in the market. No one transformation in the Nordic market is seen as having a bigger impact on the process of simplification of processes in the market. To support the benefits of data hubs, the supervision of data quality and associated penalties, and smart meters, are seen as important pre-requisites for the full benefits of data hubs to be realised.

Moving - an Opportunity for Change

When customers move property, it tends to be the competitive suppliers that lose out. It should be an opportunity for customers to exercise their choice. The moving process strongly appears to favour incumbents in the location that customers move to and active suppliers can lose large proportions of hard won customers simply because they moved home. Customers need to be more aware of their options before and after the move and incumbents should not be the default recipients of inactive customers.

New Blood For New Services

There is a lot of concern that DSOs are allowed to provide additional services, such as feedback, smart home and other services, either on their own or with their bundled supplier, that compete directly with the services of new entrants, unbundled suppliers or ESCOs. These activities are seen as spreading the costs of services across competitive and monopoly business and enabling the costs for suppliers' service development to be supported by benefits realised in the distribution business. The idea of spreading costs and benefits per se, is not the problem, but the possibility of it creating an un-level playing field in favour of integrated incumbents is a serious concern to those who would like to provide those same services. This concern extends also to commercial third party services that may have privileged deals with DSOs and to DSOs having a clearer view of smart meter and other DSO infrastructure timetables and roadmaps - and therefore being better able to plan smart service strategies than non-partner suppliers or other third party service providers.

It is therefore suggested that DSOs should play the role of impartial facilitators of smart services, albeit fairly incentivised for their part in the process.

Fair Representation

Competitive suppliers want truly competitive companies and offerings to show through. There is concern therefore that price comparison websites often seem to favour standard tariffs over innovative ones and expensive suppliers with some very cheap short-term prices for a few of their customers over

suppliers that always have good prices for most or all of their customers. Price comparison sites, it is felt, should be more reflective of the true nature of the suppliers and their offerings, so that a quality new entrant or competitive incumbent, is not outshone by a single hard-to-find tariff or a fly by night supplier.

Customer Apathy

There is no avoiding the fact that electricity is not the most interesting product or service in the world. New entrant suppliers and ESCOs alike are faced with the challenge of overcoming customer disinterest and inertia. The easiest course of action for a customer is inactivity. Customers do not think about switching supplier, even when they are paying more than they need to or moving home when they have to choose a supplier (or receive an high default tariff). With this in mind, there have been calls for more to be done to educate the customer, both through awareness campaigns (about choice and energy efficiency) and through obligations for DSOs and even incumbent suppliers to inform moving customers of the opportunity to switch supplier.

Scale

For suppliers and other new entrants from outside the Nordic region, especially larger players, each of the Nordic market can appear too small to be attractive markets. Suppliers with intentions of buying often view about 100 000 customers as a minimum if they are to take over those companies and integrate their customers, a number that is not easy to achieve in a small market. The number is less (e.g. 40.000) if they are just buying the supplier as-is in order to enter a market and are not integrating that supplier or its customers. By making the market larger through allowing new entrants to treat the Nordic market as one rather than four separate markets, the potential for new entrants will increase substantially, including larger new entrants that will have the ability to challenge the larger players in the market. For this to happen, the other hurdles mentioned in this research will however, need to also be removed as far as possible.

Change of Fade Away

For ESCOs, the market is evolving extremely slowly. The market incentives for energy efficiency or capacity aggregation (the collection of consumers and sale of their controllable demand capacity/flexibility to TSOs, ancillary markets or others who may pay for it) for example are rarely enough to support anything but a very niche business model and so they tend to provide their services to suppliers or other participants in the market - such as TSOs or DSOs). The issue is that DSOs and suppliers tend to be slow in their own developments in this field and pass on much of their functionality to BRPs who appear to have little interest in the new business models that support ESCOs. There are exceptions, but ESCOs feel that in the absence of a market with data hubs and incentives and mechanisms for energy efficiency, capacity aggregation and other business model activities, they are at the mercy of the energy industry. The situation is made more challenging by their need to acquire a BRP or be their own BRP if they want to engage in services that influence consumption or capacity on a significant scale. Ultimately, these mostly small players do not have the financial resources to survive long without the necessary growth in the market that they are hoping for. If the market does not evolve quicker, many ESCOs will disappear.

A New Way of Making Decisions

There is a lot of respect for NordREG and its position as purveyor of Nordic market development is approved by the market players. There is a concern though that there is no Nordic decision making body and that some of the Nordic regulators need more teeth to prevent procrastination by the industry. There are clear calls for NordReg to take ownership and form "a Nordic 'secretariat' instead of a

"What should not set frames for the development is the protection of inherited/old positions and/or specific groups of players, cementing old structures and maintaining entry Hurdles"

Nordic Utility

circulating responsibility". The issue here is that decisions are currently seen as being made based on short-term national rather than Nordic interests which will ultimately benefit the whole Nordic market. As stated by one player "NordREG has the best combination of mandate, incentives, knowledge and working structures/resources".

At the moment there is concern that the industry associations, representing mainly incumbent utility company interests, have too much say in the market while having insufficient incentives to promote a common Nordic retail market. Independent (non-incumbent) companies or smaller groups of companies, especially those representing independent or new entrant companies, appear to have the incentive and will, but only a small voice.

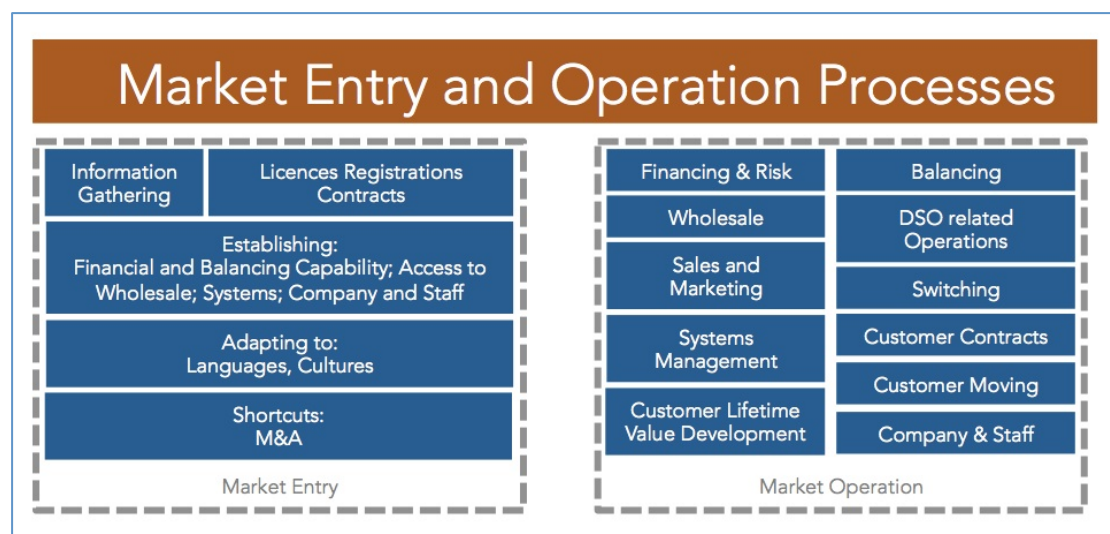
The demands of the active players, contributing to a competitive market, should be prioritized. In most cases it is the active players that bring forward the market development needs. This is often a consequence of higher switching, invoicing and customer service volumes compared to players that do not actively seek growth. The different "strategies" can also be recognized in the attitudes towards market development initiatives.

In the interest of driving greater harmonisation and a greater role of those who stand to participate actively in competition, there is therefore significant support for a approach whereby for each group of related processes, a panel of experts - chosen to represent a broad spread of stakeholders, including equal numbers from each Nordic market, - guided by NordREG, would aim to negotiate a preferred National process (be it a present system or one that is proposed) that is considered the best in the Nordics. That process would then, where possible, be applied to all the other Nordic markets following work by the panel to fit the processes to national (non-energy market specific) laws. This process would result in processes that are both demographic and best in class, chosen by experts with an incentive to develop the market in a way that progresses competition for the benefit of active competitors and consumers alike.

Harmonizing with Europe

It is not only in the Nordics that harmonisation needs to take place. If the Nordic markets were more similar to other European markets (or vice versa), it would be easier for international companies to enter the Nordic market. This is not under the control or mandate of NordREG or the Nordic markets in any way, but if the Nordic market were to develop quickly and effectively enough, it could perhaps be used as an example for other European markets to follow, as NordPool has been used as an example to others.

Mapping the Process



Throughout this report the key processes associated with or impacting on market entry and operation are mapped out. These processes are not intended to be detailed descriptions of every market process. Detailed maps of key market processes exist already. Rather these maps are intended to show how market entry and operation looks from the perspective of new entrants. They show the key elements, steps and issues that are prominent and relevant to new entrants. They show what new entrants go through when trying to enter and then trying to remain and grow in the market. Except for company and staff issues - issues that are not specific to the electricity market - all of the following processes are included in the following chapters. These processes provide the focus and context for the consideration of relevant hurdles and suggestions.

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Abbreviations and Terminology

Within this report the following abbreviations and terms should be interpreted as described below.

- **BRP:** Balance Responsible Party
- **BSP:** Balancing Service Provider
- **Capacity aggregation:** The collection of consumers and sale of their controllable demand capacity/flexibility to TSOs, ancillary markets or others who may pay for it.
- **Competition:** The activity or condition of electricity suppliers striving to gain or win customers from other suppliers or acquiring added value energy business from customers in the face of realistic challenges by other suppliers. The suppliers face a genuine threat to their survival if they do not succeed and they face a genuine and significant possibility of failure.
- **Customer:** Consumers who purchase energy / have a contract with an energy supplier. Residential and small and medium commercial customers
- **Data Hub:** A central national data and process hub for the purpose of facilitating market processes such as switching
- **Deregulation:** When a market is opened to competition. Equivalent to Liberalisation
- **DSO:** Distribution System Operator.
- **Energy:** Electricity
- **ESCO:** Energy Service Company
- **Jurisdiction:** A definable electricity market territory with a single regulatory regime. e.g. The Swedish electricity market is a jurisdiction.
- **Liberalisation:** When a market is opened to competition. Equivalent to Deregulation
- **New Market Entrant:** Supplier that has entered the market from start-up or from another jurisdiction or industry. Also includes suppliers of added value services such as energy efficiency (ESCOS). Does not include incumbent suppliers that have established new supply businesses simply as a result of the unbundling of the former business. Does not include incumbent suppliers that have simply competed for customers beyond their incumbent area or offered competitive contracts to their existing or other customers.
- **Nordic:** Denmark, Finland, Norway, Sweden
- **Residential Customers:** Equivalent to Household or Domestic Customers
- **Switching:** When a customer actively changes from one supplier to another except for the purpose of moving from one home to another.
- **Retailer:** Equivalent to Supplier
- **Supplier Centric Model:** The customer relationship is primarily with the supplier rather than the supplier and the DSO.
- **TSO:** Transmission System Operation (Energinet, Finngrid, Statnett, Svenska Kraftnett)
- **Utilities:** Electricity

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1. Background

1.1. The Importance of Ease of Market Entry and Operation

The success of a liberalised electricity market cannot be defined only in terms of the level of customer activity. In some of the most active markets in the world, including Australia and Great Britain, the vast majority of customers who have switched supplier have simply moved from one incumbent supplier to another. Many have also switched contract, but more often than not it has been with the same supplier. What's more, most customers in the market who switch supplier have switched before. Only in the case of a couple of markets have the majority of customers ever switched. Around 40-60%³ of customers remain inactive even in the most competitive markets. The market share and therefore the dominance of the incumbents⁴ remains largely intact. In fact there is no liberalised market in the world where former incumbents have not kept the majority of customers in the market. Unless the competitors in a market face a realistic threat of losing their dominant position, it is questionable if a truly competitive situation can be said to exist.

For true competition to take place, new competitors are needed in the market. This can take many forms, for instance: new suppliers being formed within the market; existing suppliers entering the market from another Nordic jurisdiction (e.g. a Norwegian supplier entering the Danish market) or from a non-Nordic jurisdiction; an existing supplier (such as a grocery retail chain) becoming an energy supplier; or a company entering the energy market to sell additional services (such as energy savings services). In this report, the term "new entrants" will refer to this broad mix of alternatives.

Market entry must therefore be made as easy as possible. But even if competitors can enter the market, to make a difference, they need to be able to remain in the market. The processes and requirements placed on them to survive and prosper should therefore be realistically manageable. They should be afforded a genuine opportunity to compete and succeed, without unfair hindrance.

1.2. Market Harmonization

There are nearly 15 million electricity customers in the combined Nordic market of Denmark, Finland, Norway and Sweden. Of these, over 12 million are residential. If these customers were combined into a common Nordic electricity market, it would be a market similar in size (number of customers) to Australia, and similar in consumption volume to the entire Benelux region. Under such a scenario (a common Nordic end user market as it is often referred to), the Nordic market should be able to gain greater efficiencies and choice in electricity supply through the harmonization of the four national markets. Because the four markets are already relatively similar to each other in terms of market size, structure, culture (though not language), politics and competitive maturity, harmonisation would seem a reasonable target.

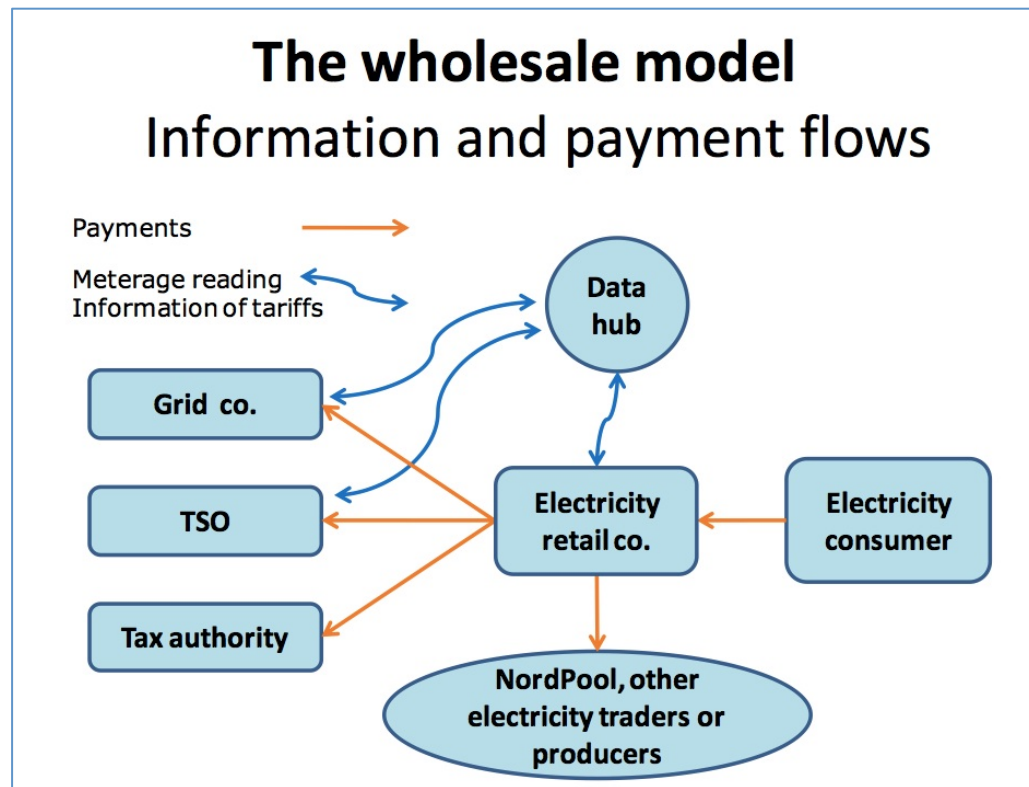
As part of this harmonization, NordREG proposed a more supplier centric approach, whereby the supplier becomes the primary focal point of the customer relationship: customers generally only interact with their supplier; suppliers pass on network costs to customers in the form of combined bills and take on the obligation of ensuring payments for network costs; switching and moving processes also become supplier centric and in general far simpler and quicker from the perspective of suppliers, DSOs and even customers. For instance, customers would only need to contact a supplier when establishing a new connection, switching would be quicker and customers would only receive one bill instead of two (one from the supplier and one from DSO) following a switch; and suppliers would not need to be directly in touch with DSOs for switching processes. The latter benefit would depend on the development of data

³ VaasaETT Utility Customer Switching Research Project: www.utilitycustomerswitching.com

⁴ This may be considered 'normal' for many industries with an earlier status as "natural" monopolies (gas/railway/heating/telecom etc.)

hubs, proposed by NordREG, almost fully implemented already in Denmark and expected soon in Norway.

The new model being developed in Denmark⁵, is the most harmonised Nordic market to-date. The 'Wholesale Model' as it is termed, will - when completed - place the data hub at the centre of the model and allow the DSO the absolute minimum contact with the customer and suppliers.



The Danish Wholesale Model to be implemented 2015-2017. Source: DERA

More specifically the Danish Wholesale Model will put customer data squarely in the hands of both the supplier (supplier) and the customer themselves. This will make it easier for ESCOs and new entrants to deliver energy efficiency services and it will make it easier for suppliers and brokers to get access to the data they need in order to switch and serve customers efficiently.

Nordic harmonization is expected to provide a far more appealing business landscape to Nordic suppliers contemplating trans-Nordic competition, and to new market entrants from outside the Nordic region or outside the energy market. With increased movement of suppliers between markets and increased market entry there would be a natural increase in the level of choice and competition and the benefits thereof. A concern though, is that the models are not being developed in the same ways.

1.3. Central Data Hubs

There is overwhelming support for central hubs, not only from new entrants (small and large) but also from TSOs. Hubs are seen as massively simplifying the switching, consumption data/billing and moving processes since suppliers will only have to deal with one point of contact rather than with every DSO individually. This is seen as a major cost reduction and data quality enhancement by new entrants, especially smaller ones. There will be some cost incurred through the change from the old processes to the new, but this is seen as a small price to pay for the benefits that will be reaped through the use of the hubs. The hub is also seen as making the process of operating in more than one Nordic market

⁵ The default supplier system (the current system) will be replaced by the new 'wholesale' model by 2015-2017.

easier, since you only need to link to 4 hubs to reach the whole Nordic market rather than around 300 DSOs. It is also hoped that eventually the hubs may be able to be linked together in some way so that a supplier may need just one interface point.

Central Hub Timetable and Operator		
	Data Hub Ready	Operator
Denmark	Version 1: Operational Version 2: 1 October 2015	TSO
Finland	Hub Recommended ⁶	Not Decided
Norway	1 October 2016.	TSO
Sweden	Not Decided	Not Decided

1.4. The Nordic Market - Quick Facts and Liberalisation Timetables

Essentially the Nordic markets are quite similar, in size and overall market structure. Except for Denmark they were all among the first in the world to open to competition and all of them are reasonably active.

Denmark has both the highest end-user prices (because of high taxes) and lowest level of switching activity (due in part to the small share of bill that can be changed through switching and the fact that a large proportion of the Danish energy supply is carried out by district heating), but a somewhat higher level of customer satisfaction (arguably due to the co-operative nature of some of its energy utilities companies).

Sweden has by far the highest number of DSOs and suppliers, but Norway has the most relative to the size of the market and currently has clearly the highest level of switching (supported in part by an historically high level of price volatility and relatively transparent prices), followed by Sweden.

Finland is becoming more active and is now similar to Sweden in terms of its level of switching. Except for Denmark, the Nordic markets have low end-user prices by European standards.

Norway has the lowest prices, along with Finland, but in terms of electricity costs relative to purchasing power, Sweden and Finland have the lowest since their average consumption per capita is far lower than Norway.

Norway and Sweden have the largest number of new entrant suppliers, in one with their higher historical levels of switching.

⁶ A central hub style solution has been proposed by the TSO. No date set.

Quick Facts				
	Finland	Sweden	Norway	Denmark
Year of full liberalisation	1997	1996	1991	2003
Switch rate 2013 ⁷	10%	11%	15%	7%
Level of switching ⁸	Warm active	Warm active	Hot active	Active
European switch rank 2013 (most active first) ⁹	8	7	3	11
European price rank 2014 (most expensive first) ¹⁰	20	13	23	1
European Customer satisfaction ranking ¹¹	10	23	11	3
Number of customers ¹²	3.3 mln	5.2 mln	2.75 mln	3.2 mln
Number of domestic customers ¹³	2.9 mln	4.5 mln	2.5 mln	2.7 mln
Number of DSOs ¹⁴	83	170	156	77
Number of suppliers ¹⁵	74	121	99	53

Liberalisation Timetables	
	Finland
1995	All customers over 500KW
1997	All customers, but hourly KWh-metering required
1998	Residential customers (KWh-metering not required)
1998	Other small customers (e.g. farms) with main fuse 3X63A or lower
	Sweden
1996	Customers free to choose supplier but required to install an hourly meter
1999	Profiling was allowed and switching became free
	Norway
1991	Customers with hourly meters allowed to switch for a charge of NOK 5000 (€600)
1991	Customers were free to choose supplier but required to install an hourly meter
1995	The switching charge was reduced to NOK 246 (€30) and customers could switch every quarter. In 1996 the fee was eliminated.
1998	Customers were allowed to switch weekly
2000	Customers were allowed to switch any day
	Denmark
2000	Market opens for +10GWh customers
2001	Market opens for +1GWh customers
2003	Market opens for all customers

⁷ Source: www.utilitycustomerswitching.com (VaasaETT)

⁸ Source: www.utilitycustomerswitching.com (VaasaETT)

⁹ Source: www.utilitycustomerswitching.com (VaasaETT)

¹⁰ Source: <http://www.energypriceindex.com> (VaasaETT, E-Control, Hungarian Energy and Public Utility Regulatory Authority)

¹¹ European consumer satisfaction survey http://ec.europa.eu/consumers/consumer_research/editions/docs/monitoring_consumer_markets_eu_2012_en.pdf p.316

¹² Source: National statistics publications.

¹³ Source: National statistics publications.

¹⁴ Source: National regulators

¹⁵ Source: National regulators

2. Research Methodology

The research took place between spring and autumn 2014 through interviews and questionnaires conducted throughout Finland, Sweden, Norway and Denmark.

All findings in this report represent the finding obtained through this research. Any hurdles and barriers have been suggested by respondents. The report aims to generally represent the aggregated body of opinion from the research, not the opinions of individuals, but naturally each of the findings are supported by more or less respondents. Market processes have either been described by the interviewees and questionnaire respondents, or are simply factual descriptions of the market.

The research is not intended to be statistically significant, the response rates are too small, as would be expected in a market where the number of participants is less than the number of respondents that would normally be researched in a quantitative survey. However, the numbers are definitely considered representative and indicative due to the broad mix and proportionately large base of respondents.

2.1. Sampling Method

VaasaETT conducted research on a broad sample of respondents. 41 organisations were contacted for interviews. Requests for interviewees and questionnaire respondents were additionally posted on regulators' and VaasaETT's websites, news services and social media channels, and sent to the VaasaETT database of hundreds of Nordic contacts. This sampling method provided an opportunity for nearly all stakeholders in the market to have their say.

2.2. The Sample

In addition to regulators, 33 organisations were subsequently interviewed and usable questionnaire responses were additionally received from 28 additional organisations. Some interviewees further responded to the questionnaire. In some companies multiple people were interviewed or responded to the questionnaire, representing specific markets or expertise areas. Altogether, since some organisations represented also sister companies in other Nordic markets, 84 Nordic organisations were included in the analysis (excluding regulators), 79 of them were energy companies or ESCOs.

The sample included a broad mix of stakeholders including new entrant suppliers and brokers (29% of all suppliers and ESCOs), ESCOs (23%), incumbent suppliers in multiple markets (20%) and incumbent suppliers in just one market (24%). All four Nordic TSOs, regulators and NordPool Spot were additionally interviewed. The sample represented all four Nordic countries extensively. Sweden was however, the most heavily represented with 39% of the companies in the overall sample, but Sweden has one third of Nordic customers. Responses from non-Nordic organisations (5%) concerned companies that were known to have seriously considered (and in one case temporarily entered) the Nordic market but then decided not to (or to leave). This is a small but important sample since it represents the international potential for entry into the Nordic electricity market.

It is important to note that while the incumbent suppliers that operate in only one country are not new entrants, approximately 56% of those who were interviewed or responded to the questionnaire are suppliers that can be said to have rapidly grown through winning customers in the competitive market. Some of them are also planning expansion into other Nordic markets. In this respect they are in a good position to provide insight into the operational Hurdles to competing aggressively in the Nordic market where they are located.

Respondent Sample							
Respondent Type	Denmark	Finland	Norway	Sweden	Other	Total	TOTAL% ¹⁶
NordPool Spot	-	-	-	-	1 (Nordic)	1	
Regulators	1	1	1	1	-	4	
TSOs	1	1	1	1	-	4	
Electricity Supply Companies and Brokers (new entrants)	4	5	5	9	-	23	29
Electricity Supply Company that considered but decided against entering the Nordic Market	-	-	-	-	3	3	4
Former Incumbent Electricity Supply Company operating in more than one Nordic country	5	3	3	5	-	16	20
Former Incumbent Electricity Supply Company operating in only one Nordic country	3	5	2	9	-	19	24
ESCO (Energy Service Company) - Via TSO and Utilities or Direct to Customers	2	5	3	8	-	18	23
TOTAL	16	20	15	33	4	88	
Total % of companies¹⁷	18	23	17	39	5		

Responses from suppliers that were neither new entrants, nor seen to have actively grown in the competitive markets (only questionnaire responses were received from this respondent segment) were used to provide balance to the comments of other suppliers. Their answers were used to allow alternative points of views to be considered in the research.

It is therefore believed that the sample provides a highly representative interpretation of the stakeholders in the market relating to market entry Hurdles and processes.

2.3. Anonymity

VaasaETT respects all requests for anonymity from research respondents.

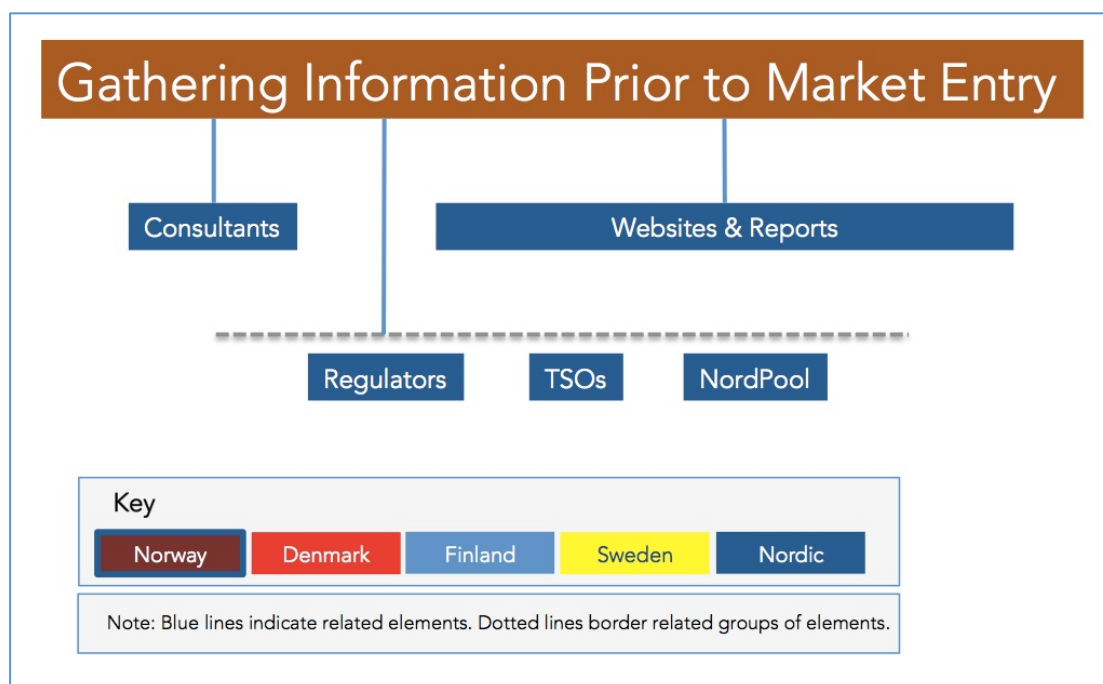
All interview respondents were told that their identity would be revealed but that their responses would be treated anonymously. Therefore, no statements in the research are attributed to individual interviewees. A few of these respondents additionally stated that they preferred their company name not to be revealed in the report. Questionnaire respondents were asked about their preferences regarding the anonymity of their responses. Some chose no restrictions on their responses but most preferred to remain anonymous, either to all parties except VaasaETT, or to all parties except VaasaETT and NordREG. The names of all questionnaire respondents that chose to remain anonymous (unless they stated that they would like their company name hidden) are therefore listed in the report but no question responses are attributed to individual companies.

¹⁶ Suppliers and ESCOs

¹⁷ Suppliers and ESCOs

3. Market Entry Process

3.1. Information Gathering

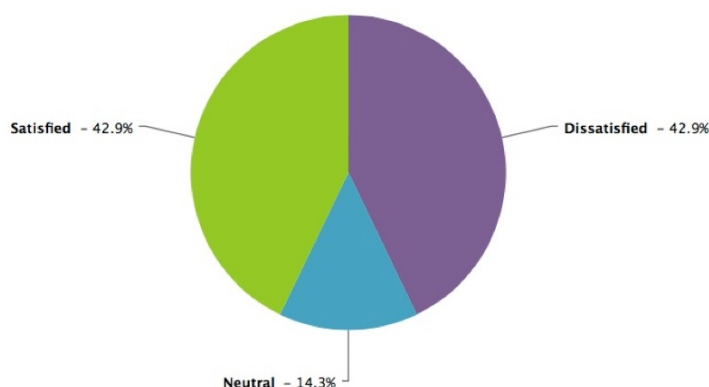


In all of the Nordic markets, new entrants (less so in the case of incumbents moving from one Nordic market to another) often find it difficult to find out what they need to know about the market before entering. The general route to information is through consultants, but consultants generally do not know the whole picture since they are typically specialised. They are likely to be expert at certain aspects of the energy process, and can find out what else needs to be done but they have no experience of actually entering the market as a new entrant. It is therefore a learning process for the consultant and client and many entry procedures will only be revealed as the entry process progresses. It does not appear to be a Hurdle to market entry, the information is found eventually and new entrants expect such a process in any market they will enter, but there can be a significant cost attributed to consulting fees and the new entrant's time.

Regulators are rarely approached for more information by new entrants. If they are it is just for ad hoc questions such as supplier obligations, consumer rights, bill content and other technicalities. Regulators generally pass on the new entrants to regulator and other official reports (which address only specific legal¹⁸ and technical issues and are mostly in the local market's language) or websites and rarely provide a layman's overview. They may also advise new entrants to contact (or visit the websites of) TSOs, NordPool Spot and find a consultant and balance responsible party (unless they want to be their own balance responsible party). It has been suggested however, that regulators are in a strategically advantageous position to provide overview information to new entrants about the overall entry process. Such an overview would reveal how relatively simple it is, technically, to enter the Nordic market. It would act as an enticement to new entrants considering entering the market. It would also make the process of entering the market quicker, simpler and cheaper and provide a more level playing field for smaller and larger new entrants (those who are more and less able to afford consultancy support). Highly detailed questions could still be passed on to consultants, but the more publicly specified the process, the easier that it will be for a new entrant to decide on and enter the market without confusion.

¹⁸ e.g. in Finland: Finlex.fi is a source of legal information.

Satisfaction with Obtaining Information about the market, processes and obligations



Concerning TSO and NordPool Spot related processes however, the information is already easily available online. The websites of the TSOs and NordPool Spot are in fact excellent. They provide clear, comprehensive and up-to-date information in the local language and in English and one does not have to be an energy expert to understand them. In this respect some of the key processes relating to market entry are already simple to find information about.

Hurdle to Entry (No.1):

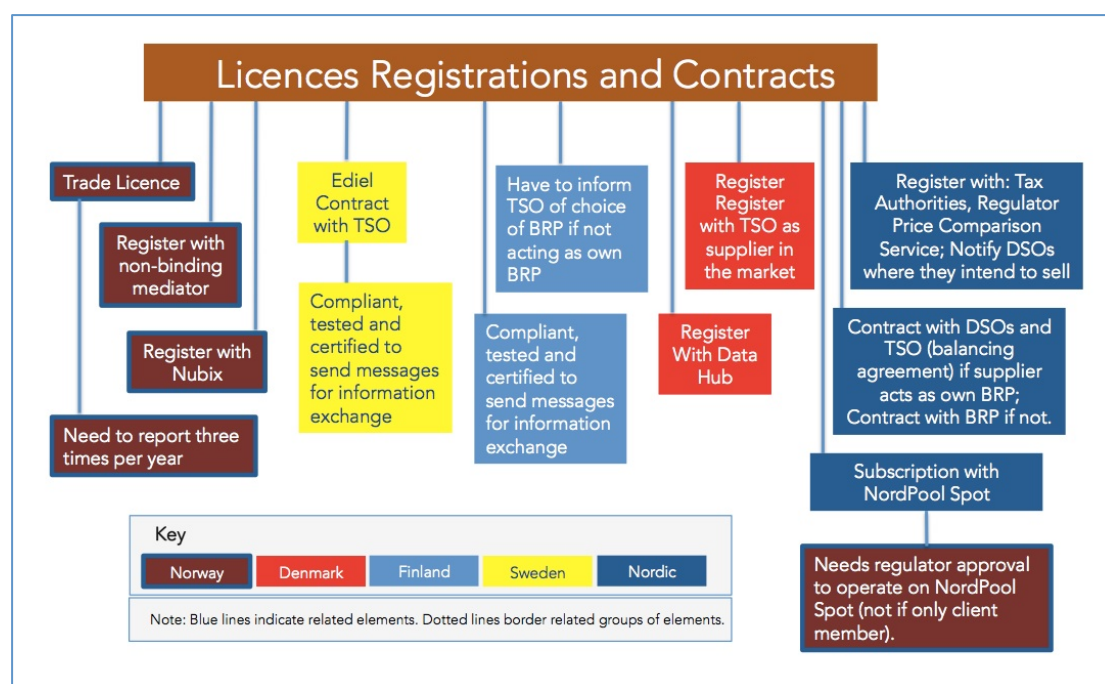
Pre-market entry information about how to enter and operate in the market is not as available to new entrants as new entrants would want. Basic information prior to the decision to enter and in the early stages of planning should be more readily available without the need to employ consultants.

Suggestions:

Each of the Nordic regulators should produce an online high-level fact sheet detailing the various steps that a new entrant needs to go through to enter and operate in the market. The fact sheet should link each of the steps to more detailed supporting explanations and for more specialist information it should link to additional reports, other websites and even an open list of companies that could provide additional assistance. These fact sheets should link seamlessly to the websites of the TSOs and NordPool Spot.

3.2. Licences, Registrations and Contracts

In Denmark, Finland and Sweden suppliers do not need to have a licence to enter the market. This is a major advantage of the market entry and operation process in the Nordic markets compared to markets such as Great Britain where the licence agreement is extremely detailed and burdening. In Norway, a very simple trade licence from the regulator is required to enter and operate in the energy market. A pre-requisite is that the supplier needs to be registered as a Norwegian business or registered as a foreign company in Norway with a Norwegian business number. The company then needs to complete an application essentially explaining what the business does, and show that it has its own employees, has security for Statnett (Norwegian TSO) at least through a BRP and conforms to a number of other minor requirements. New businesses need to report three times per year and the licence can be taken away and businesses have to apply for a new licence every three years. In practice, though the licencing is a very quick and easy process for suppliers. The licencing process is likely to change a little if hubs are introduced, especially to provide security for DSOs and TSOs.



Suppliers in all Nordic markets do though need to register and make contacts for certain processes through and with certain stakeholders.

Supplier Licences, Registrations and Notifications							
	Licence Required	Registration or Notifications with					
		Central Price Comparison Service	DSO (Notify) ¹⁹	TSO	Information Exchange System	Business / Consumer Organization	Tax Authority
Denmark	No	Coming ²⁰	Yes	Yes ²¹	Yes ²²	No	Yes
Finland	No	Yes ²³	Yes	Yes ²⁴	No ²⁵	No	Yes
Norway	Yes ²⁶	Yes ²⁷	Yes	Yes ²⁸	Yes ²⁹	Yes ³⁰	Yes
Sweden	No ³¹	Yes ³²	Yes	Yes	No ³³	No	Yes

¹⁹ In areas where they sell energy

²⁰ A regulator run service will be available in October 2015 that will be compulsory for at least selected tariff types (the details of the obligation have not yet been decided). Currently a mandatory service is supplied by Danish Energy Association.

²¹ Registration as a supplier in the market

²² With the Data hub.

²³ Suppliers have to register with a web service where they have to inform of all tariffs generally offered to household or small customers (excluding negotiated, membership or campaign offers etc.).

²⁴ New entrants have to inform the TSO of their choice of Balancing Responsible Party (BRP) if they are not acting as their own BRP.

²⁵ But has to be compliant and tested to send messages.

²⁶ With Regulator

²⁷ For selected tariff types. New service being planned to include all tariffs.

²⁸ See section on Balancing.

²⁹ NUBIX (Norwegian Utilities Business Information Exchange). See section on Operational Connections with DSOs

³⁰ Bransjenemnd Elklagenemnda (non binding mediator in the case of conflicts).

³¹ No official registration, but all actors have to have an EDIEL-contract with SvK. The ID-number you get to act in the market is the key to communicate between DSO and suppliers.

³² Reporting tool for 13 key tariff types and also for renewable tariffs that relate to any of those same 13 tariff types.

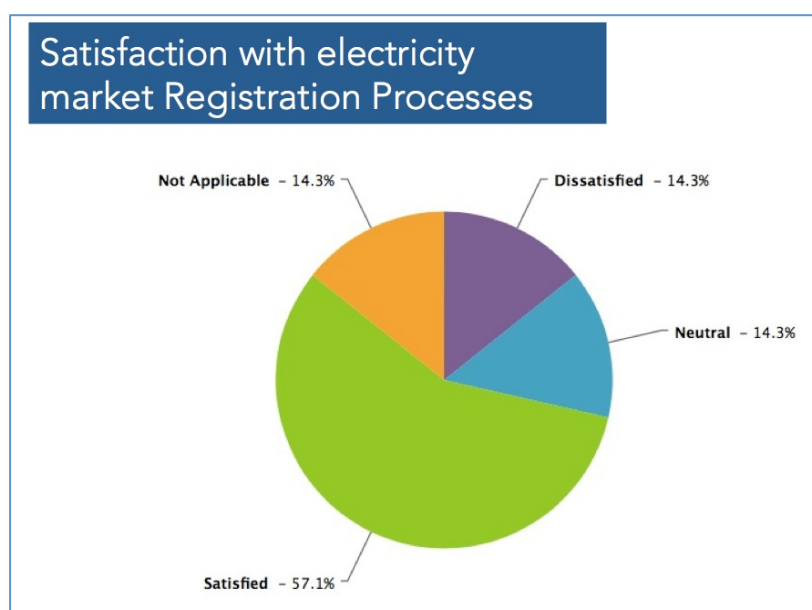
³³ But has to be compliant and tested to send messages

Only in Norway is a licence required, but in other markets suppliers need to send selected tariffs to the central price comparison service; need to notify and contract³⁴ with DSOs for all network areas where they plan to sell energy; need to be in contact with the TSO; need to comply with the information exchange system and have to register with the tax authority. In Norway, suppliers need to additionally register with the Bransjenemnd Elklagenemnda a non binding mediator in cases of any future conflicts.

Suppliers must also make contracts directly with DSOs where they intend to do their own BRP activities (in Norway this is all suppliers, in other markets it is the exception), or otherwise they must make a contract with a BRP.

Supplier Contracts or Subscriptions				
	Contract with	Contract with (if operating as own BRP)		Subscription with
	BRP ³⁵	TSO ³⁶	DSO ³⁷	NordPool Spot
Denmark	Yes	Yes	Yes	Yes
Finland	Yes	Yes	Yes	Yes
Norway	Yes	Yes	Yes	Yes ³⁸
Sweden	Yes	Yes	Yes	Yes

In all markets, suppliers have subscriptions with NordPool Spot.



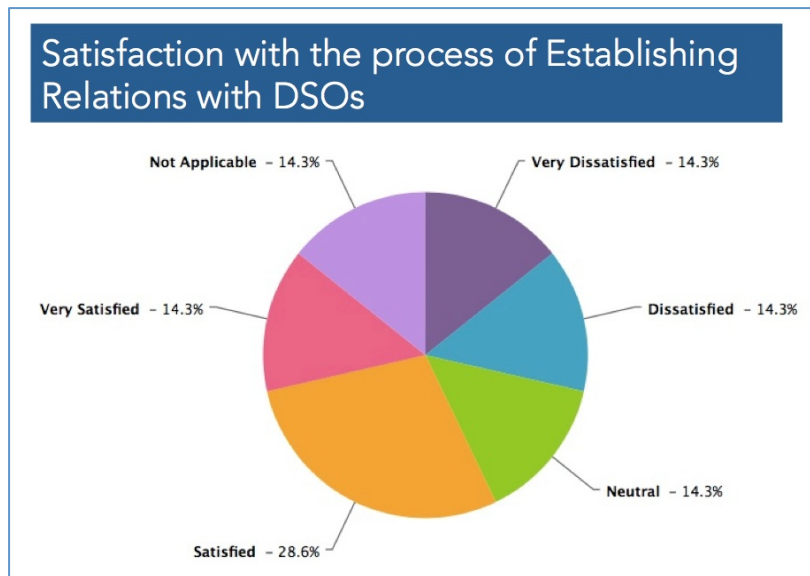
³⁴ In Sweden contracts are standardised (need to be approved by the regulator) and simple and only need to be made once, but present a large number of contracts to be made by suppliers in the market.

³⁵ If the supplier is not its own BRP

³⁶ If supplier does not have a BRP and is therefore acting as its own BRP.

³⁷ If supplier does not have a BRP and is therefore acting as its own BRP

³⁸ Needs regulator approval to operate on NordPool Spot (not if only client member).



ESCOs, if not acting in a supplier capacity need to ensure that the BRP function is obtained if they are acting in a manner that significantly affects the network balance.

3.3. Establishing Financial Capability

Cash flow is a major challenge facing any new entrant supplier, especially smaller ones. Energy needs to be purchased by the supplier before it is paid for by the customer and if the customer pays late or does not pay at all, then supplier needs to fund the cash flow or funding shortfall. Of course cash flow is a challenge faced by most energy companies (not just small new entrants) and indeed most businesses, but it is an especially major issue for a start-up or new entrant with limited capital reserves and limited financing support in a market where margins are extremely small (for customers who have switched), customers expect to pay only once per quarter, and where many customers who are switching are switching purely because of price (they are more likely than other customers to have affordability and therefore payment issues). Under a more supplier centric or wholesale approach, with combined billing, suppliers would need additional cash flow since they have the obligation to collect distribution charges on behalf of DSOs³⁹ and are expected to pay taxes for customers who have not paid. This situation is though no different to any other retail market where suppliers have to pay for goods or services even if they are not purchased or paid for.

A partial solution to this challenge would be for new entrants to obtain bridging support from banks, but this is extremely difficult, especially for small new entrants to obtain. Small new entrants therefore have to grow and tread carefully, their growth limited by their cash flow and cash reserves unless they manage to obtain bank support.

Hurdles to Entry (No.2-3):

- The energy supply business is considered a relatively high risk business for a new start-up or an existing small supplier entering a new market, especially given that margins are typically very small. Suppliers who cannot secure sufficient funding or do not have sufficient capital reserves may either not be able to enter the market, may decide the opportunity is too risky, or may simply have to grow very slowly to manage their cash flow and their risks.
- The expectation by tax authorities to receive taxes for energy that customers have not paid is not considered fair and presents a significant additional risk for suppliers.

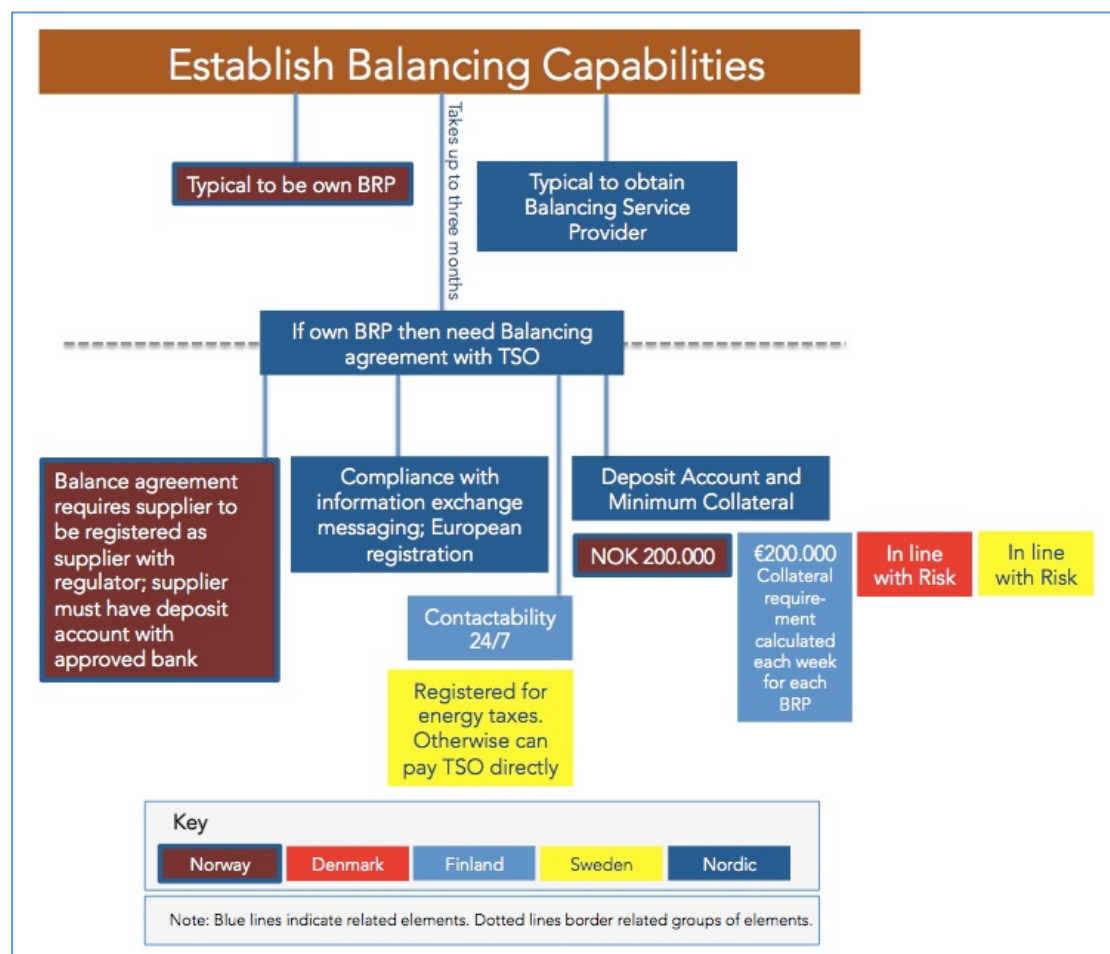
³⁹ In Sweden the supplier has 45 days to find the money to pay the DSO.

Suggestions:

- Monthly (or even twice per month) billing, as shown for example in Australia can be an extremely popular offering for customers and provides a cash flow improvement for suppliers. Monthly or more frequent billing should be encouraged.
- If governments want competition in energy markets they may have to incur some tax revenue related risk. The obligation for suppliers to pay tax on energy they have not been paid for is arguably placing excessive risks of competition in the hands of suppliers.

3.4. Establishing Balancing Capabilities

A new entrant supplier needs to handle its balancing obligations with the TSO. Balancing is seen as a relatively simple part of the market entry and operation process however, since almost all new entrant suppliers choose to handle balancing requirements through making an agreement with a Balance Responsible Party (BRP) that takes care of all balancing duties. For new entrant suppliers this is essentially no more complicated than making a subcontracting agreement with a single BRP and reporting to their BRP data from their bilateral trades and relevant measurements. The information the supplier needs to provide to the supplier depends on the contractual terms between the BRP and the supplier. Some contracts presume that the supplier delivers a forecast of consumption to the BRP (aggregated consumption and per larger user). There are no regulated or stipulated conditions concerning the relationship or processes between a supplier and a BRP.



Issues.

- Currently a supplier needs a separate BRP and agreement for each Nordic market. It is possible to obtain a BRP company that has operations in more than one Nordic market, but balancing operations take place separately in each market. This is not considered a major issue of concern by new entrant suppliers, but it is an additional complication. The differences between the balancing prices is now small between Norway, Sweden and Finland however, due to the new Nordic Balance Settlement system and suppliers generally feel that balancing is the most integrated of the Nordic supply market processes.
- There is some concern among some new entrant suppliers that there is insufficient choice and competition in the BRP market. Most BRP are owned by incumbent utilities companies and as such are not considered appropriate partners by new entrant suppliers. The remaining BRPs are few and while new entrant suppliers are not unhappy with their BRP's some are concerned that increasing concentration in the BRP market could cause them difficulties in the future. One new entrant for instance stated that although they are happy with their BRP, they do not know what they would do if their BRP was no longer available to them since they do not feel there are any other suitable BRPs in the market for their specific requirements.
- There is some concern that BRPs are, by their nature, opposed to capacity aggregation and ESCO services that impact on their balancing responsibilities. Such services, it has been argued, are against the interests of BRPs, which earn their revenue from balancing services for suppliers that would be both complicated and pre-empted by capacity management services. Since aggregators require BRP services to operate, since aggregators typically have insufficient funds to enable them to be their own BRP's, and since incumbent suppliers in the Nordic region typically subcontract out their balancing expertise (and arguably therefore their ability to innovate alternatives to current balancing solutions), this would appear to be a potentially significant hurdle to the development of aggregation and capacity impacting ESCO services in the Nordic market.

Hurdles to Entry (No.4-7):

- It is arguably undesirable that suppliers need to have separate BRP agreements in each Nordic market.
- BRP costs are arguably at risk from a lack of choice and completion.
- Incumbent suppliers companies may be losing too much skill base to BRPs
- BRPs may be a Hurdle to demand side innovation.

Suggestions:

- A single Nordic BRP agreement should be possible
- More competition should be stimulated in the BRP market
- Incumbent and large suppliers should be required to maintain sufficient expertise in BRP and demand side issues.
- BRP role in innovation should be investigated further.

Common Nordic Balance Settlement system (NBS)

Under the Nordic Balance Settlement system (NBS), to be commenced at the end of 2015 in Finland, Norway and Sweden (not Denmark), suppliers will have just one balancing system and be able to have just one balancing party (BRP) and thus one contract across the three markets. This may make the process of establishing balancing easier for suppliers operating across the three markets who can secure fewer BRPs to deal with and possibly even lower BRP costs.

Hurdle to Entry (No.8):

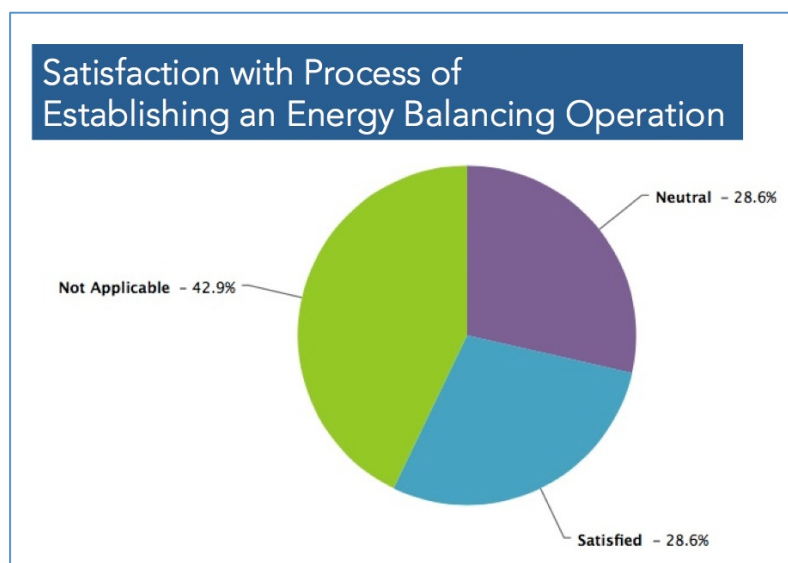
Denmark is not part of the Nordic Balancing Settlement system. It makes the Danish market less attractive than the other markets in this respect.

Suggestion:

It is recommended that Denmark join the NBS as soon as possible

Establishing as an Own BRP

If a supplier wants to be its own BRP, then it can, but this is considered too complicated and risky by almost all new entrant suppliers (most large or incumbent suppliers are BRPs), except in Norway where most become one⁴⁰. To be a BRP, a supplier needs to apply for a balancing agreement with the TSO.

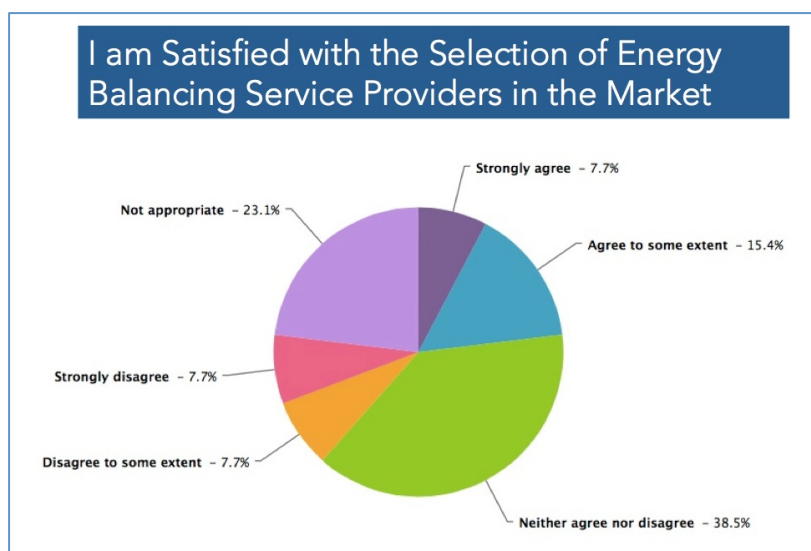
**Balancing Agreements**

If suppliers want to do their own balancing they must make a balancing agreement with the TSO. The requirements for this agreement are not excessive but are clearly too great for many small new entrants. In particular, the guarantees are typically too much for a new entrant to handle: in line with risk are fixed fees and variable amounts according to the level of imbalancing, amounting to hundreds of thousands of euros for a typical new entrant⁴¹. These costs though are only a Hurdle to commencing self-balancing, not a Hurdle to entry into the market as a whole, since the new entrant can acquire the services of a BRP instead. The major concern with the balancing agreements is the length of time that they can take to complete. In Sweden for instance, it can take up to approximately three months.

The balancing agreement is generally only cancelled on grounds of financial shortcomings such as non-payment or bankruptcy, but may also take place on grounds of poor balancing service delivery.

⁴⁰ There are approximately 145 BRPs in Norway, although most do not perform daily tasks, they find a company to do it for them. Some BRPs in Norway do not even know that they are BRPs because of this. There are approximately 30 BRPs in Sweden, 40 in Finland and 12 in Denmark.

⁴¹ eg. Denmark: <http://energinet.dk/EN/EI/Engrosmarked/Tariffer-og-priser/Sider/Balancegebyr.aspx>



Balancing Agreement Costs

The costs for acting as a BRP vary but are not considered excessive. In Finland for instance the costs charged by the TSO to a supplier or ESCO acting as a BRP are approximately €200 per month plus reserve fees. In the other markets the costs are also considered modest⁴². In any case the costs are not a substantial concern for new entrants.

Capacity Aggregators

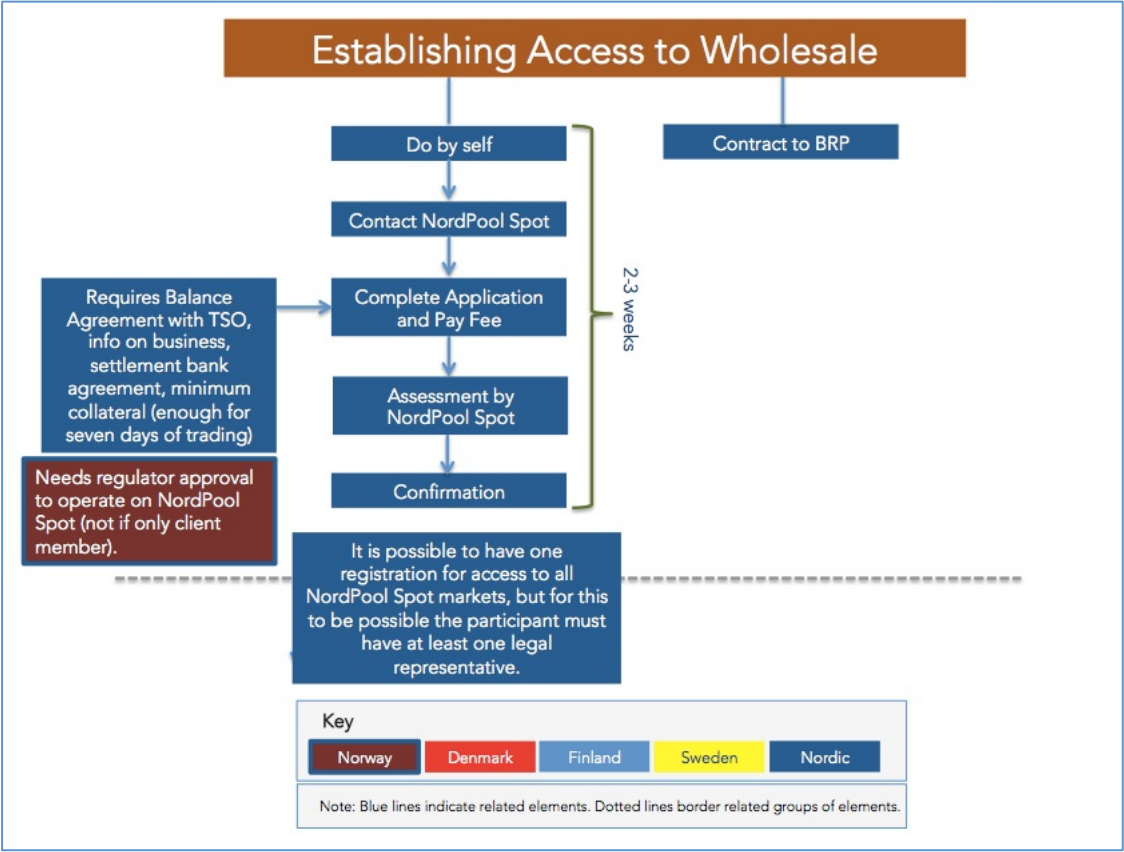
It has been stated by several respondents that for capacity aggregation companies and other ESCOs that essentially need to become BRPs (for instance in Norway) to perform certain services, it is unrealistic for them to enter the market unless they are sufficiently large or can afford to obtain a BRP. Since they are typically very small companies, it is therefore difficult for them to enter the market.

Hurdles to Entry (No.9-10):

- Capacity aggregators and other ESCOs need to become BRPs to perform some services. This is too difficult for most small new entrant aggregators and ESCOs. It is unclear what the solution to this issue might be.
- There is a need for different balancing services in each Nordic market. It can therefore be challenging for BRPs and ESCOs to apply services across multiple Nordic markets. It may therefore not be logical to enter all Nordic markets.

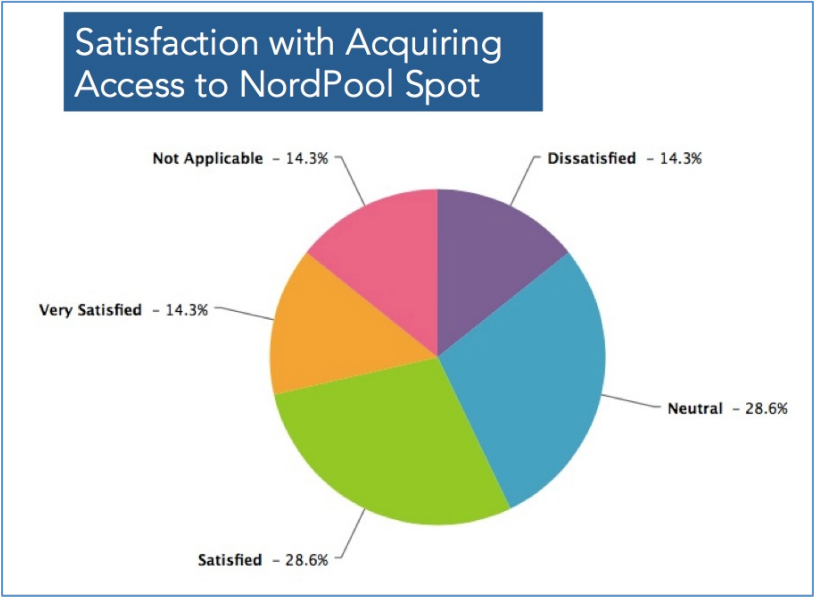
⁴² For instance in Sweden it is 4,5 SEK/MWh on consumption balance power; 1,4 SEK/MWh on metered production; 2,8 SEK/MWh on metered consumption. Fixed fee 1850 SEK/month. The cost for the balance power on production resp. consumption.

3.5. Establishing Access to Wholesale



NordPool Spot

Any new supplier entering the Nordic electricity market needs access to the energy that they are going to sell. Fortunately, the Nordic wholesale market is one of the most efficient wholesale markets in the world and in general suppliers are happy with the service that it provides them with. A new supplier can either decide to subcontract this part of its business to an external specialist, such as a BRP, or can do it itself.



For a supplier who decides to do it itself, connecting to NordPool is relatively easy. A new entrant supplier simply needs to contact NordPool, complete an application form identifying for instance the type of trading, currency etc. and pay a fee. The process then takes approximately one week. The supplier will need a balance agreement in place with a TSO and will need a settlement bank agreement. NordPool will additionally want to know about who they are and what they plan to do on NordPool and the company will therefore need to send in an annual report, company certificate and references (proof of their organisation). A supplier will also need a minimum collateral (e.g. around €30.000), enough for seven days of trading and a Nordpool risk manager will be assigned to assess if the applicant is suitable. Security measures are strict, but it is rare for an applicant to be refused. Taking all requirements into account it is estimated that the whole process, including external processes, typically takes around two to three weeks.

It is possible to have one registration for access to all NordPool Spot markets, but for this to be possible the participant must have at least one legal representative.

Additional Requirement for Norway: In Norway, suppliers also need a licence from the regulator to trade on NordPool

Issues: while not Hurdles to market entry, some issues facing suppliers include:

- Obtaining a bank account can sometimes be a slow process.
- For some new entrants operating across Nordic markets, it is necessary to have separate bank accounts in each market. This is considered an administrative nuisance by some interviewed suppliers.

Nordpool provides all the information necessary to register with and operate on NordPool Spot on its website⁴³. It even provides training courses (which in future will be included in NordPool subscription packages).

Fees: Fees for participants are surprisingly low at only approximately €1500 per year. For client members (who do not put in bids: approximately 2/3 of the some 370 members of NordPool spot) the fees are even lower.

Language: The language of NordPool is English, creating a level playing field for all markets and players. This may be a small Hurdle for some players, but none of the respondents in this research stated this as a Hurdle.

Planned Improvements: Nordpool Spot is currently planning to have an online IT portal (e.g. to set up new portfolios).

Nordpool appears to provide an efficient and cost effectiveness access to all the Nordic wholesale markets. It presents no apparent Hurdles to market entry. It even provides added efficiency to other processes such as REMIT compliance, since the cost of REMIT compliance is heavily reduced through NordPool Spot.

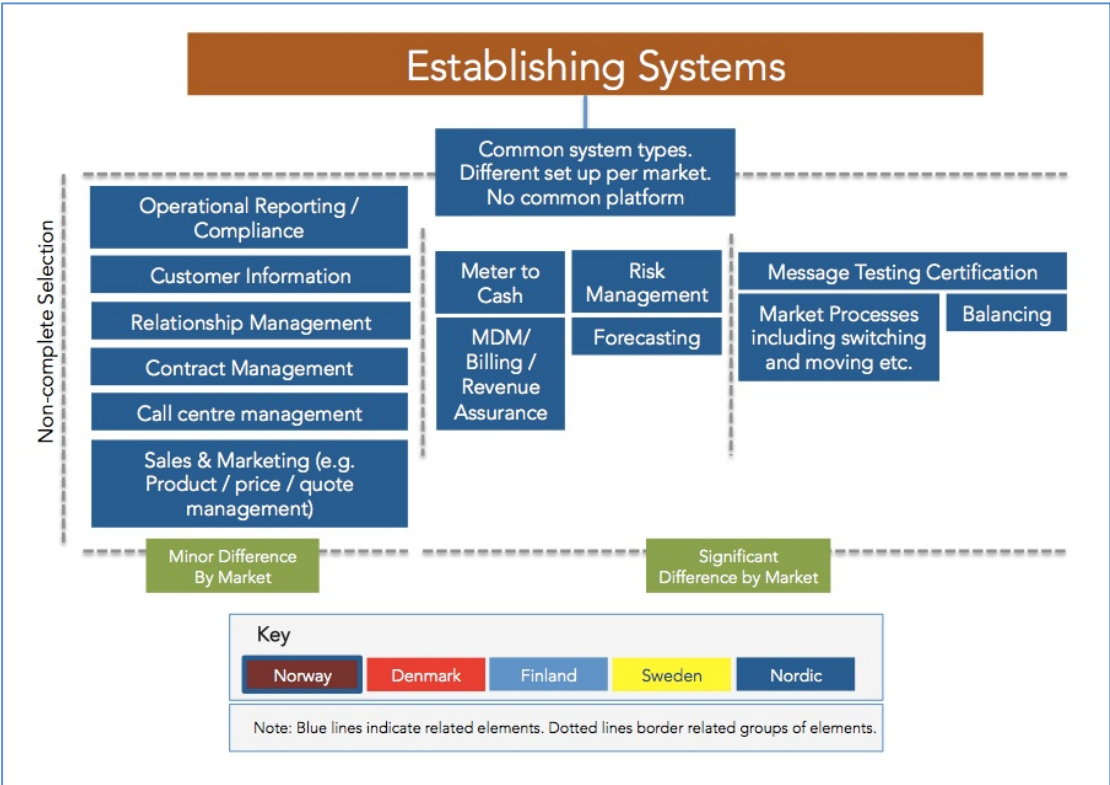
Sales of Green Energy

Suppliers often differentiate themselves through the environmental integrity of the energy they sell. For a new entrant planning to sell green energy, as for any supplier, they must have guarantees of origin of that energy. This is something that they need to plan for prior to entering the market.

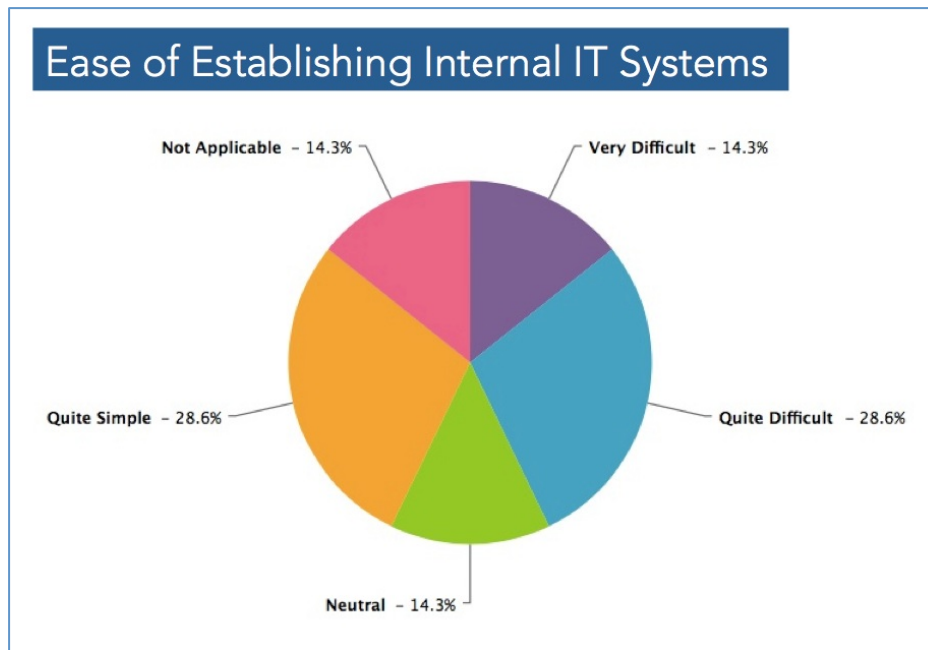
⁴³ NordPoolspot.com/tas/membership

3.6. Establishing Systems

Suppliers entering any Nordic Electricity market will need to establish, or - if they already have systems from another Nordic or other electricity market - expand on a host of systems. The most expensive of these systems relate to customers, including systems for billing, customer information and relationship management and systems to manage market processes including switching and moving. Such systems can range from tens of thousands to millions of euros depending on the size of the customer base being targeted. While the same underlying systems can be applied across different Nordic markets, separate systems need to operate in each market. The differences between system requirements are generally small for suppliers moving from one Nordic market to another than for suppliers entering the Nordic market from a non-Nordic energy market, but it is not possible to simply run the same systems across different Nordic markets.



The reasons for this relate to the plethora of small process and other (such as different languages and requirements for the components and structure of bills) differences between the Nordic markets, examples of which are given later in this report.



3.7. Adapting to Languages and Cultures

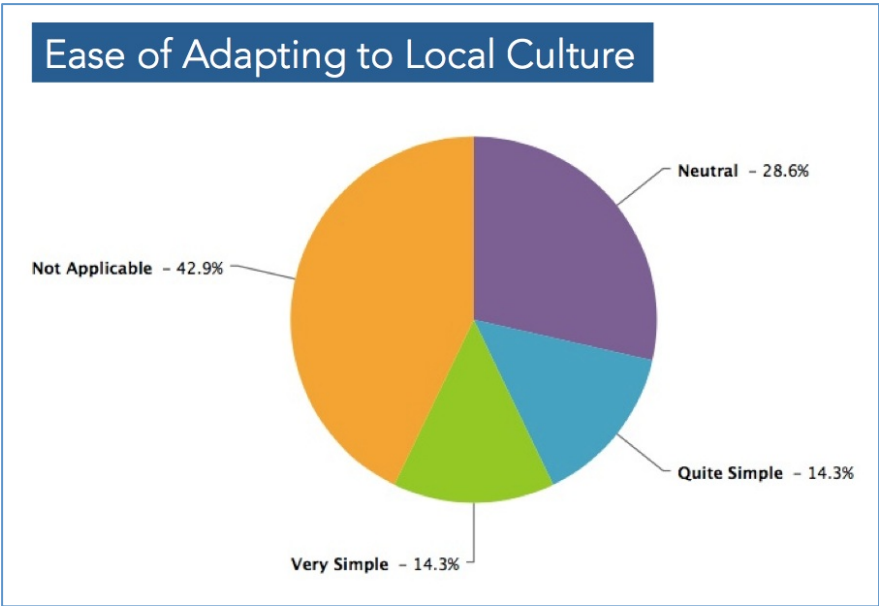
Language differences present a major challenge to suppliers that operate across different markets. Numerous market entrants have stated to us that language is a key challenge. There are unlikely to be any non-English speaking energy markets in the world where alternative languages, including English, are so catered for, as in the Nordic markets. Nevertheless, language differences are pervasive throughout the market entry and operation process. Information gathering, regulatory and legal explanations, contracts and even systems are not always available in the language of the new entrant. Call centre staff need to be able to speak the language of their customers. Marketing and customer service literature needs to be created in the local language. Add this to the substantial differences in working and customer cultures and the differences in market processes and requirements, and it is not difficult to see why entrants feel that they almost need to recreate themselves in the local market.

Hurdle to Entry (No.11):

The Nordic electricity market has a lot of support for alternative Nordic languages and also English. However, new entrants still need to adapt heavily to the local language, far beyond what would simply be required by the customers in the market.

Suggestion:

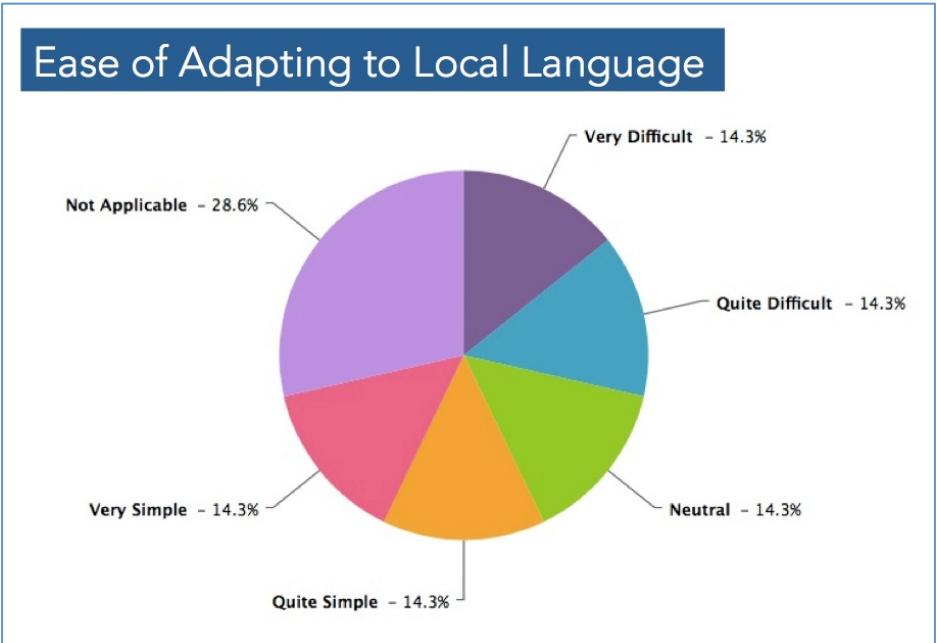
It may not be considered to be worth the cost, but ultimately, if all regulations, laws and non customer-facing market processes took place in English and the local language, it would make the market more accessible to new entrants of all kinds.



Business culture can also be very different and has been stated, along with language difference as something that can cause difficulties for mergers and acquisitions. Some respondents have in fact stated that cultural differences are an even bigger Hurdle than language differences. There is not much that can be done about this, but there is a paradox to this:

Hurdle to Entry (No.12):
The business culture in the Nordic market will become more homogenous as companies operate more in each other's markets, but until they operate more in each other's markets, they cannot become more homogenous.

In general, it can be said that Sweden and Norway seem to have the greatest affinity in the Nordic region, based on the similarity of processes, language and culture. Finland is seen as the most similar with Sweden and Norway in terms of model and processes, but Denmark is the most similar with them in terms of language and business culture.



3.8. Market Entry for ESCO's

There is such a diversity of kinds of ESCOs, all with different business models, offerings styles and strategies and entry means that it is impossible to generalise as to their process of market entry. There are though some elements in the process that are can be more or less expected:

1. If they are involved in any way in the balancing process, for instance if they are an aggregator, they must either take on the role of a BRP or acquire the services of a BRP or a partner that has one such as an existing supplier. ESCOs typically do not have the resources to be their own BRP and may not even have the resources to acquire the services of one. They may therefore rely on the cooperation of an existing supplier. This is not always an easy process since incumbent suppliers generally subcontract out a lot of, if not most, of their operations to service providers who may view ESCO services as detrimental to their own operations or business models. For instance, a BRP may see a capacity aggregation provider as complicating, rather than supporting the balancing process. Likewise an incumbent supplier may not want to complicate their lives by working on new business models relating to functions that they are happy to have subcontracted out.
2. In any case ESCOs' biggest challenge is often convincing potential partners and customers alike, that their services are actually needed and then, if they succeed, to convince them that their solution works. Just as new entrant suppliers face the challenge of customer inertia in a market where it is easier to stay where they are than to switch, ESCOs face the challenge of trying to introduce change in a market where little changes, or has changed since its creation over 100 years ago. An ESCO typically needs to be able to support itself for a very long time, and support a long phase of trialling and testing before it wins any real business.
3. Nordic energy customers are not the most interested in saving energy. Norwegian and Danish appear to be the most interested in the Nordics, but Swedish energy customers in particular are some of the least interested in energy savings in Europe, although they are among the most interested in environmental issues⁴⁴. Nordic energy suppliers also often do not seem very interested in demand side, especially not demand response, solutions and services, since they see them as reducing sales revenue and they do not see major balancing challenges at the moment. Even TSOs and DSOs, typically very interested in demand response in Europe, for the most part show little interest in the issue except in Finland (though there is interest in congestion management solutions in Denmark and Sweden). In such a market, it is not an easy task for ESCOs to convince the market, in principle, of the need for their services. Without such support, little investment in such services takes place. There are many exceptions, and surprisingly Sweden is nevertheless the Nordic market with the most ESCOs, but the onus is often on ESCOs to prove their worth rather than being able to enter the market in the knowledge that there is a sufficient existing demand for their services in the market.

⁴⁴ Source: ADVANCED FP7 project

Hurdles to Entry (No.13-15):

- The subcontracting culture in the Nordic energy market is seen as an inhibitor of innovation and to some extent anti demand side services. There is concern that utilities no longer contain the same level of expertise in functions of the business that relate to ESCOs. Subcontractors, especially BSPs are seen arguably as having vested interest in avoiding the growth of demand side services: the kinds of services that some ESCOs need to sell to utilities, and or in partnership with BSPs. It is difficult for a demand side, especially a demand response providing entrant to sell to businesses that do not understand, appreciate or want the services they are providing, even if the services are good for the environment, customer or market as a whole.
- The market moves slowly, it has been claimed that there is protectionism against change in the market and innovative solutions targeted at utilities require a lot of proof from the ESCOs. ESCOs find it difficult to survive long enough, and support enough piloting and testing to bring their offerings to market. The problem is compounded by the fact that the market, including customers, DSOs, TSOs, and the market infrastructure is not quite ready yet for some of the more advanced services being proposed or offered by ESCOs.
- Nordic customers, especially residential customers - less so for commercial and industrial (C&I) customers, and even some of the other market stakeholders and participants, need to be educated more about energy efficiency and other demand side issues, and need to be supported more through public efforts, in their journey towards behavioural energy efficiency and active demand.

Suggestions:

- DSOs and incumbent suppliers should be encouraged to retain and develop internal expertise relating to balancing, energy efficiency and demand side issues.
- Promising ESCOs arguably need some more support to fund their survival throughout the long period of bringing their offerings to market. This does not mean putting large amount of money into pilots, but rather supporting the longevity of the ESCOs.
- Much more needs to be done to encourage customers to engage in energy efficiency and other demand side services. DSOs, suppliers and ESCOs alone cannot be relied on to single-handedly educate and support the customer journey.
- One ESCO suggested that community led demand side initiatives would also be a way to reduce the dependency of ESCOs on DSOs and suppliers.

4. Another concern that was mentioned by one ESCO was that municipal utilities prefer to buy from local suppliers: at least. If this is the case it would reduce the opportunity for new entrants from other markets.
5. It has also been claimed by some that the unbundling process is not appropriate to the needs of the future ESCO services. On the one hand DSOs are restricted from developing ESCO related service relationships with customers even if they feel they would benefit from it, and could benefit customers.

Hurdle to Entry (No.16):

In some cases DSOs do want to develop demand side services in partnership with ESCOs, but feel that they are not able to due to the nature of their unbundled restrictions under the supplier centric model. They feel they are not able to develop customer-facing demand side services, under any circumstances. This removes a market opportunity for ESCOs who could help DSOs with their demand side issues, in a market where suppliers are not interested in doing so.

Suggestion:

If suppliers are not forthcoming in their development of customer-facing demand side services, and if DSOs can demonstrate that their demand side services would benefit the efficiency of the distribution system (e.g. enhance renewable integration) and not prevent but rather support the development of third party (ESCO) services, then they should be able to offer customer-facing demand side services to customers or at least work with ESCOs to ensure the eventual development of those services.

6. There are those who claim that ESCO services to suppliers are limited by the bundling of generation, distribution and supply under the same corporate ownership. Why would a supplier that earns a substantial proportion of its revenue from generation be interested in reducing the value of peak generation through demand side activities? The argument follows that if suppliers did not own generation, they would be more interested in demand side solutions. The exception to this would be home/commercial-distributed generation such as rooftop solar since future services are likely to need to integrate such generation directly with home energy management solutions. Small new entrant suppliers who may see renewable generation as a means of differentiation during the market entry and growth phase might also be seen as a suitable exception.

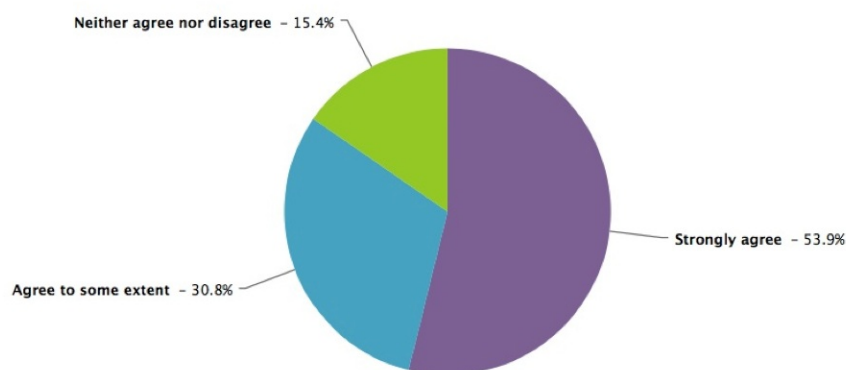
Hurdle to Entry (No.17):

Supplier ownership of generation can be seen as a potential limitation on their interest in demand side solutions from ESCOs.

Suggestion:

The implications of suppliers also being generators should be considered in terms of the impact on the development of ESCO services.

Should more be done to Educate the Public about Energy Efficiency and other such services?



3.9. Market Entry for B to B Suppliers

The processes faced by suppliers focusing on business customers should be seen as broadly similar to those faced by suppliers to other customer groups, but Hurdles to them operating across the Nordic markets seem to be far less. Especially for suppliers to large industrial and commercial customers, most are already present in at least two Nordic markets and many are present in all four.

Hurdles to Entry (No.18-19):

For B to B suppliers, the main processes of concern are:

- Balancing: they are keen to have a single Nordic balancing settlement approach.
- They would like to be able to have single accounts at banks, for balance settlement, at NordPool and elsewhere to make administration simpler and more efficient.

Other major Hurdles that remain include language and business culture. But above all they want a single market model across the Nordic markets.

Suggestion:

- It would be good to work towards suppliers being able to establish single accounts at banks, for balance settlement, at NordPool and elsewhere to make administration simpler and more efficient.

3.10. Market Entry through Acquisition

An alternative way to enter a Nordic market is through purchasing customers through purchasing the suppliers/utility companies that serve them. This can be a very effective way to enter the market since it grows the new entrant quickly and the customers who are purchased are generally more loyal and valuable than the customers that could be won through competition/switching.

Purchasing suppliers (or integrated utility companies in the case of the Nordics) has taken place in many cases, but the purchase of customers, popular in some other (Non-Nordic) markets, has not been taking place in the Nordics.

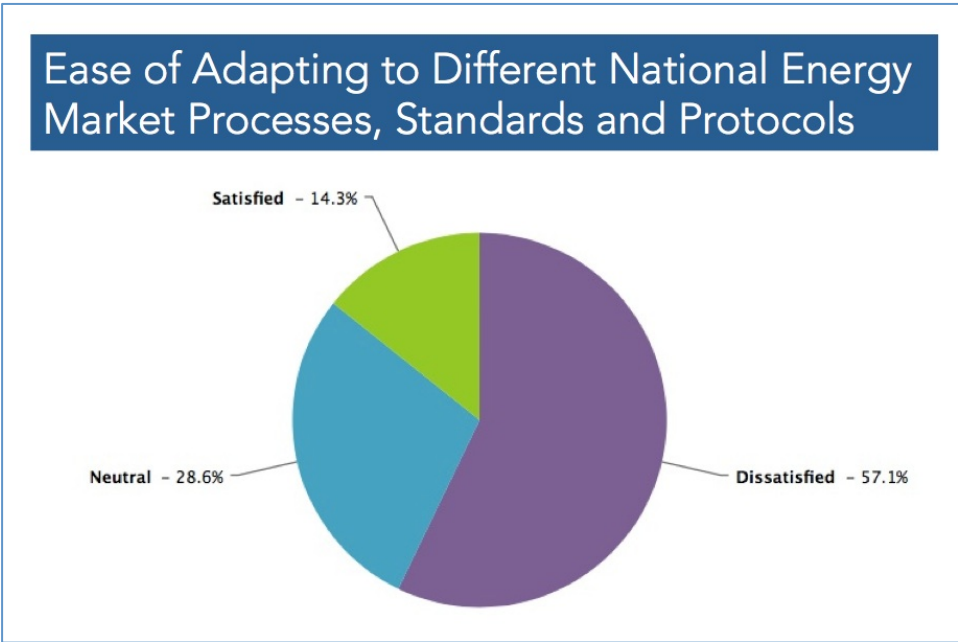
There is little in the power of authorities or market design that can be done to influence this Hurdle to entry, but it has been argued that perhaps the ownership unbundling of medium sized incumbent suppliers would make it easier for new entrants to enter the market through purchasing customers.

Hurdles to Entry (No.20-25):

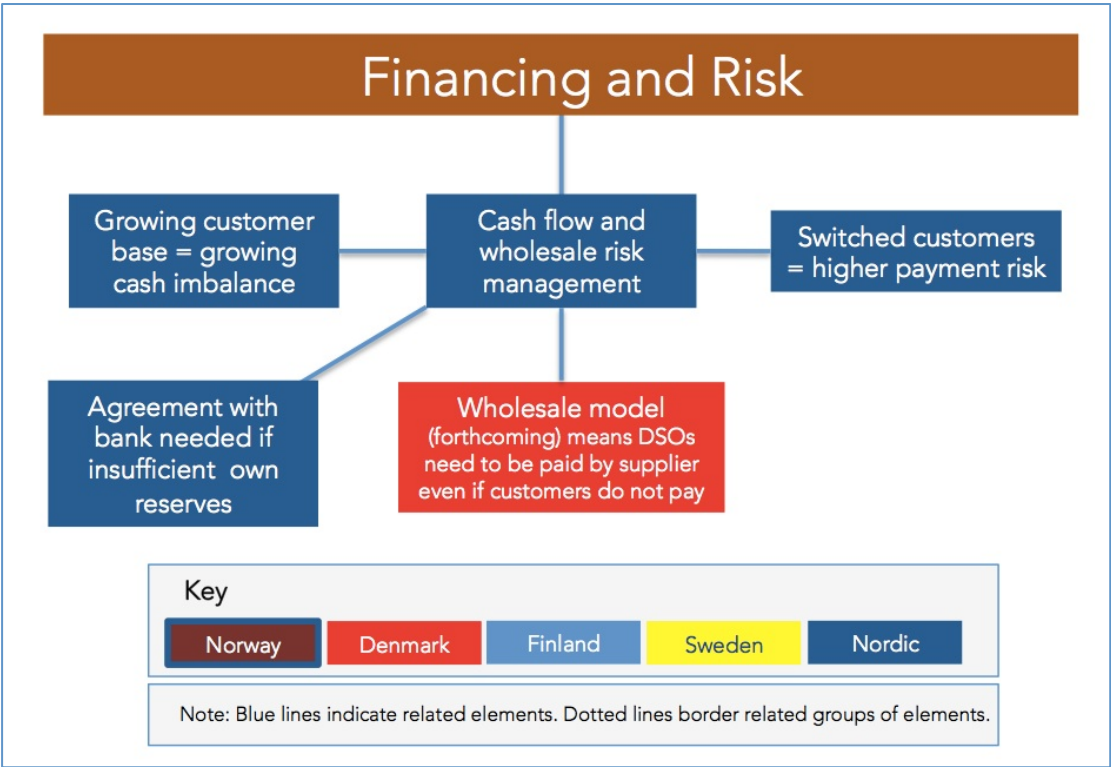
Purchasing suppliers and integrating their customer bases into the existing customer base of a purchasing supplier (growing the customer base that the new entrant already has organically grown), or purchasing suppliers and using those suppliers as the engine of market entry can be considered problematic if:

- The customer base is less than 100.000, since the cost of integration is considered higher than the benefit from it.
- The ownership structure of the supplier is so complex that it is not possible to get all owners to agree to sell the company.
- The price that the seller expects is too high (in some cases owner has seen a high price sale in another case and expected at least the same even though the other sale was exceptional due to the strategic nature of the purchase.)
- If the company is municipality owned and therefore will only sell the company following extensive service and or price guarantees.
- The ownership or fully bundled nature of most municipal electricity companies and companies that have less than 100.000 customers means that it is difficult to purchase the supply business without obtaining also the distribution and even generation business.
- The business culture and language differences are considered a major issue.

4. Market Operation Processes



4.1. Financing and Risk



Cash flow is an on-going Hurdle. Wholesale risk is also significant. As described in the section on entry Hurdles, the cash flow challenges that present a complication to entry never end for a supplier, and in fact for new entrant suppliers they even seem to get worse as they grow, as they struggle to replace lost customers, often with customers with modest payment reliability. There has been an additional

argument that the supplier of last resort process in some markets further unbalances the playing field, thereby additionally hindering the chances of new entrant suppliers.

Hurdle to Operation (No.26):

While incumbent suppliers in Finland, Sweden and Denmark sometimes claim that they have to carry the burden of 'obligated supplier' or 'supplier of last resort' and that competing suppliers cherry pick, the reality seems to be that competing suppliers end up with a higher proportion of customers with payment reliability issues and this leads to increases in their cost-to-serve customers relative to that faced by incumbent suppliers.

Suggestions:

- Consideration should be given to fundamental measures to re-balance the incumbent advantage of incumbent suppliers. Should it be that the task is for new entrants to challenge incumbent customers, for whom a large proportion of their customers are likely to be inactive and higher margin in the long-term, or should the task be for all competitor suppliers to compete for the same customers.
- Dominant suppliers in a network area and suppliers bundled (in any way) with the network operator should not be the default recipient of customers who have simply not chosen a supplier* or customers on supplier of last resort tariffs who's supplier would go out of business. *In Norway, it has been found that a large proportion of customers on supplier of last resort tariffs are in fact customers who have simply moved and not chosen a new supplier, and therefore actually more valuable than the customers that are typically obtained by new entrant suppliers.

Supplier of Last Resort	
Supplier of Last Resort	
Denmark	Supplier for that area (selected through public tender procedure) ⁴⁵
Finland	DSO ⁴⁶
Norway	DSO ⁴⁷
Sweden	DSO Nominates a supplier ⁴⁸

4.2. Balancing

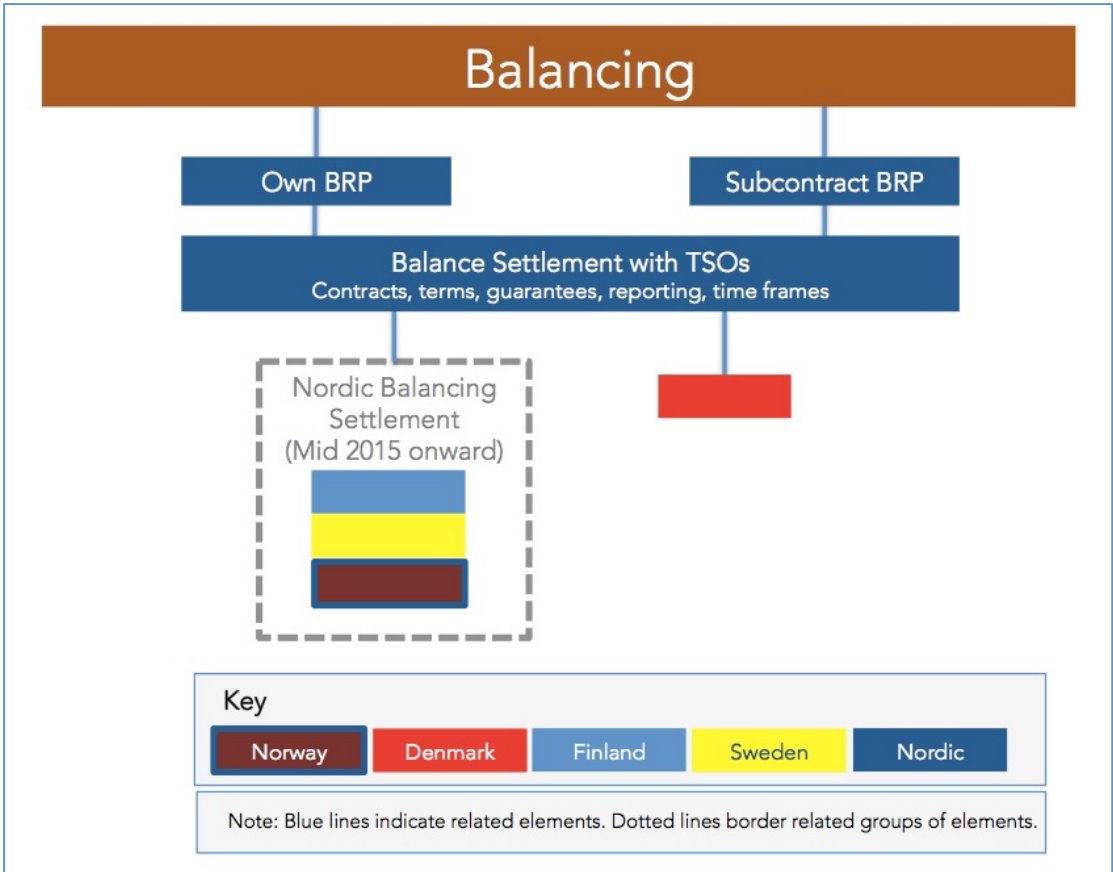
All suppliers need to fulfil their balancing obligations. The process of balancing does not, however, seem to be a concern of suppliers, even new entrant suppliers, since they generally simply employ BRPs to handle the function. If they do it themselves it is normally because they are expert in balancing issues, in which case they do not have any difficulties.

⁴⁵ Under the wholesale model, the supplier of last resort obligation will be removed.

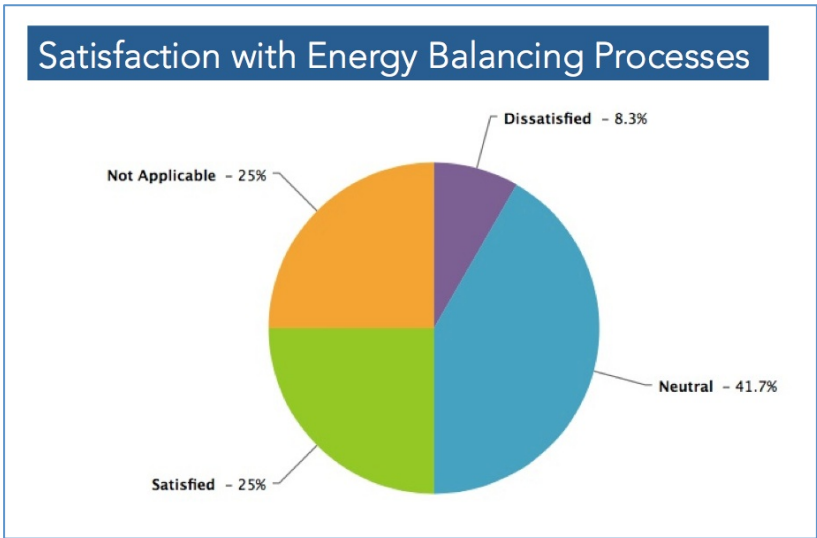
⁴⁶ DSO is obliged to supply residential customers. DSO can use a supplier, but is obliged to inform the customer after a few weeks that they need to find a competitive supplier. If the incumbent supplier goes out of business the regulator has the task to find a new incumbent (obligated) supplier: supplier with largest market share in the distribution area.

⁴⁷ DSO is not allowed to give the customer to their associated incumbent supplier. Price is deliberately high and progressively becomes higher over time (decided by DSO within regulated limits) to encourage choice. Have to remind customer at regular intervals that they should choose a competitive tariff.

⁴⁸ Usually the incumbent supplier



ESCOs who are large enough to impact significantly on the balance of the network, also have to provide balancing. It is of course natural that if suppliers need to balance, then so should ESCOs who influence the balance. The question is, though: should it be the obligation of supplier and ESCOs to ensure balance or should that be provided entirely through TSOs, DSOs and market mechanisms that ensure the employment of the most cost-effective balancing and therefore a paid opportunity to new innovative demand-side solutions. The answer to this question is not for this report, but it can be daunting for an ESCO to have to factor in or support the effect of its service on the network and the costs that it will incur thereof. In the case of ESCOs, since their whole business is built around effects on the balance situation, the potential cost of balancing on their business model can be catastrophic.



Hurdle to Operation (No.27):
Balancing can be a cost-concern for ESCOs who need to provide balancing services. Ways to mitigate these costs, or rather risks, should be sought by governments, regulators and other stakeholders.

Suggestion:
Ways to mitigate these costs, or rather risks, should be sought by governments, regulators and other stakeholders.

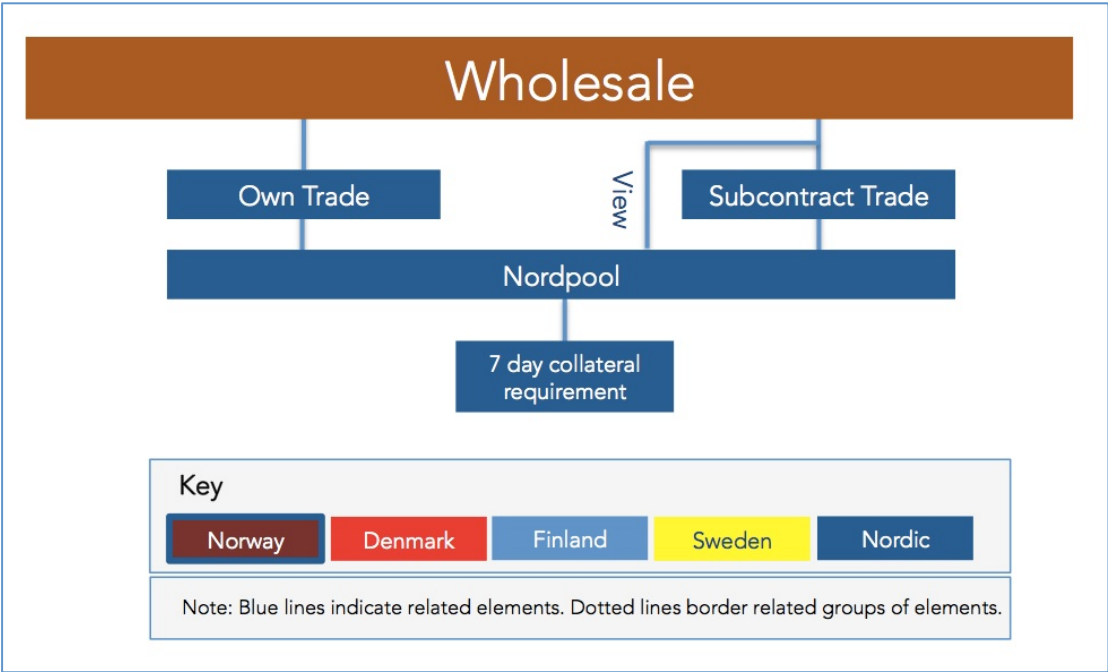
The Forthcoming NBS (Nordic Balance Settlement System)

As part of the NBS in Finland, Sweden and Norway, players in each market will in future report in the same ways. This is seen as a major improvement in the market, and a major move towards market harmonization. No concerns with the NBS have been mentioned by any recipients except for the desire for Denmark to join it as soon as possible.

Perceived Advantages of NBS Include:

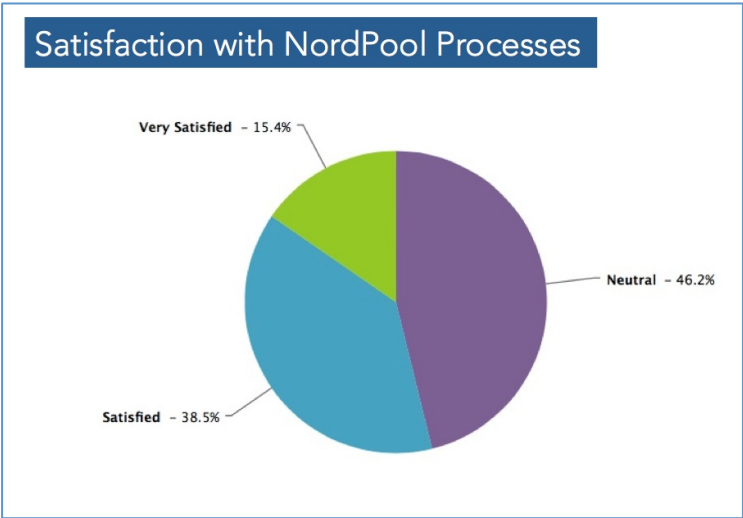
- One contract
- Same terms
- Same guarantee
- Same reporting and time frames
- All BRPs can login in same interface

4.3. Wholesale

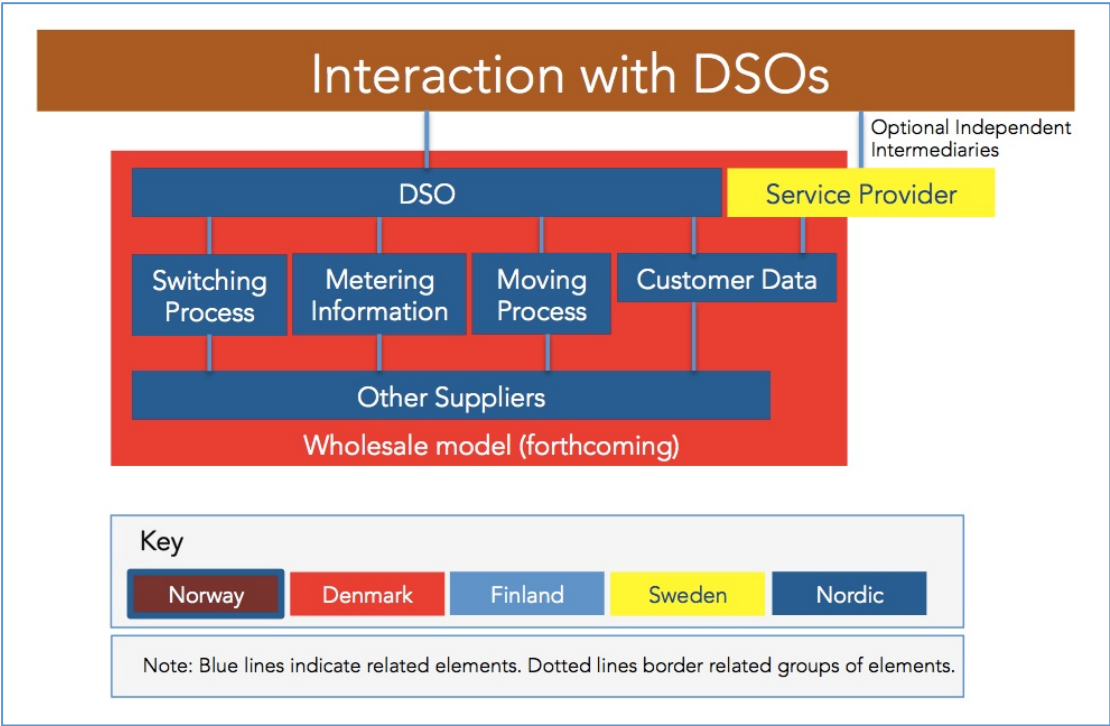


As explained further in the section on market entry processes, the Nordic market is considered extremely efficient from both a market entry and operational perspective. Respondents have little to complain about. An additional operation consideration however, is that participants that put in bids on Nordpool Spot, are required to retain sufficient collateral for at least 7 days of trading. Nordpool checks

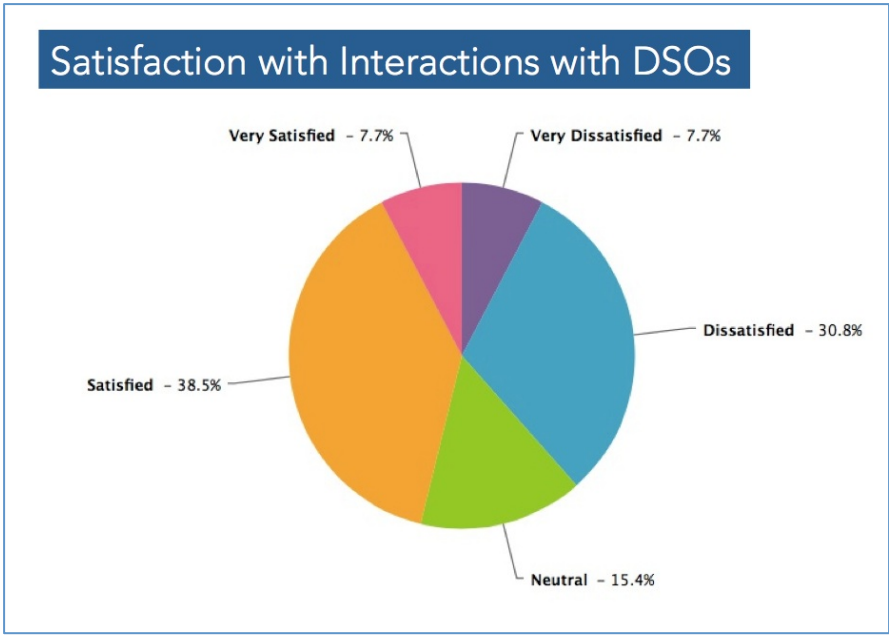
the accounts of all participants on a daily basis to ensure this collateral. This is not a large amount, nor is it considered a Hurdle to an operation, but it is a pre-requisite for market operation.



4.4. DSO related Operations



Until the Nordic markets have hubs (all except Denmark which has a hub), each supplier needs to be in direct contact with each DSO for each customer that it wins from that distribution area. There is no need for an agreement with each DSO, but the supplier needs to be in touch primarily to facilitate the switch and for metering and master data information and for moving.



Process Complexity and Similarity

Information exchange is generally seen by suppliers, including new entrants, as not particularly difficult in itself. The processes have been developed to a point where they are in principle simple and efficient, with broadly standardised formats, all handled by off-the-shelf software. Two challenges remain however:

- 1. There are many market participants (DSOs and suppliers) and no central hub to streamline the interaction. This will be overcome when and if central data hubs are applied. In the absence of a centralised process hub, this is a labour intensive situation in a market with very large numbers of DSOs (170 in Sweden for instance).
- 2. The four Nordic markets are not similar enough in terms of information exchange. Although they use similar formats, the processes are different enough to prevent suppliers using the same company systems across multiple Nordic markets.

The following table shows the perceived degree of process difference from one market to another. It represents the opinions and feelings of those who answered the question and not a factual evaluation of the processes addressed in this report.

Process Difference Matrix			
(1-3 where 3= most different)			
	Sweden	Finland	Norway
Sweden			
Finland	1		
Norway	2	2	
Denmark	3	3	3

Hurdle to Operation (No.28): New entrants with aspirations of being very active (winning large numbers of new customers) have told us that they intend to delay or restrict their activities in the market until after the supplier centric model is supported by a hub. They support the supplier centric approach but the current and increased (under the supplier centric approach) effort of interacting with so many DSOs is considered to inhibit the business case. An alternative for them in the meantime is to restrict their activities to just a few DSO regions.

Suggestion: The proposed central process hub should be introduced without delay in Sweden, Norway and Finland.

Hurdle to Operation (No.29): Processes in the four Nordic markets would need to be more similar if they are to enable suppliers to apply the same systems across multiple markets. In fact, processes have to be almost identical to truly allow trans Nordic systems.

Suggestion: For any given process, the best way to ensure process similarity between markets is to first identify the best practice process from among the four Nordic markets and then copy it to the other Nordic markets. This approach will be limited by national laws as well as national and political opposition, but it would lead to far lower costs and complexity for suppliers operating across markets. All market participants (incumbent suppliers, new entrants and even TSOs) that we suggested this approach to firmly agreed with it, at least in principle.

Access to Data

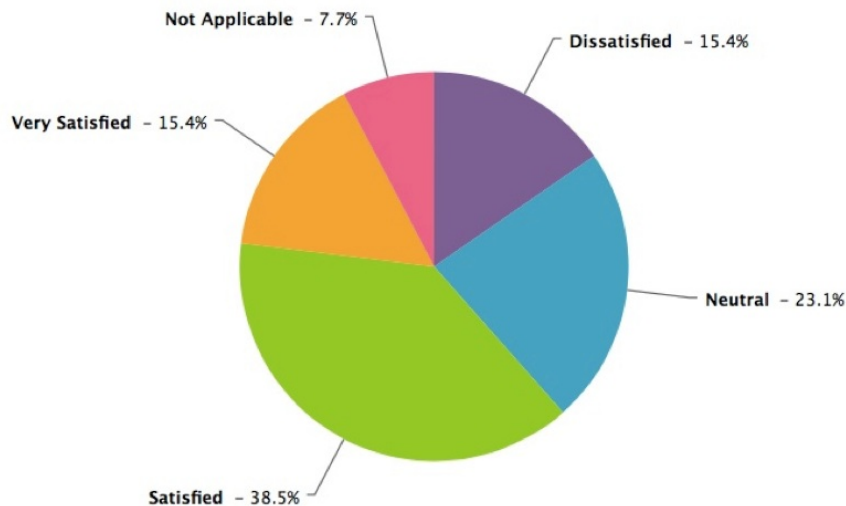
Within the current environment of complex interactions, there have been complaints that it is sometimes difficult for the suppliers to obtain customer information from the DSOs. Specific issues include:

1. Suppliers often complain of occasional poor quality data being provided to them by DSOs. The reason for this, it has been claimed, may be due to shortcomings - deliberate or otherwise - from DSOs or suppliers (e.g. those who are losing a customer), but there is a concern among new entrant suppliers that there is no supervision of the quality of the data, nor a system by which to penalise those who persistently provide poor data or compensate those who are affected by the receipt of poor quality data.
2. In Sweden and Finland, suppliers and brokers who have an affidavit from a customer to find them a new supplier cannot identify when the customer's contract is due to expire if the customer's contract has more than one month to run. This is not because the DSO is being obstructive but because the regulations do not mandate suppliers to provide customer information (to DSOs or otherwise) for customers who have more than one month remaining in their contracts. In Denmark if the supplier or broker needs information (if they have power of attorney), they have to approach the current supplier for the customer data. The current supplier then has to provide the data but may ask for written confirmation, and so the process may turn out to be very slow, cumbersome and therefore costly for both the new entrant and the existing supplier. In Norway the new supplier sends a message to the DSO containing relevant information. Crucial information is the meter ID (the new supplier can get this from the Nubix database, no need to get info from DSO). The DSO informs the old supplier, no later than three days before the actual switch⁴⁹. In Sweden and Finland, due to smart meters, the process of obtaining essential customer consumption information for a switch is (assuming other process are the same) easier than in markets without. However, access to the information essential to know when a customer is available to switch and necessary in order to make the switch happen is clearly too restricted. It has been claimed that Nubix or a data hub solution

⁴⁹ More information is available in Norwegian at: <http://lovdata.no/forskrift/1999-03-11-301/§2-1>

would result in an improvement in access to data for Finland, Sweden and Denmark (Denmark will be getting a data hub).

Satisfaction with Obtaining Customer Information when winning customers



Hurdles to Operation (No.30-33):

- Poor or late data costs money, for any supplier. It is not economically viable for a supplier with small margins to have to return to customers (for more information) or DSOs because either the information was not available, required excessive permissions or formatting variations/complications (required by the DSO) or because the data provided by the DSO was insufficient (in quality or comprehensiveness) to complete the process. Mistakes will happen, but there is concern that DSOs with bundled suppliers are able to inhibit the cost-effectiveness of new entrant's business operations without any independent supervision or possibility for redress.
- It is very frustrating and inefficient in the opinion of many respondents in Finland, Sweden and Denmark, and also in the minds of many customers, to not be able to easily identify when the customer's contract (if they have one) ends and what the consequences of ending the contract early would be.
- The customer (e.g. name, address) information and proof of power of attorney required by DSOs and existing suppliers so that new suppliers and brokers can access essential customer/meter information for a switch is often considered too difficult to obtain or match with the information held by DSOs/suppliers in the case of Sweden, Finland and Denmark, and even within Nubix in the case of Norway.
- The fact that a new entrant or broker with power of attorney has to approach the supplier or DSO in order to obtain contract information, or information necessary for the switch is not only inconvenient but also enables incumbent players to know about the intentions of the new entrant or broker before it is necessary, affording them the opportunity to take defensive action against potential switching.

Suggestions:

1. There needs to be some supervision and enforcement of the data quality within energy market processes, while not inhibiting the Nordic market's enviable desire to remain regulation light. Supervision is expected to be easier with market hubs. TSOs are considered ideal potential supervisors (Fingrid for example is already working on forcing market participants to improve data through putting data in all fields etc.).
2. Data hubs effectively present a good means of supervising data quality and even licencing those participating in the various processes. Smart meters also assist in the provision of enhanced data quality and speed of delivery of data. Supervision is not inherent in data hubs though and must be specifically incorporated into it.
3. Customer bills should very clearly (meaning that the customer can easily find the information) state, in a prominent position on the bill, when the contract ends and what the consequences of breaking the contract would be for the customer.
4. New entrants or brokers with power of attorney should not have to approach the supplier or DSO in order to obtain contract information, or information necessary for the switch.
5. Suppliers or brokers with power of attorney should, through the forthcoming data hubs, be able to find out - without the DSO or existing supplier being able to know that the data is being accessed - the time when the prospective customer's customer ends, the terms and costs of breaking the contract, and the other information that the supplier or broker needs in order to provide the service to the customer and initiate the switching process. In Denmark, for instance, under the wholesale model, the old supplier will not be informed about the change of supplier until after the expiry of the cancellation period.

ESCO access to data

In Denmark, ESCOs have the status of 'Third Parties', whereby if customers allow third parties access to data, those third parties have access to all available data including consumption data, although they need electronic approval from the customer. Power of attorney is though not needed.

Data Hubs

As described extensively throughout this report, Data hubs will reduce process complexity and increase integration between markets. The ability of data hubs to integrate processes will, however, depend on the similarity of the data hubs. The more similar the data hubs, the more similar the supplier systems that will interact with and support them.

The Danish Data Hub

The Danish Data Hub, operated by the Danish TSO, which is partially complete (the first version has been in place since March 2014 and the second version is planned for 1st October 2015), provides the first Nordic experience of data hubs. While challenging, the experiences so far have been largely positive.

For a supplier to interact with the data hub, they must be approved to use it. This requires filling out a form on the TSO website, following a work flow and fulfilling an active test. If the supplier is unable to do this by themselves, they can find a company to do it for them. There is also a need for the supplier to purchase a security certificate. No licence is however needed. This will though be an additional cost. The whole process typically takes in the region of one month or less. The only reason why a supplier might lose access to the data hub, other than for technical reasons, would be on the grounds of not following processes. The Data hub is financed by the TSO tariff and there is therefore no separate fee for the data hub.

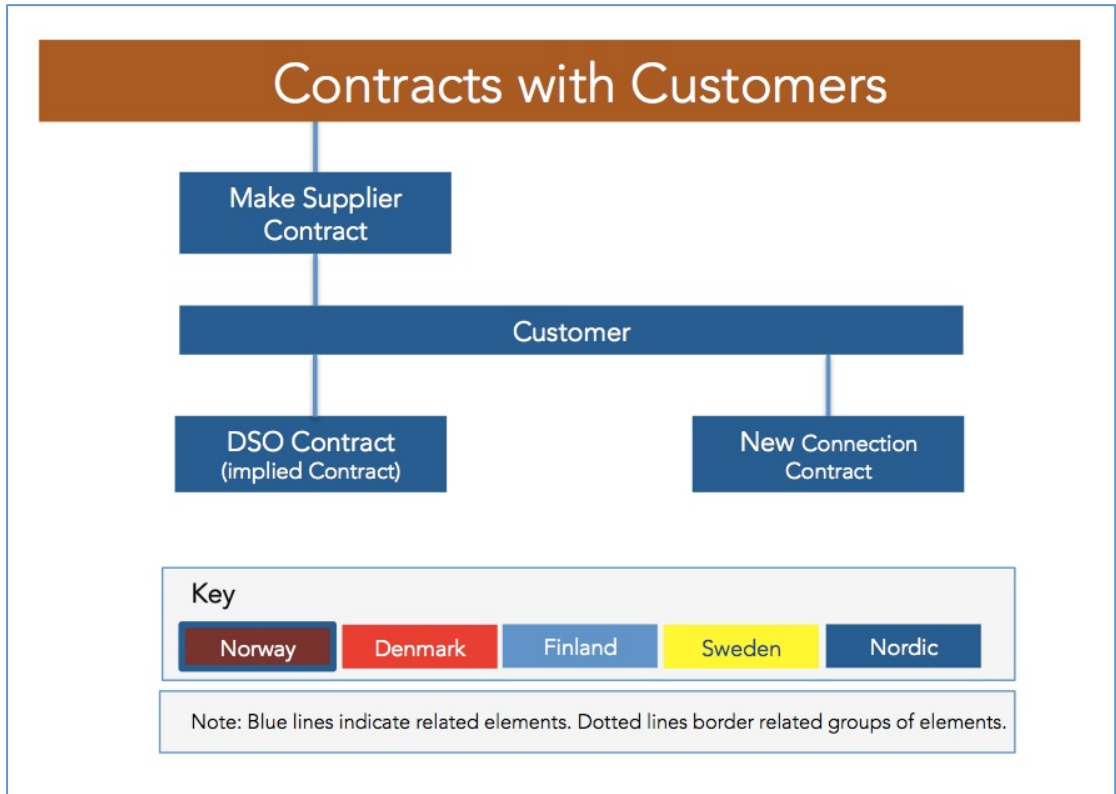
Misuses of Power

There have also been concerns from new entrant suppliers that incumbent suppliers associated (ownership bundled) with DSOs often seem to find out that one of their customers has agreed to switch away from them - or is considering doing so - as soon as the DSO is informed of the switch, or as soon as the DSO is informed by a broker that it has obtained power of attorney from the customer and requests information on the customer's basic data and availability to switch (e.g. in Sweden). In such cases the outgoing suppliers, it has been claimed, approach the switching customer and provide them with a better offer, often reversing the customer's decision to switch. These claims cannot be substantiated, but such claims have been heard in other competitive markets around the world and represent a fundamental risk associated with ownership bundled competitive energy markets.

Hurdle to Operation (No.34): It is likely that DSOs assist their associated suppliers by forewarning them of an imminent switch or likely-to-switch incumbent customer, enabling the supplier to take steps to selectively protect the incumbent customer by contacting them with a good enough offer to keep them. Since the price needed to keep the customer may not be as low as the price needed to win them, and since the selected defending can be supported by the higher margins earned on inactive customers, this behaviour would amount to misuse of the DSO's/supplier's incumbent position.

Suggestion: Full ownership unbundling would appear to be an essential characteristic of a competitive liberalised market.

4.5. Contracts with Customers



A supplier needs to make a contract with its customers. The customer has two contracts however, one with the supplier and one with the DSO. The contract with the DSO is an implied contract in that it does

not need signing, it simply exists as a result of using the energy. The customer also has to make a contract with the DSO for any new connection if the customer installs a new meter in the process. In Denmark the wholesale model will result in the customer only needing a contract with the supplier⁵⁰. Concerning the number of contracts, some suppliers seem to prefer a single contract, between the customer and the supplier. Some suppliers, however, believe that the current system, whereby customers who have switched will have contracts with both the DSO and the supplier, is better in some situations: for instance if there is a meter problem from the past which implies repayment by the supplier to the customer for revenue that the supplier never received.

Number of Customer Contracts		
	Current Approach ⁵¹	Expected Changes
Denmark	2 ⁵²	1 ⁵³
Finland	2 ⁵⁴	-
Norway	2 ⁵⁵	-
Sweden	2	-

Disputed Hurdle to Operation (No.35):

A single contract approach may present some risks to suppliers if historical DSO service shortfalls are thereby passed to a supplier who was not even the supplier at the time of the issue. There are though differences of opinion on this issue.

4.6. Sales and Marketing

Competing is not easy in a market where most customers do not find the product interesting, can suffice without doing anything, and do not understand much if anything about their opportunity to be active, either in their choice of supplier or through their energy consumption behaviour. New entrants have to enter into and grow in such a market where most customers (50% in Norway but more in the other Nordic markets) have never, even after so many years, been active in the market.

Hurdle to Operation (No.36):

Customer apathy and inactivity is a characteristic of any competitive electricity market.

Suggestion:

See section on Awareness, Image and Trust.

⁵⁰ With an implied DSO contract that does not need a customer signature.

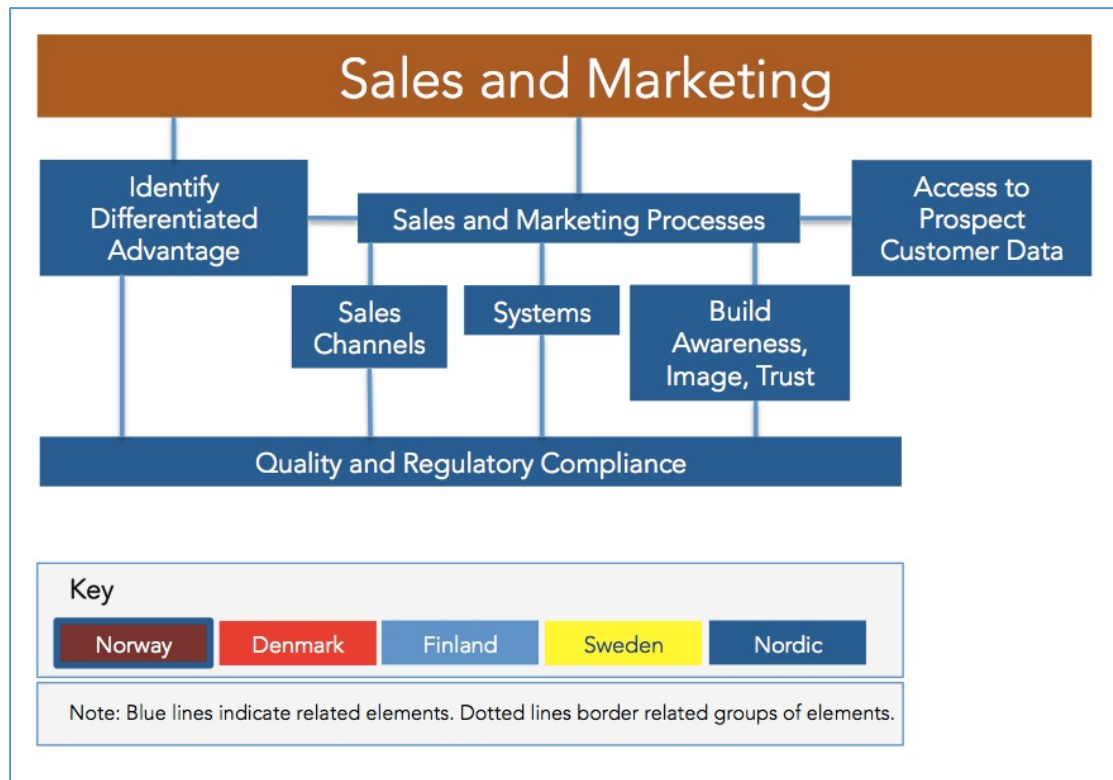
⁵¹ In addition to connection contract (only once).

⁵² Implied contract with DSO that becomes active automatically (without signing) as soon as energy is used.

⁵³ Under wholesale model

⁵⁴ If customers buys from the local incumbent the contract can be combined.

⁵⁵ Implied contract with DSO that becomes active automatically (without signing) as soon as energy is used.



Creating a differentiated advantage and offering

Above all a new entrant supplier needs to discover a meaningful advantage in the market compared to the other competitors. This is typically seen as a price issue but there are many other ways such as service, additional offerings, a new business model or simply a fresh presentation of an existing idea. Price advantage is not seen as a particularly sustainable differentiation in the longer term and so successful new entrants need to find additional means by which to differentiate themselves.

Sales and marketing processes

Sales and marketing processes are largely under the control of suppliers. There are some guidelines imposed by national regulations regarding sales and advertising, but the energy industry is essentially no different to any other industry in this respect. Sales costs are only incurred by those companies which intend to win customers, but all kinds of suppliers, big or small, new or incumbent are faced by the same options and challenges, except for the different context relating to awareness, image and trust. Larger competitors have the advantage of scale, but innovative new players have been known to be more able to take advantage of creative and opportunistic sales practices. New entrants are not considered to be disadvantaged by the nature of the sales processes available to them.

Access to Customer Data

As discussed in more detail in the section on interaction with DSOs, many players complain of difficulty obtaining information about prospective customers. For instance the one month rule in Sweden whereby suppliers cannot gain access to information about when a customer's contract ends means that the customer's own supplier can take action to renew the contract before alternative suppliers even know it is going to end. Likewise, for brokers or suppliers in Sweden with power of attorney for a given customer when they request information about the customer for the purpose of notifying the relevant DSO of power of attorney and providing the service to the customer who has just given them power of attorney, the existing supplier finds out and is able to contact the customer to prevent them from switching, before the broker has even had a chance to switch the customer. This represents an unbalanced playing field in the first instance and a lot of unnecessary expenses in the second instance.

The marketing needs of new entrants should not preside over the data privacy rights of customers, but it is difficult for new entrants to win new customers if the existing suppliers can see them coming and react before the new entrant has a chance to win them.

From the perspective of ESCO's access to data takes a different form. They complain that it is too difficult to obtain data in a form that is easy to use and that it is too difficult to obtain real or near real time meter data necessary for the provision of many modern ESCO services. Data available via DSOs is not real-time enough for many services. What ESCOs additionally need is for data to be available via DSOs in an easier to access form and for smart meters to be equipped with home area network transmitters so that data from the meter can be received by third parties via in-home receivers. The forthcoming Danish Data hub may simplify the first of these two issues.

Hurdles to Operation (No.37-39):

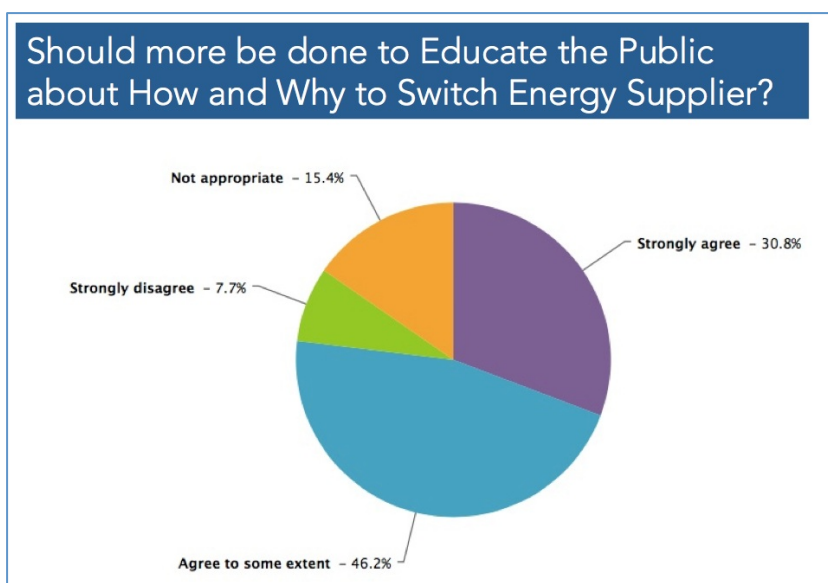
- Suppliers in Sweden, Finland and Denmark are aware of requests for contract-end time information from suppliers and brokers who have been given that right by customers. Suppliers thus know which customers to approach and protect.
- Current APIs (application programming interfaces) for meter data are not considered sufficient for ESCO use.
- ESCOs (with customer permission) should be able to gain access to all smart meter consumption data via in-home receivers.

Suggestion:

- Suppliers in Sweden, Finland and Denmark should not be aware that switch-essential information about the customer has been requested by suppliers or brokers if those suppliers/brokers have the customer's permission.
- Improved APIs for consumption data via DSOs need to be developed.
- Smart meters should all be equipped with home area network communication of meter data into the home without too much variation in communication protocols.

Awareness, Image and Trust

There is a significant lack of trust in the electricity industry in the most, arguably all liberalised energy markets⁵⁶. The Nordic markets are no exception. There are many reasons for this. Competition is only partly to blame. Combine this lack of trust with the marketing challenges facing any new entrant in any market - the building of customer awareness, differentiation and customer acceptance, in addition to the need to overcome customer inertia to switching for a homogenous product and (to them) odd market which they understand little about - and the cost of marketing become extreme. This is a cost that incumbents do not have to incur at all if they are only defending in the market, and do not have to incur so extensively even if they are trying to win customers if they already have a name in the market - likely to be limited to some large incumbents. Given, therefore that new entrant suppliers are competing in a market where most customers have only heard of their existing supplier and maybe some other high profile suppliers, the inequality between new entrant suppliers and their opponents becomes is a major valley to cross.



It has been argued that new entrant suppliers in some cases can actually benefit from being fresh into the market - they do not carry the baggage of the incumbents and they can offer customers an alternative to the companies they have grown to dislike or feel are not giving them a good enough deal. This is true and new entrants position themselves to benefit (and do benefit) from their newness and difference. However, likewise, despite their image, incumbent suppliers benefit from their familiarity ('better the devil you know') and experience from markets around the world indicates that familiarity, in practice leads to more loyalty than differentiation leads to switching. The cost of marketing for awareness, image and trust is therefore a burden borne mainly by those suppliers that are trying to win customers, and borne especially by new entrant suppliers.

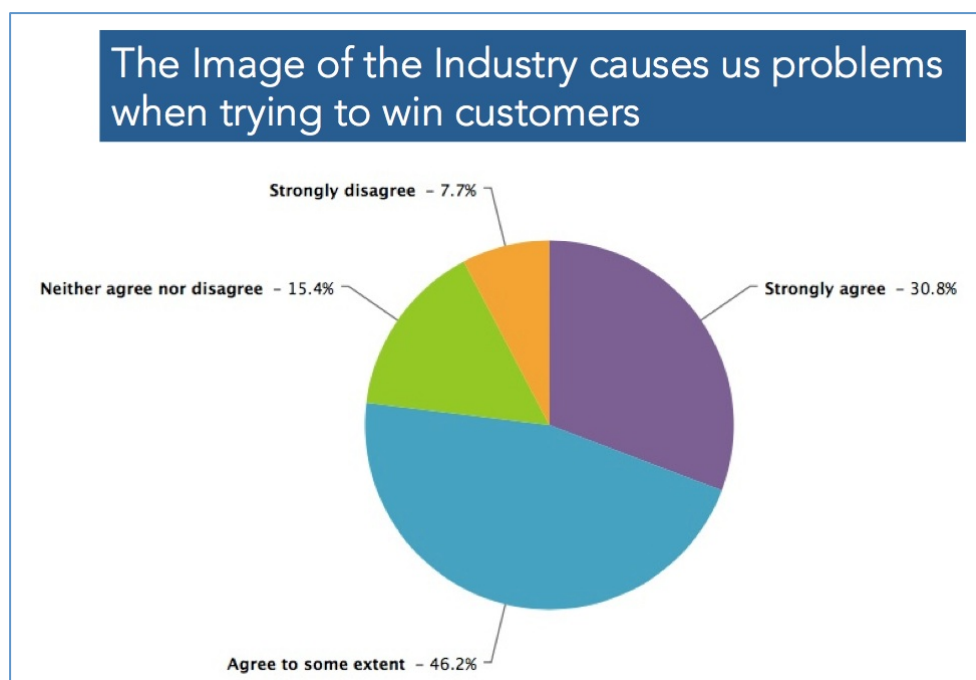
Integrated incumbent suppliers also benefit from brand bundling - the combined awareness and familiarity generated by the supplier and a DSO having the same brand - the integrated supplier's brand is also partly paid for by the branding activities of the DSO and the years incumbent marketing that may have occurred prior to market liberalisation.

Hurdle to Operation (No.40-41):

- The cost of marketing for awareness, image and trust is a burden borne mainly by those suppliers that are trying to win customers, and borne especially by new entrant suppliers. This is not only a major cost for new entrants but also a turn-off if they believe that they (and a few other suppliers) have to (and will therefore fail to) handle it by themselves.
- Brand bundling (of DSO and supplier brands) is seen as representing cross subsidisation of bundled incumbent suppliers by their associated DSO.

Suggestions:

- As shown by markets such as New Zealand (presently the most active market in the world regarding customer switching, due largely to a regulator supported information campaign), the competitive landscape in electricity markets becomes more balanced when the state takes on a key role in the awareness and education of customers. The Nordic markets should consider using New Zealand as a role model in this respect.
- Brand unbundling is a necessity for a level branding playing field.



Sales Channels

Two sales channels are thought to be great levellers in the competitive energy industry, namely price comparison services and the auctioning of customers. Price comparison services and customers auctions should be able to provide an equal public platform for all suppliers, subject to certain conditions, which must be ensured by best practices. However, too many price comparison services can be confusing to customers and the information on commercial price comparison services is not always of a very high quality. Prices may be misleading and not all competitors may be listed (it depends which competitors agree with the price comparison service) - which may depend on the commission of the price comparison service. A high quality independent, commercial web service can be excellent, but where there is doubt about the existence of sufficiently good price comparison services (which should allow customers to directly switch from the site), or in the event that too many customers are using sub-standard price comparison sites, it a powerful, full-service official service may be necessary. In Finland and Sweden there are currently good price comparison websites run by the regulators (in Norway by the Competition Authority), but to switch a customer needs to go through the site of the company that it is switching to (the customer is linked to it via the price comparison website). This is not optimal. The power suppliers have to report prices to this comparison services, but only on selected contract types. Over time there has been a movement towards offering more and more contracts not represented on this service. The Norwegian regulator and consumer organization, however, is establishing a new price comparison tool that hopefully will include all contracts available in the market. In Denmark, the regulator is now developing a price comparison service to take over from that run presently by the Danish Energy Association.

Hurdles to Operation (No.42-45):

If the best sales channels are not optimised for the benefits of a level playing field, competition will be restricted. There is evidence that two of the most important channels - price comparison services and auctioning of customers - are sub-optimal.

- Price comparison services sometimes include prices which cannot realistically be found by customers. Some suppliers post low prices that are low enough to put them at the top of the prices compared list, but when customers actually visit the websites of the suppliers, those prices are difficult to find and less competitive prices may instead be offered to the visitors.
- Price comparison services do not necessarily contain all the competitors in the market. Customers may therefore not be able to see the best offers in the market or see clearly how their tariff or tariffs offered to them compare to the broader market.
- Price comparison services are only half baked if they do not enable the customer to directly switch for then same site.
- Auctions are no use to customers unless suppliers bid for customers. Sometimes auctions lead to insufficient bidding competition and thereby result in uncompetitive offers. Such auctions can give a bad name to the whole process of auctioning, especially if the customers only find out that they received a poor deal after the switch took place.

Suggestions:

- Price comparison services should not be able to include prices which cannot realistically be found by customers.
- If price comparison services do not have all the competitors in the market, they should clearly state so.
- Official (e.g. by regulator) price comparison services should be seen as a major benefit to an active market. If they are developed they should be done well and should enable customers to switch from within the same service.
- Suppliers winning auctions should be obliged to inform customers of the comparability of the prices they are being offered. It should not be up to customers to find out for themselves.

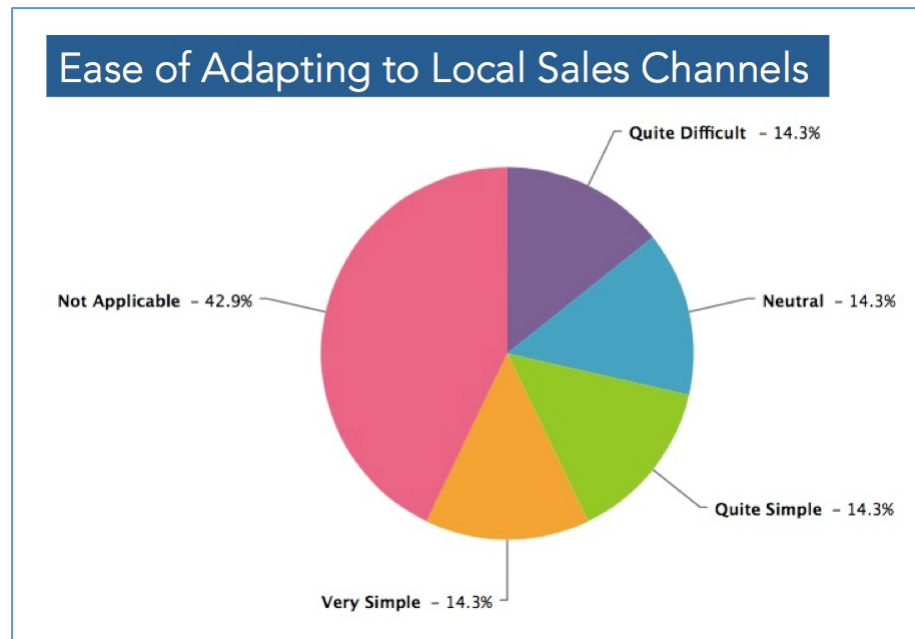
There is also a concern that telesales is becoming ever more restricted in the Nordic market. As the mainstay of sales to win customers in the electricity market in the Nordic region, this would be disastrous to competition in the Nordic electricity market, both for new entrant and incumbent suppliers. As shown, for instance in Australia and Great Britain, when the main channel of customer sales is removed (door-to-door sales in Australia and Great Britain), levels of competition fall substantially.

Hurdle to Operation (No.46):

Sales opportunities for all suppliers would be heavily reduced if telesales is restricted in the Nordic region. Telesales is the main channel through which suppliers win new customers.

Suggestion:

Telesales must be conducted in a way that is acceptable to customers, and customers should have the opportunity to prevent unwanted sales call, but telesales should not be outlawed in the energy industry.



Mis-selling

Competitive energy markets, as other competitive markets, are subject to some mis-selling. The high profile nature of the energy industry however, means any mis-selling receives a lot of publicity. In the case of the energy industry, this has led to some customers being cautious of switching supplier, and this directly hurts all suppliers in the market that are trying to win customers. Suppliers have told us that their efforts to win customers are significantly affected by the image of the whole industry and of those suppliers who have mis-sold. It is therefore an imperative that mis-selling is minimised in the energy industry so that good new entrant suppliers are not restricted in their efforts to win customers. It is even more important for new-model entrants (including ESCOs) providing smart and other innovative energy services which require the trust of customers.

Hurdle to Operation (No.47): Customers are sometimes switched without their approval or knowledge, or are otherwise misled. Prices are often increased within contracts after the customer switched supplier or contract to obtain a better price. In some cases customers may be placed in fixed-term contracts without their approval or have their contracts rolled over without their awareness or consent. These and other mis-selling practices are a danger to the trust that customers in the market have in competition. Suppliers that behave in this way should have sanctions placed on them and should be removed from the market if they continue to offend.

Suggestions:

- Sales phone calls should be recorded in full
- The Texas confirmation process should be applied. In Texas to avoid mis-selling the switching request confirmation process is applied, whereby after the customer has chosen and contacted the new supplier, the new supplier sends a switch request to ERCOT, the Texas energy regulator, which plays the role of intermediary in the customer switching process. ERCOT receives and validates it, then sends the notification letter to the customer. If the customer does not reply the switching proceeds to completion.
- The Nordic energy industry should consider creating a self-regulation supervisory organisation similar to that of Energy Assured in Australia which works to specify and ensure good sales practices in the energy industry by certifying all sales people. Any reports of malpractice are researched and the sales person's licence is revoked in the case of malpractice being confirmed.

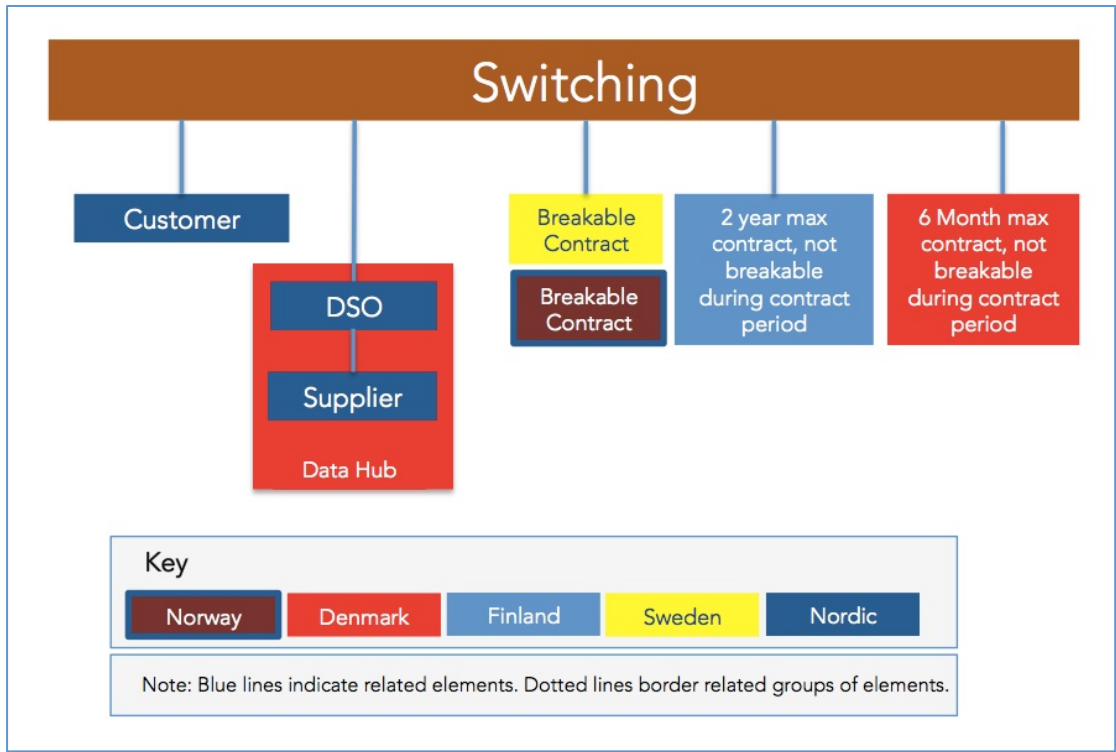
Insufficient savings

There in fact are significant opportunities to save money by switching in the Nordic markets, but relative to incomes, the savings are considered by some new entrants as insufficient to motivate enough customers to switch. Part of the issue is caused by relatively low prices, part is caused by relatively low consumption levels per customer in Finland, Sweden and especially Denmark (Norway has high per customer consumption) for the majority of customers, and in Denmark especially, part is caused by the fact that taxes make up by far the lion's share of the cost of electricity for the consumer. Essentially the new entrants find it difficult to offer low enough prices to entice customers to switch. Of course it would not be politically acceptable, or even sensible to raise the prices of incumbent suppliers in the market in order to make it easier for new entrants to enter the market, but price matching⁵⁷ is one example of an issue that makes the current situation worse.

Hurdle to Operation (No.48): It is difficult for new entrants to offer sufficiently large savings to customers, especially in light of the price matching in the market.

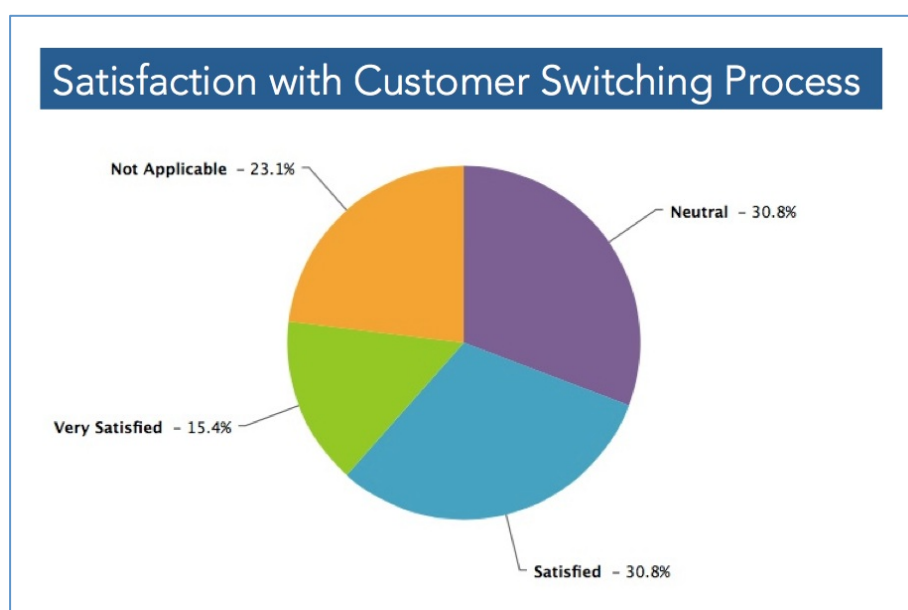
- Suggestions:**
- As stated earlier, the practice of price matching should be abolished.
 - If more switching is desired by the regulators, an alternative would be to implement a price-to beat price regulation on standard incumbent prices whereby the price could not go below its present price for a given period of time. This is a highly sensitive measure politically, but one which has been successfully applied in for instance Texas and Ireland.

4.7. Switching Customers



⁵⁷ When a supplier offers to match (or similar) a price that that customer has received from another competitor.

Switching processes are currently quite similar in each of the four Nordic markets but will differ significantly in Denmark with the coming of the wholesale model. There is a realisation among many respondents that the processes are now and will become increasingly more harmonised. Satisfaction with the switching process is consequently very high. Remaining differences between the markets relate primarily to timeframes, in particular to contract length and breakability. The small differences that remain are considered significant for the purpose of systems standardisation as explained further in the section on Systems Management. Even small differences in processes can make the automation of processes across multiple markets challenging.



Customer Tie-In

Fixed-term contracts allow suppliers to reap the benefits of their customer acquisitions (a supplier who wins a new customer is unlikely to make a profit on them unless they can retain the for at least two years), and allow customers to agree to fixed prices to avoid unpredictable or increasing prices. Customers are often not satisfied with fixed-term contracts however, often feeling trapped and duped by prices that eventually increase or turn out to be uncompetitive.

Customers in Sweden, Finland and Norway can break contracts if they are prepared to incur penalties. They therefore rarely do. Customers in Denmark cannot, but in Denmark the maximum contract period is only six months. It has been claimed that best practice should favour being able to more easily break contracts so that customers are more able to switch away from contracts that they are not satisfied with and make it easier for new entrants to succeed in the market despite large proportions of customers being tied in to existing suppliers through fixed-term contracts.

What seems to be more of an issue therefore is the length of contracts and whether fixed-term contracts should even be allowed to exist at all. It is highly questionable if customers can know if they are making the right decision on a contract that locks them in for two or three years within a market that is changing so dramatically in terms of prices, competitors and services, and what is the point of having competition if the many customers in the market are effectively not in the market because they are tied into contracts and if around half or even the majority of customers are customers who have never switched and are tied to contracts preventing them from doing so. New entrants unsurprisingly therefore tend to favour the removal of fixed-term contracts. As one supplier justified this position, "the most loyal customers are those who remain loyal because they trust the company, not because they cannot escape."

Customer Contract Length and Breakability			
	Maximum Contract Period ⁵⁸	Are Contracts Breakable	Consequence of Broken Contract
Denmark	6 Months. Can have longer but then non-binding for customer. ⁵⁹	Not during 6 month period	None after 6 months
Finland	2 Years. Can have longer but then non-binding for customer. They are binding for the supplier	Yes	Penalty payment. Moving is reason for ending earlier at no cost, or if supplier has broken the contract terms.
Norway	There are no time limits, most contracts are continuing. Fixed price contracts are normally offered on one and three year terms (mostly one year).	Yes	Fixed price contracts normally have a breaking fee. Other contracts are breakable without penalty. Not heavily regulated – contractual freedom
Sweden	No limit	Yes	Penalty usually

For a new entrant, the reality is that the competitive challenge posed by a market where most of the active customers are tied in to a contract, is much greater than the benefit they gain from being able to hold onto customers through fixed-term contracts, since:

- Customer acquisition is a percentage game. The more customers there are to target, the more customers you win. A smaller market is a less attractive market with less opportunity;
- It is inefficient marketing to target a largely unavailable market, approaching and even discussing with customers who, it turns out, are interested but not able to switch;
- The customers that are taken from the reach of new entrants through fixed-term contracts offered by incumbents are often of greater value than the customers who are not tied-in since the incumbent suppliers often target high value likely-to-switch customers with special offers before they switch;
- A supplier can keep a customer if they do their job well. They cannot win a tied-in customer however well they do their job. Fixed-term contracts work against better suppliers;
- A customer who switches once is likely to switch again (multiplies the size of the market and provides momentum to the activity in the market). Fixed-term contracts targeted by incumbent suppliers at incumbent customers who have never switched, prevents customers getting a taste of competition and reduces the size of the market still further.
- Some customers switch because of the predictability afforded by a perceived competitive price combined with fixed-term contract. These customers are sometimes duped into costly contracts and could be won instead by suppliers who win customer's trust in their future prices through their transparency and honesty.

Hurdle to Operation (No.49): There is no greater Hurdle to entry than a small and inactive market. Fixed-term contracts inhibit both the size and activity of the market, largely at the expense of new entrants, and therefore make it a less attractive and valuable market for new entrants.

⁵⁸ General customer protection rule

⁵⁹ Only applies to households.

Suggestion: We would recommend the abolishment of fixed-term contracts in the energy market or at least the reduction of contracts to a maximum of six months as currently exists in Denmark).

Price Matching

Another form of tie-in is price matching. Price matching is when a supplier offers to match (or similar) a price that that customer has received from another competitor. This can be seen as just part of natural competition. However, when it is done by an incumbent supplier to a new entrant, it represents a play on customer inertia: it is much easier to keep the customer than to win the customer since it is easier (from the customer perspective) to remain where you are than to switch. An incumbent supplier may not even have to offer quite such a low price but just enough to prevent the customer from bothering to take the effort to switch. Furthermore, by preventing the customer's first switch, the customer never gets the experience of switching and therefore does not get into the habit of exercising choice. To add to this, the incumbent supplier can use the additional margins that it earns from inactive customers to pay for the lower offers to the price-matched customers. In fact incumbent suppliers often offer lower prices to customers they expect to be offered lower prices by competitors, especially the (profiled as) most profitable and most likely to leave customers.

Hurdle to Operation (No.50): Price matching is a key Hurdle to new entrants. It prevents them from acquiring customers, but more significantly it represents an uneven playing field, prevents the development of switching momentum in the market, and prevents many of the most profitable customers from ever switching in the first place.

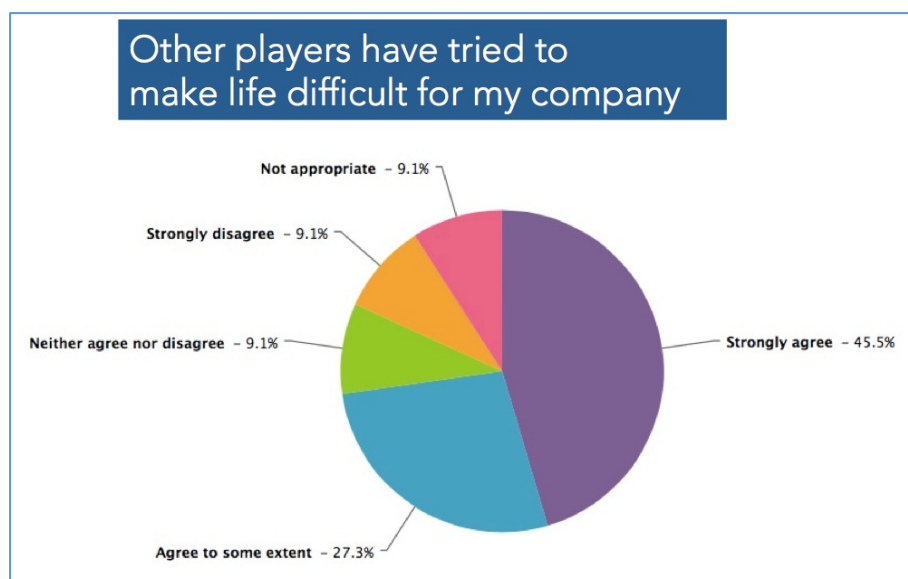
Suggestion: We would recommend the abolishment of price matching. It is prevented in many other liberalised markets including the most active markets in the world.

Obstruction

There have been some claims of DSOs as well incumbent and other suppliers being obstructive when it comes to switching processes. Examples relate, for instance, to suppliers receiving inaccurate or slow information from DSOs and other suppliers as part of the switching process. This can be to some extent said to be gaming when it is done by suppliers, but if it is done by DSOs (and it is difficult to know to what extent it actually is) or excessively by incumbent suppliers, then it can be said to be anti-competitive. There is simply no way, at present, of proving such obstruction, if it happens, nor any way to police it. The problem will be easier to identify when central hubs are in place in the Nordic markets (since at present most market processes occur through bilateral relations between suppliers and DSOs), but there would need to be a simple process of supervision, policing and redress in cases where suppliers claim obstruction.

Hurdle to Operation (No.51): Obstruction by DSOs and suppliers within the switching process adds to incumbent advantages and makes the process of switching more expensive for suppliers as well as (potentially) less reliable for customers.

Suggestion: See Suggestions for DSO operations.



Combined Billing

Large numbers of customers won by competitive suppliers are then lost soon after because integrated incumbent suppliers are able to offer them combined bills while the competitive suppliers are not. The combined billing alone may not be enough to motivate the customer to return to their incumbent, but combined with familiarity, price matching (or price-undercutting for selective customers) and locality, the allure of their former supplier can be enough to win back the customer. If the customer is won back within one year, as often happens, the competitive supplier will probably have lost a substantial sum of money on the customer, making customer acquisition, in some cases, a no sense business.

Hurdle to Operation (No.52): Combined billing being available only to bundled incumbents increases the level of win back by incumbent suppliers and damages the business case for out-of-area customer acquisition.

Suggestion: Competitive suppliers want to be able to offer combined billing, even if it is not made mandatory - although they want it to be mandatory.

The Proposed Harmonised Nordic Model of Switching

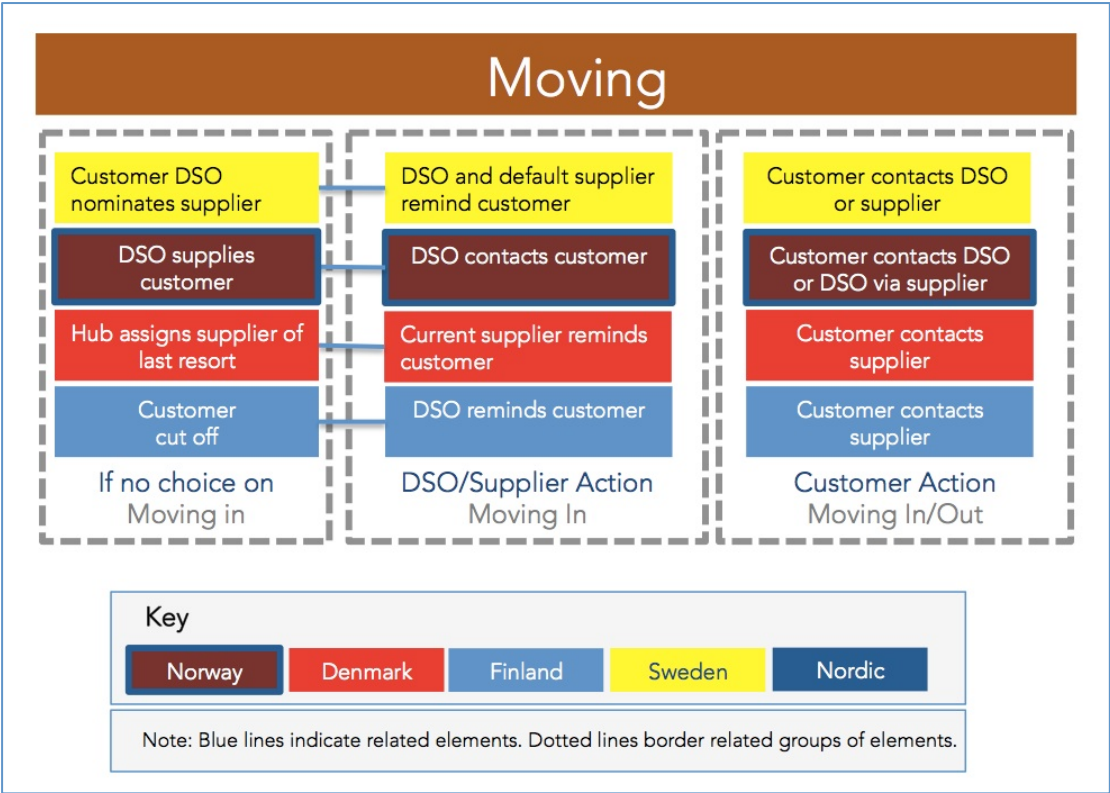
The process of switching that is proposed for the harmonised Nordic market is seen in general as an efficient solution for the harmonisation process. The wish of most new entrants is that this process will be implemented as identically as possible across the Nordic markets so that a single process is attained. There are always going to be disputes over the exact details of any process, but what matters the most is having similarity in processes. One concern relating to the proposed process is whether, in the absence of a data hub and additional protections, existing suppliers will still be able to apply defensive marketing on customers between the time of the customer deciding to switch and the time when the customer actually switches, or between the time when the customers' brokerage service requests customer information and the time when the customer decides to switch. In Denmark however, the old supplier will not be informed about the change of supplier until after the expiry of the cancellation period.

4.8. Customer Moving

The Nordic customer mostly does not seem to choose the supplier for the property they are moving into until after they move into it, although they may contact their existing DSO and or supplier (different tendencies in different markets) to cancel their existing (where they are moving from) supply, in which case the supplier has the opportunity to keep the customer in the new property. This is OK if the supplier has been chosen by the customer, but if it is an incumbent supplier, it means the incumbency transfers to the new location. It has also been claimed that the moving out process is sometimes abused by some DSOs (in Sweden, Norway and possibly Finland) who may pass the information of a move to their bundled supplier, which can then contact the customer to either keep or win the customer.

When the customer moves in to a property, customers are typically not advised by DSOs of their chance to switch supplier, except in Norway (in theory at least), and it has been claimed that some DSOs who are contacted by the customer on moving in to a property, assist their bundled suppliers. For whatever reason, it would seem that most customers moving into a new property end up with the local incumbent supplier (or in Norway often the DSO).

Some suppliers, such as Fortum are conducting heavy marketing to encourage moving customers to contact them before moving so that they can then switch to Fortum (or not switch away) during the moving process. It has been claimed though that many customers actually move away from competitive suppliers towards the local incumbent supplier of the distribution area to which they are switching. In fact one competitive Norwegian supplier claimed that 5% of their acquired (won) customer base moves home every year and that most of these customers leave when they move home, typically switching to the local incumbent supplier or then simply accepting the default DSO tariff because they do not understand that they are no longer being supplied by the supplier they were with before the move.



In Finland, if a moving-out customer ends a contract, the moving-in customer needs to make a new contract, but in such cases the chances are that the moving-in customer, who is reminded by the local DSO, will choose the local energy company if they have not already selected a supplier when they

moved out of their old home. The fact that the customer will be cut off if they make no choice means though that the incumbent does not enjoy default status and may lead to more opportunity for competing suppliers.

In Sweden, the DSO and default supplier contact moving-in customers if they have not made a choice already, to inform them they will receive a default contract⁶⁰ if they do not choose a supplier. If no choice is made, the customer's DSO will decide on the default supplier for the customer. The default supplier and DSO of the property the customer is moving to and - to a lesser extent - the incumbent supplier associated (bundled) with the DSO of the property the customer is leaving (if the customer informs the local DSO when moving out), generally have the upper hand.

In Norway, customers who do not make an active choice are supplied by the DSO, who is obliged to inform customers that they may choose a supplier and inform about the choice of suppliers. The default prices charged by the DSO (supplier of last resort price set by DSO within limits set by regulation) are normally substantially higher than the prices of retail suppliers, thus giving the customer an incentive to search actively for a retail supplier. This can be seen as a partial solution to incumbent advantage when customers move. It is by no means certain though that customers will be bothered to choose a supplier (many are not) other than the DSO and there is some concern that some DSOs may still manage to favour their own associated (bundled suppliers).

Under the forthcoming wholesale model in Denmark, the customer will only contact a supplier (any supplier) when moving. The customer can continue with the current supplier or choose a new supplier for the new metering point – depending on the current contract. If a new supplier is not recorded in the datahub, the hub sends a message 'start of supply' to the supplier of last resort of that area. This approach removed the DSO's influence over choice of supplier from the equation while moving.

Hurdle to Operation (No.53):

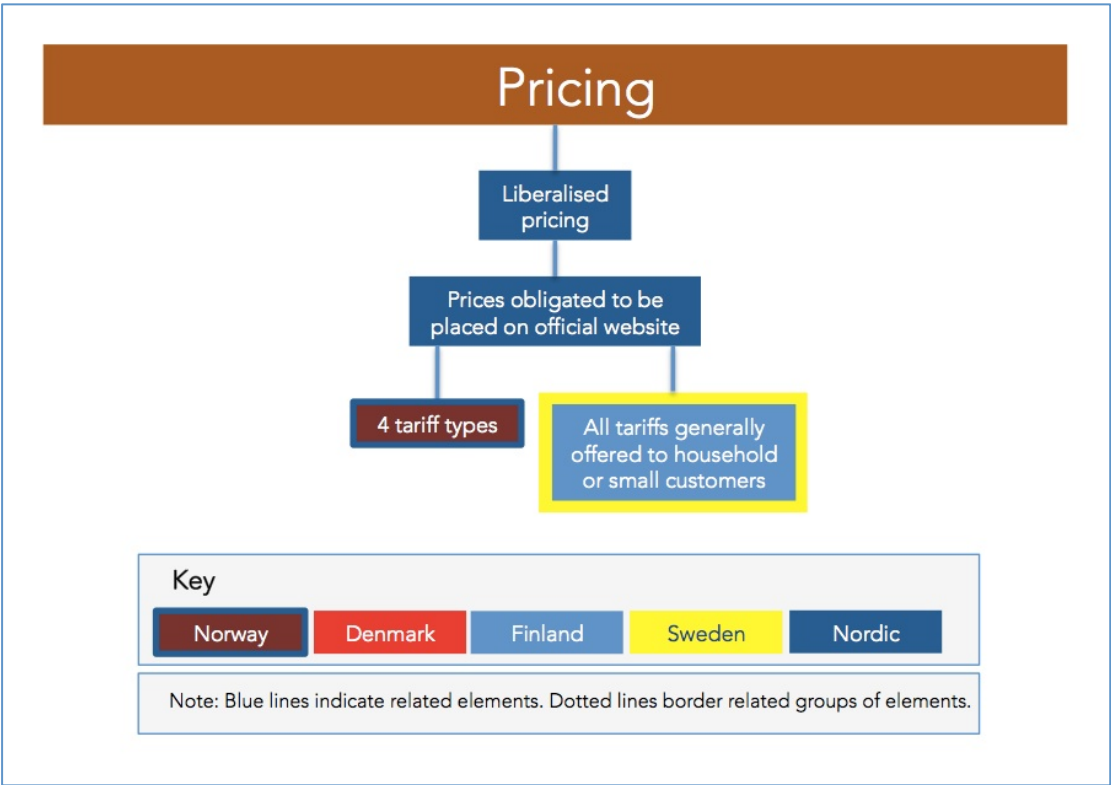
In practice, customers may remain with the original supplier (the supplier before the move) if they contact their own supplier to inform them of the move out, or the supplier bundled with the DSO of the location they are moving from, but most likely with the incumbent supplier of the location they are moving to. If they give no notification or make no choices, they will either be supplied by the DSO on a supplier of last resort tariff (Norway), by a supplier chosen by the DSO (Sweden) - likely the DSOs bundled supplier or dominant supplier of the DSOs network area -, or then they will be cut off (Finland). Either way incumbent suppliers have the advantage in most cases, and competitive suppliers tend to lose out, since few customers are aware of or think of their chance to switch supplier while moving, and incumbent players benefit from customer inactivity. New entrant suppliers have little opportunity to win customers as part of this process unless they are the ones with the customers already (and know the customer is moving), or can identify moving customers before they move or unless they can afford to conduct heavy marketing to all customers to catch the small percentage of moving customers.

Suggestions:

- The supplier in the place the customer is leaving AND the place the customer is moving to, should be obliged to inform the customer that they can choose any supplier, where they can choose from (e.g. a national regulator switching site) and that they may be able to get a lower price with another supplier. This obligation should apply to incumbent AND new entrant suppliers alike.
- The 100.000 customer unbundling threshold should be lowered or reduced to zero. There is also a strong case for full ownership unbundling to prevent DSOs favouring their bundled suppliers
- Inactive customers should be auctioned off rather than supplied by incumbent suppliers.

⁶⁰ 17% of customers have default contracts. Around 80% of these have them because of moving.

4.9. Pricing



Price Information and Transparency

There is no pricing regulation in the Nordic markets, but transparency of electricity prices has arguably been more transparent in the Nordic markets than in most other electricity markets since distribution and electricity unit (supplier) prices and costs have been separated and since it is easy to compare prices to the wholesale market. In fact various researches have shown a close link between the electricity wholesale and supply prices in the Nordic markets and many tariffs are even tied to the spot market and sold as such.

In all the Nordic markets (forthcoming in Denmark) suppliers must keep at least the most typical tariffs up-to-date on the national price comparison website. This is done via easy to use online reporting tools or templates. The regulators conduct regular audits on the information contained within the service. This type of service is extremely important for market transparency, for customers to be able to compare offers in the competitive market and for a level playing field for marketing and competition for all.

A concern is that sometimes suppliers place prices on the price comparison website that are either not readily available or not available to many customers. There is also concern that in the name of transparency for customer protection, billing structures are regulated to a point that some suppliers feel inhibits innovation in tariffing and related services. Transparency and tariff variety are seen as complimentary if done in the right way.

	Regulator / Official Price Comparison Website	Obligation or Voluntary for Suppliers to provide up-to-date tariffs to Regulator (on Price Comparison Website)	Reporting Tool To Simplify Process	Audits by regulator
Denmark	Yes ⁶¹	Obligation ⁶²	Yes ⁶³	Yes ⁶⁴
Finland	Yes	Obligation ⁶⁵	Yes ⁶⁶	Yes
Norway	Yes ⁶⁷	Obligation ⁶⁸	Yes	Yes ⁶⁹
Sweden	Yes	Obligation ⁷⁰	Yes	Yes

Hurdle to Operation (No.54):

- It is difficult for companies with genuinely good offers to compete if suppliers with uncompetitive offers appear more competitive.
- Billing guidelines and rules and price comparison services can prevent or ignore (respectively) innovative tariffs.

Suggestion:

- Price comparison websites should highlight a supplier's track record with regard to customer satisfaction and misleading pricing. Suppliers should not be able to post prices that they cannot offer to a significant number of customers (the number should be stated). Suppliers should state the price that the majority of their customers pay (or otherwise the average price that their customers pay), and should state if the price can be raised within the contract period to prevent misleading information. Supplier that offends repeatedly should be barred from the price comparison website but should still be obliged to report their prices to the regulator.
- Price comparison websites and billing guidelines should not hide or prevent innovative tariffs.

There is also concern that transparency may be reduced somewhat following any move to the supplier centric approach, since there is (even currently) and will be no mandatory split of the invoicing of electricity supply tariffs. This could be a concern if suppliers combine for instance cable TV and energy services and customers will no longer be able to compare their energy price with those from alternative suppliers. On the other hand, the ability of customers to see and compare also the whole amount of their energy bill (at present customers who have switched have their energy costs split between bills from the DSO and supplier) will be an improvement under a supplier centric model for active customers (customers who have switched).

⁶¹ Forthcoming service to be provided by regulator

⁶² Details not yet decided

⁶³ When the new regulator portal is ready

⁶⁴ When the new regulator portal is ready

⁶⁵ All tariffs generally offered to household or small customers (excluding negotiated, membership or campaign offers etc.)

⁶⁶ Web portal

⁶⁷ New service being developed

⁶⁸ 4 types of contracts. Not obligated for other contract types.

⁶⁹ Audited by competition authority

⁷⁰ All tariffs generally offered to household or small customers (excluding negotiated, membership or campaign offers etc.)

In Norway and to a lesser but significant extent in Sweden, price transparency is further supported because of the popularity of commission based market prices where the price of energy is shown as the market price (aggregated for a given period) plus a commission.

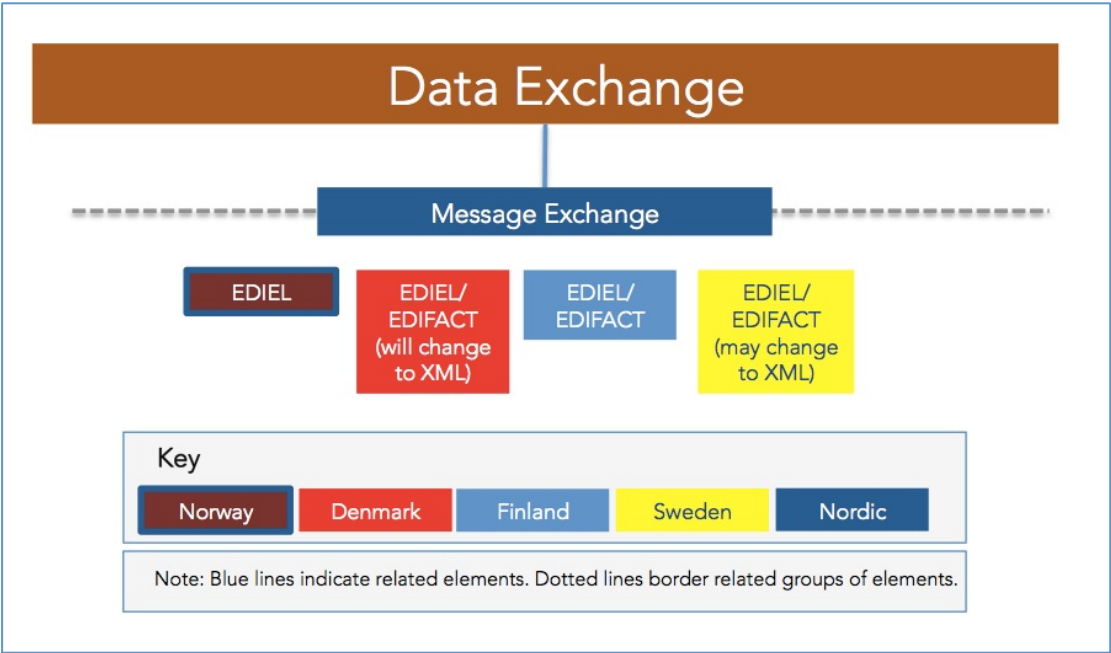
Hurdle to Operation (No.55):

New entrant suppliers typically claim that the transparency and comparability of the energy component price is essential for being able to win new customers. There are some non-traditional suppliers, ESCOs and other new entrants, however, who argue that the disaggregation of price components will make it more difficult to build new business models which would provide comprehensive home energy management and aggregation services for the future. Services that mix traditional electricity supply with home energy generation, sell back (of electricity produced in the home), storage, electric vehicle charging, home energy management, capacity management and other components would for example be very difficult to price/cost disaggregate.

Suggestion:

It is difficult to balance the needs of energy price comparability with the needs of future innovative smart energy offerings, but there should be some attempt to enable the bundling of smart energy services.

4.10. Systems Management



Billing systems and the systems that connect to them, including CRM (customer relationship management); CIS (Customer Information Management); contract management; product /price/quote management; meter to cash systems (such as meter data management; billing; revenue assurance & management) represent a major part of the budget of suppliers in general. Other system components include systems for managing switches and moving (in/out); customer analytics, marketing and call centre; operational reporting; forecasting; and demand forecasting and balancing (depending on their BRP relationship). Small suppliers, including new entrants, tend to have more simple architectures and systems, and older and larger suppliers tend to have more legacy (systems from the past), but in any case, the cost-efficiency of systems are a key aspect of the competitiveness of suppliers.

It is difficult to say if incumbents have higher per-customer system costs than new entrants. It depends on the individual supplier concerned. However, it can be said that some incumbents have very high cost-to-serve ratios and some new entrants have very efficient systems, and vice-versa. What is known though, is that small new entrants often encounter major challenges when they try to expand their businesses to a larger scale. For instance changing from a few thousand customers to a few tens of thousands of customers, to a few hundred thousand customers, can present difficult transformations for new entrants. In particular, new entrants often seem to struggle to move beyond a few hundred thousand customers. This may seem like an irrelevant threshold since there are no such new entrants in the Nordic markets, but it appears to be one of the reasons why small new entrants remain small, and why larger new entrants (such as incumbents moving from one Nordic market to another) may be more easily able to become large.

Hurdles to Operation (No.56-57):

- Systems costs can be high for new entrant supplier
- Scaling up systems can be expensive and challenging.

Suggestion:

The more similar processes are between markets, the lower the system costs of operating in more than one Nordic market.

Regardless of how similar systems are, however, the issues of different languages, national laws and legacy systems will continue to limit the integration systems between any of the Nordic markets.

Information/Data Exchange

Process interactions between suppliers and DSOs are primarily via similar but variable information exchange format in the Nordic energy market.

Hurdles to Operation (No.58-59):

- It is yet to be seen how similar the processes will be under the harmonised market and under the supplier centric model, but data formats are currently different in each Nordic market.
- There are also some concerns that the biggest challenge to making processes more similar is not protocol but information structure differences and the need to report new or additional information.

Suggestion

Data formats, information structure, content and functionality should be the same in all Nordic markets if processes are to become acceptably similar for pan Nordic players. For this to happen fully it has been extensively argued that the market models will need to be the same.

Billing and Metering

Typically, the largest single system cost relates to billing and related systems such as meter data management. Essentially the same billing systems can be used in all Nordic markets. The architecture behind the systems depends heavily on the market model however, and the implementation of the systems depends on the precise market processes.

Differences are often small but many. In Denmark for instance, a supplier can integrate grid and distribution fees into stated fees. In Sweden distribution fees have to be shown separately. This is in part due to variation in national laws, but it complicates market integration from the perspective of billing.

Hurdle to Operation (No.60):

It is an additional complication for bill format requirements to be different in each market.

Suggestion:

Whichever bill format is chosen, it should be the same in all markets.

In fact, the Danish approach to combined billing is arguably seen as the model to follow:

Danish Combined Billing Process Under the Wholesale Model:

The **DSOs** will feed the following meter-specific information into the datahub:

- Identification of meter, including meter number and address, etc.,
- Grid tariff related to the meter,
- Metered readings specified per meter.

Energinet.dk (TSO) will feed in:

- TSO tariff,
- Costs for public service obligations (PSOs),
- Information received from the tax authorities regarding tax-related issues, such as applicable tax rates etc.

Electricity retail suppliers will feed in: information on the consumer using each meter, including special tax conditions related to the consumer, such as, for example, tax reductions for consumers using electrical heating.

On the basis of the information submitted by the various parties, the **Datahub** will calculate:

- The necessary billing information for each consumer,
- The amount that grid companies and Energinet.dk can bill each electricity retail supplier,
- The amount due to the tax authorities.

On the basis of this information, the DSOs and Energinet.dk will bill the electricity suppliers on a monthly basis for their services. The payment will be in a lump sum, not specified per consumer. The lump sum payment is determined by the measured or calculated consumption in the previous month.

A concern that has been raised is that the current differences from one DSO to another relating to billing and related processes also causes issues for suppliers. Even small differences can cause significant system inefficiency and administrative inconvenience. This will not be a problem any more if data hubs will be in place, but will be where a supplier centric model is introduced without data hubs in place.

Hurdle to Operation (No.61):

Billing related processes can vary slightly from DSO to DSO even within the same market. This presently causes additional system inefficiency for suppliers.

Suggestion:

- DSO should follow exactly the same billing related integrations with suppliers.
- Data hubs are considered extremely important as part of the supplier centric model.

Combined Billing

A major challenge that has faced new entrants has been the fact that customers who switch supplier end up thereafter receiving two bills: one from their supplier and one from their DSO. This is in fact not efficient for the DSOs, but it is especially inconvenient for the customer and can lead to customers preferring not to switch or then switching back to their former incumbent supplier in order to once again receive a single bill. The supplier centric approach would remove this problem by ensuring combined billing, a single bill with the DSO and supplier's element both incorporated and presented to the customer by the supplier. Every supplier interviewed for this research favoured combined billing.

Hurdle to Operation (No.62):

The two-bill situation for switched customers can result in some customers not switching or switching back to their former supplier.

Suggestion:

Combined billing should be seen as an urgent imperative for the entire Nordic market.

4.11. Customer Lifetime Value

The value of a customer to a supplier is essentially determined by a simple formula:

Profitability of the Customer X Length of the Relationship.

The yearly profitability of the customers is determined by the formula:

Price the customer pays (P) X Volume of energy purchased (V) - Cost to Serve the Customer (CTS)

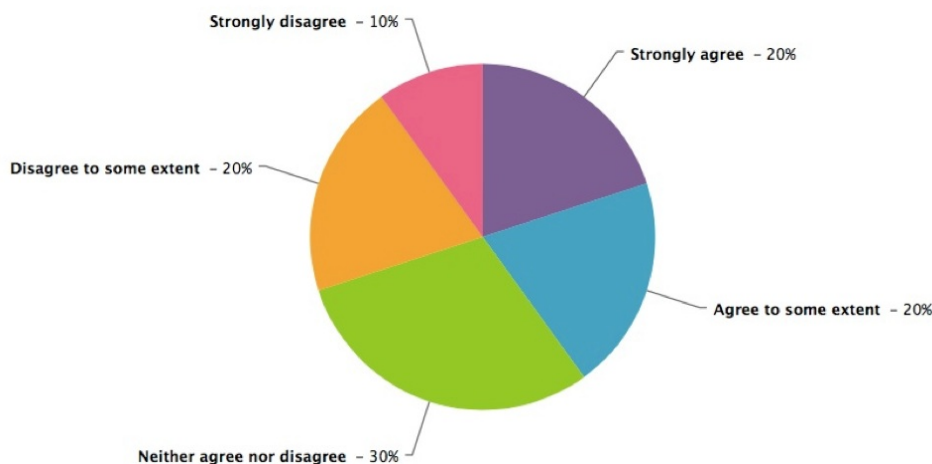
CTS includes the day to day cost of serving the customer, the cost of winning the customer (in the case of a won customer), the cost of retaining or winning back the customer (in the case of customers who have to be incentivised beyond price to stay or return) and all the other operational costs mentioned in this report.

A fundamental disadvantage faced by new entrants in electricity markets is that:

- An inactive customer - a customer who has never switched (the majority of the customers that make up the customer base of an incumbent supplier) can remain a customer of their supplier for as long as they live within the distribution area of the incumbent supplier and perhaps even until they die if they do not move home or contact their supplier to inform them of a move of home. It would be conservative to estimate the average length of a relationship for an inactive customer to be around 20 years or more. The active length of a relationship for an active customer (a customer who has switched at least once) is around two to three years but varies heavily depending on the nature of the customer, the activity of the market and the length of the contract.
- New entrant suppliers typically have to offer a lower price since they live off customers they win. The price their customers pay is therefore generally less than the price paid by inactive customers that remain with incumbent suppliers. Gross margins are consequently smaller for the average new entrant supplier's customer than for the average incumbent supplier's customer. This lower margin may be moderated however for suppliers who raise their prices once customers join them but in such cases customer loyalty and therefore length of the relationship is also generally reduced.

- It costs a lot to win new (active) customers and to keep them at the end of the contract and they are more likely to default on payments or pay late than customers who are not active (although this depends to some extent at least on the way in which switchers are targeted and marketed to) . The cost to serve an active customer is therefore generally far higher for new entrant suppliers and therefore their net supplier margins on customers are substantially lower.
- The customer lifetime value of a new entrant supplier is therefore far lower than that of an incumbent supplier.

Is it difficult for new entrant suppliers to compete against Incumbent Suppliers because they have the most profitable customers ?



Hurdle to Operation (No.63):

It can be extremely difficult for a new entrant supplier to compete if they are competing with suppliers who are selling the same commodity but making much more money doing so and able to use those additional profits on defensive marketing or transfer the profits from the inactive customers to protect their potentially active customers (especially those that they do not want to loose) from being acquired by new entrants, while not protecting the customers that they deem less or unprofitable. There are those who claim that the opposite is true, that new entrants can cherry pick the best customers since they do not have an incumbent obligation to supply, but the reality is that inactive customers are on average, worth much more than active ones.

Suggestion:

If the objective is a level playing field for competition, the opportunity for new entrants to acquire a similarly profitable customer base should be sought. Possible courses of action might include auctioning off non-switcher incumbent customers and spreading them among a broad mix of 'best bidders' (including incumbent suppliers if their bids are sufficient), or neutralising incumbent supplier advantages (perhaps through something like 'price-to-beat' as used in the past to some extent in Ireland, Texas and Great Britain), at least until new entrants are able to develop a similar average CLV and customer base. *Price-to-beat is the process of restricting incumbent supplier pricing so that they cannot lower their prices below a given level in order to compete with new entrant offers. This provides new entrants with the chance to offer sustainable discounts.

Hurdle to Operation (No.64): It is much easier to keep customers than to lose them, especially when a supplier can use the larger margins it receives on inherently loyal customers (those who have never and are unlikely to ever switch) to fund targeted pre-emptive discounts (discounts just large enough to stop otherwise active customers from switching - these can be smaller than the discounts offered by the supplier that is trying to win them) on the smaller number of customers who they are in the process of losing or likely to lose. If new entrants' efforts to win customers are scuppered in process by incumbents utilising price transfer, then the business case for organically acquiring customers fundamentally reduces.

Suggestion: It has long been our belief, based on the body of international evidence surrounding the dynamics of customer switching in liberalised energy markets, that:

- DSO's should be ownership unbundled from supply businesses. This argument is supported by the research conducted for this investigation.
- Price transfer, in all its forms should be prevented in energy markets. Incumbent suppliers should not be able to offer prices to active customers (customers they stand to lose or are trying to win) that are lower than the prices being given to equivalent inactive customers that they have never had to win. This argument is supported by the research conducted for this investigation.

4.12. Inter-Market Synergies

Smart Metering

Smart metering makes competition easier for new entrants. Through smart metering, suppliers are able to more easily obtain customer information for the purpose of switching when smart meters are in place. For this reason and the expectation that smart meters will afford new opportunities for added value differentiable service for suppliers and ESCOs, new entrant suppliers and ESCOs tend to consider the existence of smart meters to be an element of market attractiveness.

Smart meters are now installed across Sweden and Finland. In Norway, they will be rolled out mostly by January 2019. In Denmark they are in the process of being rolled out voluntarily. The partial approach presents additional complication to suppliers and ESCOs that do not have a consistent base of metering infrastructure to build efficient processes and business models on.

Hurdle to Operation (No.65):

The absence of smart meters is considered a negative market characteristic.

Suggestion:

It is up to each state to decide on the pace and the nature of smart meter rollout, but consistency of smart meter implementation across the Nordic region will enhance the appeal of the market and facilitate easier integration of pan-Nordic business models.

4.13. Customer Protection

The importance of customer protection was not challenged by any of the respondents taking part in this research. On the contrary, a number of the most successful new entrants in the market are positioned on the strength of their transparency, trustworthiness and overall quality of service.

Customer protection in the Nordic markets takes place, however, primarily through the application of national consumer laws that are not specifically intended for the electricity market. As such the findings of this report are unlikely to have much bearing on those laws.

Specific consumer protection actions however can be seen especially in billing and pricing regulations however. In the structure of bills and the transparency of prices.

One consumer protection regulation that was of concern to a very actively competing supplier that operates in several Nordic markets, was that in Norway, a customer who was falsely switched can have their switch reversed up to three years after the switch took place. While the logic behind this rule makes sense, it was claimed that rules like this can be seen as reducing the value of the customer base since suppliers may not have the information required to challenge such claims. This should not be seen as a Hurdle to entry, or even a Hurdle to operation, but a common feeling among a large proportion of respondents is that customer protection can sometimes go too far, and can in so doing increase costs for suppliers and ultimately customers.

4.14. Impact of Unbundling

As alluded to throughout this report, there are concerns that some legally unbundled utilities companies, or those which are not unbundled due to their small size, may be utilizing their position as DSOs to benefit their related suppliers. Bundled suppliers can also be accused of subsidizing their supply activities through the use of their regulated non-competitive revenues. This is not substantiated by this report and should be assumed only with caution, but it seems difficult to justify the ownership bundling of incumbent DSOs with incumbent suppliers in a market where any biased relationship between the two would be counter-competitive. And for sure the current combined billing situation and bundled brands are forms of accepted advantages incurred from bundling. The argument follows that if it is worth doing it is worth doing right. As long as incumbents DSOs have a (even theoretical) motive to be partial, there is surely a risk of partiality.

Hurdle to Operation (No.66): Any competitive advantage that would be gained by an incumbent supplier through its relation to a DSO would be detrimental to the competition and market entry by new competitors.

Suggestion: Opportunities for DSOs to favour related suppliers should therefore be closed as has been done in the most active markets in the world (e.g. Australia, New Zealand and Texas). Ultimately, ownership unbundling might therefore bring greater appeal to the market.

There is also a lot of concern that DSOs are allowed to provide additional services, such as feedback, smart home and other services - either on their own or with their bundled supplier - that compete directly with the services of new entrants, unbundled suppliers or ESCOs. These activities are seen as spreading the costs of services across competitive and monopoly business and enabling the costs for suppliers' service development to be supported by benefits realised in the distribution business. The idea of spreading costs and benefits per se, is not the problem, but the possibility of it creating an un-level playing field in favour of integrated incumbents is a serious concern to those who would like to provide those same services. This concern extends also to commercial third party services that may have privileged deals with DSOs and to DSOs having a clearer view of smart meter and other DSO infrastructure timetables and roadmaps - and therefore being better able to plan smart service strategies than non-partner suppliers or other third party service providers.

Hurdle to Operation (No.67): Bundled incumbent suppliers and privileged DSO suppliers may have an unfair advantage when providing feedback and ESCO services.

Suggestion: DSOs should play the role of impartial facilitators of smart services, albeit fairly incentivised for their part in the process.

5. What are the Biggest Costs For New Entrants?

It is extremely difficult to detail specifics about what drive the biggest costs for new market entrants. Relative costs will depend on the nature of the business, the historical context (the existence of legacy systems), strategy, the scope of services to be supported and many other factors. One company interviewed for the research stated that they had only eight staff to support 90.000 customers. Other companies with fewer customers and similar context employ far more. Some suppliers employ vast numbers of systems to do what others do with few. Some companies are extremely expert at managing risk or wholesale matters, some are highly efficient with automating processes. Some companies put an emphasis on marketing, others state that they do not do much marketing even though they have won large numbers of customers.

Ranking costs is therefore no more than a summary of averages and does not necessarily represent any company in particular, nor implicate the outcome for any future new entrant into the market. It is nevertheless valuable to get a feel for the overall picture. Where are costs, on average going. Where is the money being spent, from an aggregated perspective, based on, and only on, the responses given by those interviewed for this research.

The following ranking is based primarily on answers obtained through the interviews with suppliers (not ESCOs), supported additionally by the questionnaire⁷¹. The ranking is therefore an aggregated and assumed interpretation of the stated relative cost of different business operations as stated by interview respondents and the incidence of top five costs stated by questionnaire respondents. It should merely be seen as an indicative ranking of the costs that were mentioned in the

New Entrant Cost Rank	
Cost	Significance (1-3 where 3 is the highest)
Customer acquisition (including sales, marketing and switching process costs)	3
Obtaining customer information	3
Billing, collection and revenue assurance	3
Wholesale and Risk management	3
Salaries	3
Customer management/Information Systems	2
Other Marketing costs	2
Other Systems costs	2
Balancing	2
Moving process	2
Financing	2
Pre-entry information gathering	1
Company setup costs	1
Other company operation costs: rents etc.	1
Forecasting and pricing	1
Other: Trademarks etc.	1

Based on the above description, it can be seen that the biggest costs facing new entrants, especially the more active new entrants, are the costs of acquiring customers and obtaining information on customers, thought to be lower in a market with a data hub. Any wasted effort in trying to obtain information on customers - for instance in order to start the switching process - or through an existing

⁷¹ Non-prompted, open question: "What are the FIVE biggest COSTS facing your company when OPERATING in the market of primary focus in this questionnaire? Please rank in order with most important first"

supplier reversing the switch before it is completed, or through a customer switching again within a year or two of being won by a supplier, can be devastating to the profitability of a new entrant.

Systems and process related costs are also a major component of the costs of a new entrant. Where market processes and systems are not uniform between markets, these costs are multiplied in proportion with the level of variation that needs to be coped adjusted to. For instance a company may need to only increase staff and system costs by 10% to handle two markets that are identical, but may need to increase those costs many times more if the markets are not similar enough to facilitate synergies.

About the Author



Dr Philip E. Lewis
CEO and Founder, VaasaETT

Dr Lewis is a World leading expert in competition and customer behaviour issues in the energy utilities (electricity and gas) market globally. During 17 years in the liberalized utilities industry Dr Lewis has conducted research and strategic support in over 60 countries in five continents for a diverse array of over 500 organizations (utilities, governments, regulators and other stakeholders).

Dr Lewis' World Energy Retail Market Rankings report is the leading authority on competition and customer switching levels, trends and analysis around the world, and his definition of customer switching was adopted as the norm within Europe and Australia (by the European Energy Regulators Group for Electricity & Gas, CEER, as well as the Energy Suppliers of Australia Association). He is also founder and director of The Utility Customer Switching Research Project (see: www.utility-customer-switching.com) and Switchstats Australia (the only long-term Australian project collecting and analysing competition level / switching data directly from all the leading Australian energy suppliers – conducted in close collaboration with the ERAA and Australian suppliers).

Dr Lewis has led and written many major Nordic and European level reports focusing on competition issues including two national competition reviews for the Finnish Government, three European wide benchmarking reports for the then ERGEG (now replaced by ACER), an official public consultation report on Billing for NordREG, and numerous other projects.

On a scientific level, Dr Lewis holds a PhD in Marketing (specialising in service marketing, customer psychology and behaviour issues) from the University of Edinburgh, Scotland, was formerly an Assistant Professor of Marketing at the University of Vaasa business school in Finland, has written in numerous academic publications and has been on the editorial board of the European 'Energy Efficiency' Journal published by Springer, is a reviewer for the International Journal of Energy Sector Management, and is a Faculty Member for the Diploma of Advanced Studies programme in Renewable Energy Management at the University of St Gallen Executive School in Switzerland.

Dr Lewis has also been on various influential committees for e.g: 'WWF (European Policy Office) Green Power Partnership Advisory Committee', the International Utility CIO of the Year Awards, and many leading conference committees, and has frequently been a keynote speaker or keynote chairman at some of the world's largest and most prominent events such as European Utility Week.

He was also founding chief editor of the book 'The Energyforum Global Report', the world's first comprehensive review of competition in liberalised markets around the globe, and has for many years been a co-writer of Capgemini's European Energy Markets Observatory.

Formerly head of Marketing Research and Analysis for UK based retailing subsidiary of (now) BP Amoco and (now) Edf, during the onset of competition in the British retail energy market, he was then founder and chief of Finland's leading energy markets think-tank at the University of Vaasa.

About VaasaETT

VaasaETT is a world leading international specialist research and advisory company. We analyse and model experience and thought leadership from over 60 markets around the globe to drive end-customer focus into the energy utilities value chain. We build value for customers, the energy industry and the environment through expertise in marketing, competition and the development of Smart and other services, backed by our world class market monitoring, unmatched insight into customers and our global information network.

VaasaETT are the world's leading experts in utility customer behaviour and psychology; the world's leading source of global customer switching data & analysis; the source (Dr Lewis) of the EU's definition of electricity & gas customer switching; the world's most extensive source of smart grid / smart energy demand and demand response program benchmark data (>500 analyzed); Europe's best source of retail energy price data; and the world's only organisation to have tracked every competitive energy markets since full market opening, including the markets covered in this report. Our internal experts have provided research, analysis and consulting for over 500 clients globally.

More information at: www.vaasaett.com

About NordREG

NordREG is an organisation for the Nordic energy regulators. Its mission is to actively promote legal and institutional framework and conditions necessary for developing the Nordic and European electricity markets.

Areas of work

The basis for the co-operation within NordREG is to identify areas of work where cooperation can take the following forms:

- Exchange of views
- Working together to map and analyse energy market issues
- Producing reports and statements
- Taking common action to influence the development of the Nordic or the European energy markets

Mission

In cooperation, we actively promote legal and institutional framework and conditions necessary for developing the Nordic and European electricity markets.

Vision

All Nordic electricity customers will enjoy free choice of supplier, efficient and competitive prices and reliable supply through the internal Nordic and European electricity market.

More information at: www.nordicenergyregulators.org