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# Electricity customer in the Nordic countries

**Status Report Retail Markets 2016**

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## Preface

NordREG, a cooperation between Nordic energy regulators, has for several years been devoted to the work of developing the Nordic electricity market. In recent years, NordREG has focused on establishing joint recommendations in order to achieve a harmonised Nordic electricity retail market. The Nordic countries are making substantial changes to their national electricity markets in order to make them coherent. Such measures include supplier centric market processes and the development of data hubs.

NordREG provides an important platform for information exchange and sharing of best practices. This is the first report that describes the customer situation in the five Nordic electricity retail markets. For example, what type of offers are available, how much do customers pay and what are the incentives for changing consumer behaviour?

We also endeavor to capture the customer's perception of his/her personal situation. We do this by looking at complaints and inquiries received by national regulators (NRAs), together with the result from the European Commission's survey Consumer Markets Score Board, where customers in all EU member states, together with Iceland and Norway, have answered questions about their situation in the electricity market.

Ove Flataker  
Chair of NordREG

Oslo, March 2017

## Executive summary

Since 2005, NordREG has worked towards a harmonised electricity retail market. Many important steps have been taken. However, the common objective has not yet been achieved. The Nordic countries still have five separate Retail markets with many similarities and some differences.

This report describes the customer's situation in the Nordic electricity retail markets. The picture that emerges is in many ways positive. Customers in all countries, except Iceland, have a wide range of contracts and suppliers to choose from and are relatively active. They all have access to independent price comparison tools where one can compare options from several electricity suppliers before signing a new contract. Many customers also have a clear economic incentive to switch supplier or renegotiate their contract with the current supplier.

Few customers complain about the switching process itself. Instead, problems the customers experience are typically when they have not understood the terms of the contract or there has been an unfair selling process. NordREG believes that contracts for buying electricity are the basis for the whole function of the electricity market. Therefore, it is crucial that customers are well informed about contractual issues and trust the suppliers' and Distribution System Operators' (DSOs) contractual procedures. With regard to developing or harmonising issues that still cause uncertainty in the market, the Nordic regulators also need to cooperate with consumer authorities as, for instance, sales methods and individual contractual disputes typically do not belong under the NRAs jurisdiction.

All companies represented in the Nordic electricity retail markets are required to provide their customers with information about, e.g. contractual terms, pricing alternatives and consumption data. Many customers contact their national NRA and question the legal aspects of contractual changes or if the supplier has provided them with all the required information before they enter into a new contract.

So far, only Denmark has implemented mandatory combined billing, where the supplier bills the customer for both the electricity and network fee in one invoice. However, all countries have regulations concerning billing and required information on invoices. Still, when customers are asked how well they understand their bill, the result varies between the Nordic countries.

Retail prices in Finland, Denmark, Norway and Sweden are characterised by a close connection to the underlying common Nordic electricity wholesale market. Spot price contracts settled against wholesale markets are on average cheaper than other contract types. In Norway and Sweden, customers with the most common contract<sup>1</sup> have experienced more price changes than customers in Finland over the last five years. At the same time, prices seem to be higher in Finland than, for example, Norway.

In all Nordic countries, except Iceland, there are a number of Energy Service Companies (ESCOs) that offer services to customers. There are also organisations, both publicly owned and non-governmental organisations that nationally coordinate and promote different kinds of energy services. In all countries, except Iceland and Denmark, customers are offered different kinds of flexibility products.

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<sup>1</sup>Finland: Variable price, Norway: Spot, Sweden: Monthly variable price

## 1. Introduction

NordREG has identified a number of key processes that customers meet and, in this report, NordREG present data for these processes. The processes are switching<sup>2</sup>, contracts, billing and pricing. The focus is mainly on conditions in the retail market, not the wholesale market or network regulation. The report describes the key processes' regulatory framework and presents relevant data for each process. The objective is to describe the customer situation from both a customer and market perspective.

What is unique about this report is that data about the processes are presented together with national statistics on complaints and inquiries. NordREG believes that complaints and inquiries are an important measure of customer activity. It is crucial for customers to have access to efficient complaint handling and get correct answers to any inquiries. A high number of complaints and inquiries to the NRAs may indicate that part of the market is hard to understand, or that there is general discontent. At the same time, a high number of inquiries and complaints shows that customers are active and know where to turn.

The Nordic NRAs handle and register complaints and inquiries differently. One of the NRAs registers all consumer inquiries, other NRAs only register inquiries that results in a formal decisions. The national data of complaints and inquiries for each of the Nordic countries is presented in Annex 1. In this report, NordREG also refer to results from the European Commission's Consumer Markets Scoreboard, published in September 2016. A selection of the results is presented in Annex 2<sup>3</sup>.

The European Commission published a legislative proposal for a revision of the Internal Electricity Market Directive on 30 November 2016. In 2017, NordREG will examine the implications of this revision for the key processes described in this report. However, the purpose of this report is to describe the current situation for customers in the Nordic electricity retail markets. Therefore, NordREG has chosen not to mention any of the suggested revisions in this report.

In this report, NordREG strive to present the latest available comparable data. Most data is from 2015, but there is also older and newer data if data from 2015 was not available for all or most countries when this report was produced. Please refer to footnotes for details.

## 2. The Nordic electricity retail market

This chapter describes the development of the Nordic electricity retail market, current situation and goals for further development. The purpose is to give a short introduction and overview of the Nordic electricity retail market. Iceland is a separate retail market that is described briefly in chapter 2.2.

### 2.1 Background and common NordREG goals

The electricity markets in Denmark, Finland, Norway and Sweden have undergone major changes since the middle of the 1990s. All four countries have liberalised their electricity markets, opening both electricity trading and production to competition.

The aim of this is to create better conditions for competition and, thus, improve utilisation of production resources as well as to provide gains from improved efficiency in the operation of networks. In the Nordic countries, trading, clearing and settlement within the power market is organised through the Nordic electricity exchange company Nord Pool. Financial trading in the Nordic electricity market takes place on Nasdaq Commodities.

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<sup>2</sup> Including moving

<sup>3</sup> Together with results from "The 2<sup>nd</sup> Consumer market study on functioning of retail electricity markets for consumers in the EU", a study commissioned by CHAFAE acting on behalf of the European Commission.

Today, the Nordic countries have interconnected grids, where balancing is conducted collectively by the Nordic transmission system operators (TSOs). Furthermore, there is a common market for regulatory power in which the most efficient resources in the Nordic region are used to regulate the production of power.

NordREG has worked towards a harmonised retail market since August 2005, when the Nordic Energy Ministers set the objectives for further development of the Nordic electricity market. In its work, NordREG has identified the following four areas as most important to harmonise.

- Customer interface – a supplier centric model, where customers in most cases only have to contact the supplier.
- Combined billing – the supplier invoices the network tariff together with electricity consumption.
- Supplier switching and customer moving – where for example a number of standard messages are sent between supplier, DSO and National Point of Information (NPI).
- Information exchange – developing national information hubs.

These goals for harmonisation are currently being implemented on a national level.

## 2.2 Basic facts of the Nordic retail markets

The Nordic wholesale market consists of four national retail markets with many similarities and some differences. Iceland is a separate retail market that is described briefly at the end of this chapter.

The five Nordic retail markets differ in size from 185 000 household customers in Iceland to 4 626 000 in Sweden. The average annual household consumption differs from 3 390 kWh per year in Denmark to 16 000 kWh per year in Norway. This of course means that customer dependency on electricity varies considerably.

However, when we look at the total cost of electricity<sup>4</sup> as a share of disposable income for customers in capital cities, the differences between the Nordic countries are smaller. In the capitals of Denmark, Finland, Norway and Sweden, customers use around 4 % of their disposable income on electricity. This puts the Nordic countries somewhere in the middle when 22 European countries are compared. In Italy's capital, customers spend the least (2,2 %), whilst in Portugal's capital the most is spent (6,0 %).

The cost that the customer can influence is much smaller in Denmark than the rest of the Nordic countries. In Denmark, only 13 % of the total cost of electricity is connected to the supplier, the rest is towards the network fee and taxes. In Iceland, Norway and Sweden, around 30 % and in Finland 40 % of the total cost is connected to the supplier.

The number of suppliers varies from 51 in Denmark to 140 in Norway. So does the consumer behavior, where the most active customers, according to switching rates, are found in Norway and the least active in Denmark. Customers in all Nordic countries have access to an independent Price Comparison Tool (PCT), where it is possible to see offers from all market players.

Contracts with prices connected to the wholesale market, are by far the customers' most common choice in the four countries where this data is available.

While Denmark, Finland, Norway and Sweden have a common wholesale market for electricity and interconnected grids, Iceland has a separate market. There are six DSOs and six suppliers in Iceland that all

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<sup>4</sup> Both cost of electricity and network tariff. Iceland was not included in the study

have one variable contract type for their customers. Suppliers normally set the price, but in Iceland, the electricity price is connected to the price of aluminum since the aluminum industry is the biggest electricity consumer (80 % of total consumption). The price difference between the six suppliers is very small (4 %) and the switching rate rather low, by Nordic comparison.

There have been some ongoing discussions in Iceland for the past years regarding the possibility to have a subsea cable from Iceland to the UK<sup>5</sup>. If this becomes a reality, the market for electricity in Iceland would be connected to the internal European market.

Table 1. Basic national facts of the Nordic Retail Markets for electricity

	Denmark	Finland	Norway	Sweden	Iceland
<b>Number of household customers 2016</b>	2 654 585	2 641 000 <sup>6</sup>	2 576 400	4 626 000	185 000
<b>Average household consumption 2015 (kWh/year)</b>	3390 <sup>7</sup>	8700 <sup>8</sup>	16 000 <sup>9</sup>	7 000 <sup>10</sup>	4 500
<b>Total national demand/consumption 2015 (TWh)<sup>11</sup></b>	34	83	128	141	No data
<b>Electricity bill as a share of disposable income 2015<sup>12</sup> (%)</b>	3,9	3,7	3,4	4,0	No data
<b>Price element breakdown 2015 supply/grid/tax (%)</b>	13/18/69 <sup>13</sup>	40/23/37 <sup>14</sup>	24/34/41 <sup>15</sup>	27/27/46 <sup>16</sup>	30/21/49
<b>Number of Suppliers 2015</b>	51	74	140	122	6
<b>Number of electricity suppliers for household customers active nationwide 2015<sup>17</sup></b>	29	51	70	68	6
<b>Total number of new supplier entrants in the household market 2015<sup>18</sup></b>	1	2	5	4	0
<b>Switching rate 2015 (%)</b>	7,1	11,4	13,7	10,3	0,3

<sup>5</sup> A project on the feasibility of interconnection between Iceland and the United Kingdom ("IceLink") has been approved on the European Commission's list of Projects of Common Interest (PCI) in 2015

<sup>6</sup> Year 2014

<sup>7</sup> Electric devices and lights. Based on the annual energy statistics report 2015 published by the Danish Energy Agency

<sup>8</sup> Households and agriculture

<sup>9</sup> Based on NVE's Economic and Technical Report for 2015

<sup>10</sup> 2015: Apartment buildings and houses = 7 000 kWh/year

<sup>11</sup> According to CEERs database

<sup>12</sup> Source: HEPI by Energy Control Austria, MEKH and VaasaETT, WEC, EuroStat (2016). Electricity bills as a share of disposable income in each country are calculated as follows: (All-in price of electricity at PPS x average annual electricity consumption) disposable income at PPS. The Austrian Energy regulator (Energie Control Austria) and the Hungarian Energy and Public Utility Regulatory Authority (MEKH) have commissioned VaasaETT to compile and publish electricity price rankings in 29 European capital cities on a monthly basis starting from January 2009. The study, called 'Household Energy Price Index' (HEPI), is designed to reflect the prices typically paid by residential customers in capital cities.

<sup>13</sup> The numbers cover a household with an annual consumption of 4.000 kWh in 2015

<sup>14</sup> 18 000 kWh/year (5 000 kWh/year = 36/30/34)

<sup>15</sup> Based on a consumption of 16 000 kWh/y

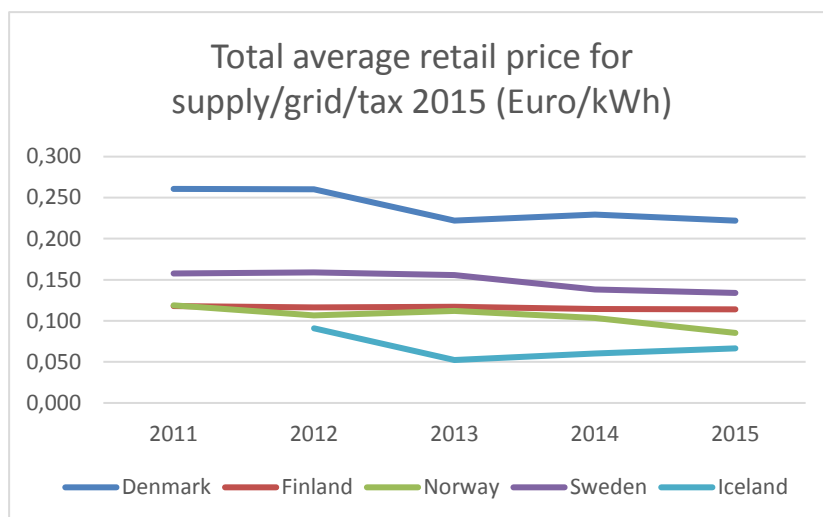
<sup>16</sup> Year 2015: 20 000 kWh/year (2 000 kWh/year = 27/37/36)

<sup>17</sup> According to CEERs database

<sup>18</sup> According to CEERs database

	Denmark	Finland	Norway	Sweden	Iceland
<b>How many suppliers report to independent PCT 2016</b>	All, 51 <sup>19</sup>	All, 74	All, 140	122 <sup>20</sup>	All, 6
<b>Most common contract and share of customers 2016</b>	No data	Variable price, 55 %	Spot, 60 % <sup>21</sup>	Monthly variable price, 48 %	Variable price, 100 %
<b>Total price for supply/grid/tax 2015 for customer with consumption &gt;15 000 (Euro per kWh)<sup>22</sup></b>	0,222	0,114	0,085	0,134	0,067

Diagram 1, Denmark has the highest and Iceland the lowest total retail prices<sup>23</sup>



More national data can be found in 'Electricity customer in the Nordic countries, Annex 1-3, Status Report Retail Markets 2016', published separately from this Status Report.

### 3. High switching rates in the Nordic countries

NordREG sees switching as a key area that needs to be harmonised in order to successfully implement a Nordic retail market. In 2013, NordREG published a framework for a future process regarding supplier switching. This framework includes recommendations for time frames, responsibilities and content of messages.

NordREG believes that the switching rate can illustrate the level of competition among suppliers. A high switching rate indicates strong competition, and vice versa. NordREG also believes that a harmonised switching

<sup>19</sup> All suppliers with offers for private consumers and business customers with consumption < 100 000 kWh)

<sup>20</sup> May 2016

<sup>21</sup> Latest available data from 2012

<sup>22</sup> Eurostat: Electricity price components for domestic consumers - annual data, consumption >15000 kWh (electricity and supply + network cost + taxes and levies

<sup>23</sup> Eurostat: Electricity prices components for domestic consumers - annual data, consumption >15000 kWh (electricity and supply + network cost + taxes and levies



process can strengthen the opportunity of cross-border activity among suppliers, which could enhance competition and give customers a wider range of products to choose from.

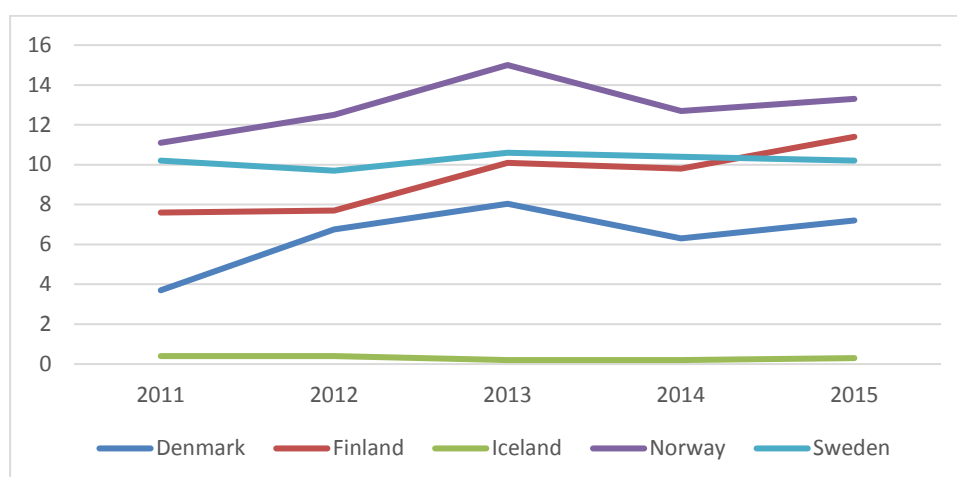
Another important indicator of the level of competition in the retail market is how varied the products offered from suppliers are. It is assumed that a customer has an economic incentive to switch supplier. However, in order to compare products, the retail market has to be transparent. Furthermore, customer preference for given products, as well as duration of contracts, are also important drivers of the consumers' propensity to change supplier.

In this chapter, we describe the switching process, switching rates and customers incentives for being active in each Nordic country. A switch is defined as an action that takes place when a customer changes supplier<sup>24</sup>.

### Summary of current situation

Today, customers throughout the Nordic countries are offered a wide range of suppliers and contracts. Switching rates vary between around 7 % in Denmark and close to 14 % Norway.

*Diagram 2, Annual switching rate in the Nordic retail markets*



In the last five years, there has been a positive trend with increasing switching rates in both Denmark and Finland. This, together with stable high switching rates in Norway and Sweden, makes the Nordic countries stand out in a European comparison. When switching rates in 23 European countries<sup>25</sup> are compared, the Nordic countries are among the nine highest. The exception is Iceland, where the switching rate, for different reasons, was 0,3 %. The EU average for 2015 was 6,6 %.

In most Nordic countries, there are economic incentives for switching. For instance, by changing type of contract and by comparing prices for the same type of contract. For example, inactive customers on a default contract can save 15 % in Finland and as much as 30 % in Sweden by switching to the most common alternative contract. There is also an economic incentive for active customers to switch from one contract type to another. In Finland, customers on open-ended contracts have been able to save about 20 % by switching to spot price

<sup>24</sup> NordREG has also defined moving as a key process. Moving is when a customer moves in to or out of a location with a meter. Moving is of course, related to switching since a switch normally takes place when a customer moves. In this report, we have chosen to focus on switching.

<sup>25</sup> All countries that in October 2016 had reported switching rates for 2015 in the CEER database.

contracts. In Norway, customers on variable price contracts have on average been able to save 13 % in the last five years by changing from variable price contracts to spot based contracts.

Furthermore, there is a clear economic incentive for customers to switch supplier but keep the same type of contract. In Sweden, customers on the most common contract type can save 18 % by going from the most to the least expensive supplier. In Finland, a customer on the most common contract can save 30 %. The exception is Iceland, where price difference between the most and least expensive supplier is only 4 %. In Denmark, all customers are able to save money by switching from the most to the least expensive supplier. According to a study made in 2015, customers could, depending on consumption level, save between EUR 36 and 215 per year.

In both Finland and Sweden, the price difference per kWh is bigger for customers with an annual consumption of 2 000 kWh per year than it is for customers with a consumption of 18-20 000 kWh per year.

At the same time, there are incentives for action other than economic. In all Nordic countries, except Iceland<sup>26</sup>, there is a wide variety of green products to choose from. In Sweden, some suppliers also market products where the surplus goes to charity or other non-profit organisations, for example the local youth football club. In Norway, it is common with contracts with customer benefits such as ski passes and airline mileage points.

Statistics from the NRAs show that few consumers have complaints or inquiries about the switching process itself. The problems consumers experience, in relation to a switch from one supplier to another, are typically where the consumers have not understood the terms of the contract or there has been an unfair selling process.

In Sweden, more than half of all complaints about suppliers to both the NRA and the single point of contact<sup>27</sup> are disputes over terms of contract. 10 % of complaints to the Norwegian ADR (Elklagenemnda) and a number of complaints to the Finnish NRA concern switching and contracts.

In Sweden, 23 % of all complaints to the NRA and a large number of the complaints to the single point of contact concern unfair selling methods. Here, some customers complain about being switched against their will or even without their knowledge, which has often resulted in exit fees for the customer. The most common complaints to the Finnish Consumer Agency concern contracts and distance selling. Other complaints from Finnish customers connected to switching and unfair selling practices concern misleading advertising.

Many customers also turn to the Swedish NRA with basic inquiries about how the market works and switching is carried out. In the Swedish Consumer Report from 2016<sup>28</sup>, the electricity market scores low on 'Information level' (ranking the electricity market as number 42 out of 45 consumer markets). This indicator shows to what extent a consumer gathers information and compares different alternatives before a purchase.

A study initiated by the European Commission<sup>29</sup> shows that 17 % of customers in Sweden that have switched during the last three years felt that it was difficult. Whereas, in Norway 10 % felt the same. In Finland and Denmark, it was only 5 %. When asked to value 'ease of switching' on a scale between zero and 10, customers in Finland and Iceland felt it was slightly easier than the EU average. Customers in Denmark and Sweden felt it was more difficult than the EU average. Furthermore, customers who did not switch were asked why. The most common answer was that they were not interested.

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<sup>26</sup> 99.8 % of the electricity in Iceland comes from renewable production sources

<sup>27</sup> Konsumenternas Energimarknadsbyrå

<sup>28</sup> Published annually by the Swedish Consumer Agency

<sup>29</sup> 2nd Consumer market study on functioning of retail electricity markets for consumers in the EU, a study commissioned by CHAFAE acting on behalf of the European Commission

Table 2, Quick facts about switching

	Denmark	Finland	Norway	Sweden	Iceland
<b>Number of Suppliers</b>	51	74	140	120	6
<b>Switching rate 2015 (%)</b>	7,1	11,4	13,7	10,3	0,3
<b>How much can a customer on the most common contract save by going from most expensive to least expensive supplier (%)</b>	6 % <sup>30</sup>	30	No data	18	4

National data on switching can be found in Annex 3. More information on complaints & inquiries and the EC Consumer Markets Scoreboard can be found in Annex 1 and 2.

## 4. All customers have access to independent price comparison tools

In order to be an active customer it is crucial to have access to comparable and comprehensible information about available suppliers and contracts. As a customer, there are a number of ways to learn about new contracts, for example via telephone sales, personal in-store meetings or through a price comparison tool (PCT).

NordREG believes that PCTs have a very important role to play. In most Nordic countries, customers have a large number of suppliers and contracts to choose from. It can be both time consuming and difficult to monitor the market to find the best available contract. Therefore, a reliable and updated PCT can help customers to be active and contribute to overall better competition in the Retail market.

### Summary of current situation

Customers in all Nordic countries have access to independent PCTs operated by the NRAs or other public entities. The independent PCTs give customers a good overview of the available offers that suppliers by law are obligated to report and maintain up-to-date information on. In all countries, except Iceland, customers also have access to commercial PCTs.

There are differences between the independent PCTs. The Danish, Norwegian and Icelandic PCTs include network tariffs in the prices, which means that customers obtain the total price of electricity.

Not all customers that switch supplier use the independent national PCTs. In Finland and Sweden, 10-12 % of customers switch supplier each year. The annual switching rate in Denmark was 7 % in 2015. According to available national statistics on unique visits, fewer customers than that visited the independent PCTs.

The PCTs in the Nordic countries mainly focus on contracts for electricity. However, the Danish PCT also shows combination products, where the customer signs a contract for both electricity and natural gas. The Swedish PCT alerts customers that enter a ZIP code where there is a network for natural gas that they are also able to choose gas supplier and that they can use another PCT for comparing supplier contracts for gas.

<sup>30</sup> The number refers to a contract for a household with an annual consumption of 4.900 kWh. It is the difference between the 10 % most expensive contracts and 10 % cheapest contracts for November 2016

Only the Swedish NRA registers complaints and inquiries that concern the independent PCT, Elpriskollen. Around 5 % of all complaints and inquiries from customers to the NRA concern Elpriskollen. Here, customers complain about incorrect pricing (31 %) <sup>31</sup> and differences between prices for the same contract on independent and commercial PCTs (7 %). Customers also have comments about the content and the functionality of the PCT (24 %). A number of the inquiries regarding Elpriskollen come from customers without internet access, asking which supplier has the lowest price.

According to a study initiated by the European Commission <sup>32</sup>, around half of the customers in Finland and Sweden compared tariffs offered by different electricity companies before switching. In Denmark, only around a third of the customers did. The average for EU was 41 %. Furthermore, when customers were asked to score their own ability to compare products or services on a scale from zero to 10, customers in all Nordic countries, except Finland, felt that they had less ability than the EU average.

Table 3, Price Comparison tools in the Nordic countries

	Denmark	Finland	Norway <sup>33</sup>	Sweden	Iceland
<b>Number of PCTs 2016 (independent / commercial)</b>	Independent: 1	Independent: 1 Commercial: 3 (at least)	Independent: 1 Commercial 1 (at least)	Independent: 1 Commercial: 3 (at least)	Independent: 1
<b>How many suppliers report to independent PCT</b>	All, 51 <sup>34</sup>	All, 74	All, 140	122 <sup>35</sup>	All, 6
<b>How many unique visits 2015</b>	No data <sup>36</sup>	180 000 <sup>37</sup>	No data <sup>38</sup>	63 200	No data

National PCT data can be found in Annex 3. More information on complaints & inquiries and the EC Consumer Markets Scoreboard can be found in Annex 1 and 2.

## 5. Wide range of different suppliers and contracts

In all Nordic countries, except Denmark, electricity customers have two contracts, one with the supplier and one with the DSO. The regulatory framework for contracts is found in energy regulations, contract law and other regulations aimed at consumers, regardless of market sector.

NordREG believes that contracts for buying electricity are the basis for the whole function of the electricity market. Therefore, it is crucial that customers are well informed about contractual issues and trust the suppliers' and DSOs' contractual procedures. With regard to developing or harmonising issues that still cause uncertainty in the market, the Nordic regulators need to cooperate with consumer authorities as, for instance, selling methods and individual contractual disputes typically do not belong under the NRAs' jurisdiction.

<sup>31</sup> The price presented in Elpriskollen does not match the price offered to the customer when supplier contacted

<sup>32</sup> 2nd Consumer market study on functioning of retail electricity markets for consumers in the EU, a study commissioned by CHAFAEA acting on behalf of the European Commission

<sup>33</sup> The new PCT in Norway was launched in September 2015, which limits the availability of annual statistics at this point

<sup>34</sup> Suppliers with offers for private consumers and business customers with consumption < 100 000 kWh)

<sup>35</sup> May 2016

<sup>36</sup> April 2016 to November 2016, 118 000 unique visitors. Estimation of approximately 180 000 unique visitors annually. (The current Danish PCT was launched 1 April 2016).

<sup>37</sup> Rough estimation

<sup>38</sup> PCT was launched in September 2015

## Summary of current situation

In all Nordic countries, except Iceland, customers have more than one contract type to choose from. A variable price contract, with certain specific characteristics, exists in all the Nordic countries. This contract type is also the most popular one in Finland, Iceland (the only option) and Sweden. In Norway, spot based contracts form the largest share of the contracts. These contracts may, however, use different methods to calculate the spot part of the retail price, for example by using the monthly spot price published on NordPool Spot or by using a weighted average of hourly wholesale prices. This may result in different profit margins for suppliers.

Contract types that are separately specified per country, are contracts for green and combination products in Denmark and designated price contracts in Sweden.

The number of offers available varies significantly. For example, Sweden has over 4,000 different contracts registered in the PCT called Elpriskollen, compared to 750 contracts in the Finnish and 130 in the Danish PCT. In Iceland, the six suppliers only offer one variable contract each.

Termination fees for terminating a contract in advance are typically only allowed with regard to fixed term, fixed price contracts, if the fee has been explicitly agreed upon by the contract parties.

It seems that in Sweden, the price of electricity tends to be more affordable when choosing variable price contracts rather than (one year) fixed time contracts. The same goes for Spot, the most common contract in Norway. In the reviewed period in Finland, however, two-year fixed price contracts have been more affordable than variable price contracts. The reason probably being that the category of variable price contracts in Finland also includes contracts made under the obligation to supply, which are contracts that usually have higher prices than other variable price contracts. The statistics could also change slightly if using prices for one-year fixed term contracts instead of two-year contracts. However, it is clear that in all covered years, spot price contracts were in average the cheapest contract type for households.

The most common complaints and inquiries regarding contracts have been about the price and other terms of contract, and whether the contractual changes have been legal/reasonable and communicated in a proper manner.

Many Swedish customers complain to the NRA about changes to the terms of contract, possible unfair terms, notice periods and terms for automatic extension of fixed contracts. The Swedish single point of contact, Energimarknadsbyrån, also receives many complaints about possible unclear or unfair terms of contract. Customers that contact the Finnish Energy Authority (EV) complain about procedures for concluding the contract and amending the terms of contract (notification of changes in contract). Many Finnish customers complain to the Competition and Consumer Authority about unreasonable contract terms and change of price or other terms and conditions of contracts. 10 % of complaints to the Norwegian ADR concern switching and contracts.

In the Swedish Consumer Report from 2016<sup>39</sup>, the electricity market scored low on 'understanding' (ranking the electricity market at 42 out of 45 consumer markets). It is obviously easier for Swedish customers to understand terms of contracts and what they get for their money in other markets than the electricity market. The Swedish Consumer Report from 2016 also shows that many customers give retailers and providers a low score on trust (39<sup>th</sup> out of 45 consumer markets).

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<sup>39</sup> Published annually by the Swedish Consumer Agency

Table 4, Contracts in the Nordic countries

	Denmark	Finland	Norway <sup>40</sup>	Sweden	Iceland
<b>Most common contract</b>	No data <sup>41</sup>	Variable price, 55 %	Spot, 16 %	Monthly variable price, 48 %	Variable price, 100 %
<b>Number of contracts offered in total</b>	200 <sup>42</sup>	745 <sup>43</sup>	No data	4 205 <sup>44</sup>	6

Besides traditional contracts between customers and suppliers, there is also a growing market for Energy Service Corporations (ESCOs) in the Nordic countries. This development is in line with, and somewhat boosted by, the 2012 Energy Efficiency Directive (EED), which requires that all EU countries use energy more efficiently at all stages of the energy chain from production to final consumption.

In the directive, ESCOs are defined as companies that 'deliver services or other measures to improve energy efficiency in a customer's facility or premises'. Energy services may be provided in a number of different ways. Either by providing the customer with information, analysis, actions and different agreements. Information may include delivery of energy statistics and energy mapping. Actions might include replacement of equipment and different organisational measures. Agreements may include different contracts and agreements with a binding energy saving warranty for the customer.

In all Nordic countries, except Iceland, there are a number of ESCOs offering services to customers. There are organisations, both publicly owned and NGOs that nationally coordinate and promote different kinds of energy services. This role is held by the NGO (Energitjenesten) in Denmark, the state owned expert company Motiva in Finland, and, in Sweden, the industry association Energieffektiviseringsföretagen.

In all countries, except Iceland and Denmark, customers are also offered different kinds of flexibility products. One example is the Finnish company OptiWatti that offers a system that optimises the heating of individual rooms depending on the user's needs, electricity price and weather forecast. There are also somewhat similar products offered by electricity supplier Fortum. The company installs additional equipment, which can be used for optimising electricity use via a computer, tablet or smart phone. For example, a customer can follow electricity consumption or the temperature in his home or cottage and remotely switch on and off specific electrical devices. The system is also able to alternate between oil and electrical heating, depending on the electricity price. Another example, is the Norwegian state-funded energy efficiency organisation Enova which, in cooperation with the Norwegian NRA, launched and funded seven pilot projects focusing on daily demand response for a total of 25,000 Norwegian electricity customers. A third recent example is a project tested by the Swedish supplier Elverket Vallentuna EL AB. Here, the objective was to assist households with a ground source heat pump to reduce their electricity bill using new technology to adapt to electricity price variations.

National data on Contracts can be found in Annex 3. More information on complaints & inquiries and the EC Consumer Markets Scoreboard, can be found in Annex 1 and 2.

<sup>40</sup> The new PCT in Norway was launched in September 2015, which limits the availability of annual statistics at this point

<sup>41</sup> Based on volume, the Danish market is 86 % fixed price and 24 % variable (spot) price

<sup>42</sup> 130 (private) and approximately 70 (business) for customers with an annual consumption <100.000 kWh/year

<sup>43</sup> May 2016

<sup>44</sup> Reported to PCT in May 2016

## 6. Customers have access to important information

NordREG believes that it is crucial for customers to have access to information, such as consumption data and terms of contract.

### Summary of current situation

Nordic customers can access information on consumption and prices via their invoice, the Internet, the energy companies' homepages or on-line services.

Both the DSO and the supplier are required to provide customers<sup>45</sup> with information concerning, for example, contractual terms and conditions, pricing alternatives, consumption data, quality of supply, power outages, the right to compensation and damages and where and how to complain. In Sweden, customers also receive information on designated contracts and contracts about to expire.

As mentioned in the previous chapter, many complaints from customers to the national regulators were disputes over the terms of contract. Customers want to know whether a contractual change is legal/reasonable and communicated in the proper manner. Between 2013 and 2015, half of the complaints about suppliers in Sweden were different kinds of disputes regarding contract terms.

In 2015, the Swedish NRA audited how companies in the electricity market fulfilled their obligations to inform customers. All 151 DSOs and 24 suppliers with a market share of more than 70 % were examined, and the result was that 45 % of the DSOs and 96 % of the suppliers broke at least one of their legal obligations concerning information to customers.

In the Swedish Consumer Report from 2016, the electricity market scored low on 'Information level' (42<sup>nd</sup> place, of 45 consumer markets). This indicator shows to what extent a consumer gathers information and compares different alternatives before a purchase.

According to a study initiated by the European Commission<sup>46</sup>, Icelandic customers are the most negative to the availability and quality of information from their electricity companies. In Iceland 70 % of customers disagreed that their power company is informative. The average for EU was 38 % that disagreed. In Denmark, 46 %, Norway 41 %, Sweden 30 % and in Finland 29 % disagreed that their power company is informative.

National data on 'Access to information for the customer' can be found in Annex 3. More information on complaints & inquiries and the EC Consumer Markets Scoreboard can be found in Annex 1 and 2.

## 7. Only Denmark has mandatory combined billing

NordREG has published recommendations for a combined billing regime on a Nordic level. This is a major step towards a supplier centric model, where customers have contact with the supplier regarding most issues concerning billing, moving and supplier switching. This chapter describes which conditions Nordic customers face with regard to billing.

### Summary of current situation

Only Denmark has implemented mandatory combined billing, where the supplier bills the customer for both electricity and the network fee in one invoice. In Finland, Sweden and Iceland customers normally have combined billing when the supplier and DSO are part of the same company group. Norway has a legislation that

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<sup>45</sup> Finland and Sweden

<sup>46</sup> 2<sup>nd</sup> Consumer market study on functioning of retail electricity markets for consumers in the EU, a study commissioned by CHAFAEA acting on behalf of the European Commission

states that if one DSO offers combined billing to a supplier, all suppliers are entitled to combined billing with this DSO.

All countries have, to different extents, regulations concerning billing and the information required on invoice. In all countries, suppliers have to bill customers at least four times a year. An invoice fee is not permitted (not regulated for energy bills in Norway) and the invoice must show consumption data and current prices. Customers have the option to choose if they want electronic billing.

Prepayment is not permitted in Sweden. In Norway, it is limited to a maximum of 10 weeks. Denmark does allow prepayment, but the supplier has to specify how much the customer is to pay in advance. In Finland, prepayment is permitted, but it has to sufficiently reflect the estimated likely annual consumption.

Customers in Sweden turn to the NRA with both inquiries and complaints that concern billing, invoice and debt collection. In such cases, 2 % of all inquiries and 9 % of all complaints about suppliers concerns the subject of billing. Such contact mainly concerns invoice fees and prepayment (prohibited in Sweden). Some contact also concerns missing and unclear invoices. Many Swedish customers also complain to the Swedish single point of contact about suppliers that charge for late payment incorrectly.

In Finland, complaints concerning billing and debt collection, for example unclear or unfounded invoices, were amongst the three most common reasons for contacting the Consumer Ombudsman and the Consumer Advisory Services in 2015 and 2016. A number of customers that contact the Finnish Energy Authority (EV), complain about inconsistencies in invoicing and the content of bills.

According to a study initiated by the European Commission<sup>47</sup>, almost 60 % of customers in Finland and Norway strongly agree with the statement that their bill is easy to understand. In Sweden 44 % strongly agree, which is approximately the average for all EU customers. When asked if their bill is easy to understand, 35 % in Denmark and 25 % in Iceland were positive.

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<sup>47</sup> 2nd Consumer market study on functioning of retail electricity markets for consumers in the EU, a study commissioned by CHAFAEA acting on behalf of the European Commission



Table 5, Billing in the Nordic Countries

	Denmark	Finland	Norway	Sweden	Iceland
<b>Responsible for billing</b>	Supplier	Supplier and DSO (voluntary combined)	Supplier and/or DSO	Supplier and DSO (voluntary combined)	Supplier and DSO (voluntary combined)
<b>Combined billing DSO/supplier</b>	Mandatory <sup>48</sup>	Yes, if DSO and supplier are part of same company group. Otherwise, separate invoices.	If one DSO offers combined billing to a supplier, the DSO must offer it to all suppliers.	Yes, if DSO and supplier are part of same company group. Otherwise, separate invoices.	If one supplier offers combined billing, it must be available for all.
<b>Billing frequency</b>	Min. quarterly.	Min. quarterly.	Min. quarterly.	Min. quarterly.	Min. quarterly.
<b>Fee for invoice</b>	Not permitted.	Not permitted.	No regulation for energy bills, not permitted for network bills. Combined energy and network tariffs: No fees allowed	Not permitted.	No regulation.
<b>Required format of suppliers invoice</b>	Supplier must offer consumer a wide choice of non-discriminating payment methods.	Electronic billing should be offered as an alternative.	No regulation.	Electronic billing, if requested.	No regulation.
<b>Billing based on actual consumption.</b>	Yes, if customer has a smart meter.	Mandatory.	Mandatory.	Mandatory.	Mandatory.
<b>Final invoice</b>	Final invoice, no later than six weeks after termination of contract.	Final invoice, no later than six weeks after termination of contract.	General contract law, no specific energy regulation.	Final invoice, within six weeks after supply has been cut off.	No regulation.
<b>Industry specific mandatory information on supplier's bill</b>	Consumption, payment required, contract type, cost of supplier's service, taxes, on-account payment and date when contract ends.	Prices and units, consumption, taxes, billing period, validity period of contract, information on customer complaints and dispute settlements.	Prices, volume, whether a default contract or not and how to complain. More detailed rules apply if the supplier has combined billing.	When/how price changed, Consumer rights <sup>49</sup> , how to complain, who to contact for info or to settle a dispute, each energy source's share of supplier's sales preceding calendar year <sup>50</sup> , CO <sub>2</sub> emissions and nuclear waste.	Price per unit, consumption. Distribution cost and transmission cost for combined billing.

<sup>48</sup> In accordance with supplier centric model.

<sup>49</sup> This and following two items: On or in connection with the bill, inform that following information is found on the supplier's website.

<sup>50</sup> This and following item: On or in connection with the bill inform following.

	Denmark	Finland	Norway	Sweden	Iceland
Prepayment	Permitted, but supplier has to specify amount on invoice.	Permitted, but has to adequately reflect the estimated likely annual consumption.	Prepayment is limited by regulation to maximum 10 weeks.	Not permitted.	No regulation.

National data on billing can be found in Annex 3. More information on complaints & inquiries and the EC Consumer Markets Scoreboard can be found in Annex 1 and 2.

## 8. Retail prices are closely connected to wholesale prices

NordREG believes that pricing is one of the most important aspects of a retail energy market. As a general principle, pricing should be cost reflective and provide consumers with correct price signals according to the actual costs of producing and transferring electricity. This is socially efficient.

Traditionally, the Nordic markets have held a unique position with regard to having cost-reflective electricity prices towards consumers. This mainly occurs through spot price contracts that are settled against wholesale markets. Monthly variations in the electricity price, with monthly settlement and billing, carries the benefit of enabling the consumer to respond to price signals by adjusting consumption to price level, or consuming electricity at times when the price is optimal.

NordREG believes that, in future, market settlement and billing against hourly electricity prices would give customers the most cost-reflective electricity price. This is already a reality in Finland where 8 % of customers have hourly spot based contracts. In Sweden, it is possible to choose an hourly contract, but few suppliers market this type of contract and, hence, few customers have chosen this.

Iceland is not included in this chapter, since prices are not influenced by the market in Iceland (see chapter 2.2).

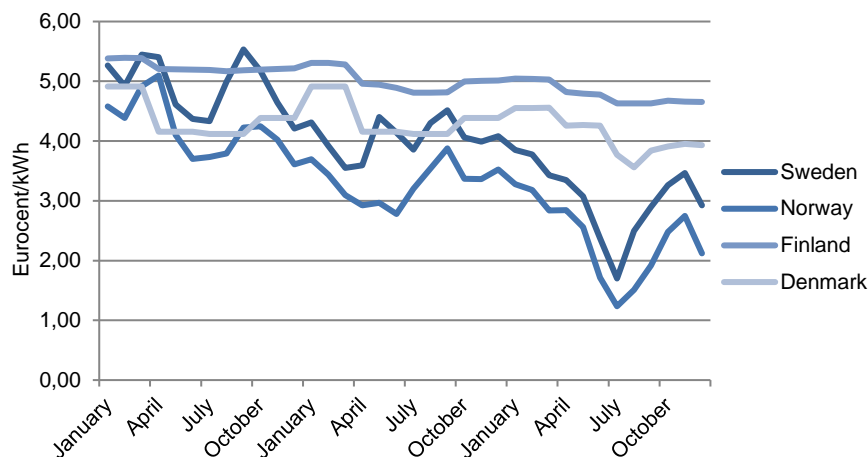
### Summary of current situation

Prices in Nordic retail electricity markets are, as the following chapter shows, characterised by a close connection with underlying wholesale electricity markets, through close correlation and a generally low mark-up. Wholesale electricity markets in the Nordic countries are integrated through Nord Pool Spot in Norway, Sweden, Denmark and Finland.

Changes in retail prices for customers on the most common contract in 2013 and 2015, have been more dramatic in Norway and Sweden than in Finland. Denmark had changes, but not as big as Norway and Sweden.

About 8 % of all complaints about suppliers to the Swedish NRA concern prices. They mostly have difficulty understanding how the price is set and how different components of the price affects the final price. Price is the second most common complaint to the Finnish Competition and Consumer Authority.

Diagram 3, Retail prices for the most common contract type in the Nordic region 2013-2015 (excl. VAT, taxes, distribution tariffs etc.)



Retail prices for the most common contract differ between the Nordic countries. In 2014, Finland had the highest retail prices and Norway the lowest.

Table 6, Average retail prices for the most common contract 2012-2015<sup>51</sup> (eurocents excl. VAT, taxes and distribution tariffs)

	Denmark <sup>52</sup>	Finland <sup>53</sup>	Norway	Sweden <sup>54</sup>
2012	5,18	5,26	3,47	4,28
2013	4,39	5,24	4,20	4,91
2014	4,39	5,01	3,31	4,06
2015	4,12	4,78	2,37	3,05

National data on pricing can be found in Annex 3. More information on complaints & inquiries and the EC Consumer Markets Scoreboard can be found in Annex 1 and 2.

## 9. Conclusions

Electricity customers in the Nordic countries act on five separate retail markets with many similarities and certain differences. The retail markets in Denmark, Finland, Norway and Sweden are closely connected to a common wholesale market with interconnected grids and a common market for balancing. Iceland has a separate retail market.

### High switching rates in the Nordic countries

In general, the switching rate in each Nordic market, except Iceland, is relatively high compared to the rest of Europe. In most Nordic countries, customers have an economic incentive for switching. This is true both in regards to supplier and contract switching.

<sup>51</sup> According to NordREG Nordic Market Report, NMR.

<sup>52</sup> Average retail price in Denmark.

<sup>53</sup> Variable contract with a consumption of 20 000 kWh/year.

<sup>54</sup> Customers on monthly variable contracts with a consumption of 20 000 kWh/year.

Few customers have complaints about the switching process itself. Problems customers experience are typically when they have not understood the terms of the contract or there has been an unfair selling process. Helping customers that have been affected by unfair selling methods is usually outside the NRAs legal mandate, but the problem is nevertheless a fact for customers in the electricity retail markets.

According to the European Commission's Consumer Markets Scoreboard from 2016, Finnish and Icelandic customers felt it was slightly easier to switch, compared to the EU average. Danes and Swedes felt it was harder to switch, compared to the EU average.

Therefore, NordREG sees great potential in harmonising the area of switching as it can strengthen the opportunity of cross-border activity and competition. The harmonisation of supplier switching terms will most likely enhance competition among suppliers.

### Customers have access to independent PCTs

Customers in all Nordic countries have access to independent PCTs, providing a good overview of the market. The Danish, Norwegian and Icelandic PCTs include network tariffs in their prices, which means that customers can see the total price of electricity.

However, the number of customers that use the national independent PCTs before switching varies. When we compare market size, switching rate and number of unique visits to the PCTs, we can assume that a larger part of the Finnish and Danish customers than the Swedish, use their national independent PCTs before switching. Here, NordREG suggests an enhanced exchange of best practices between the NRAs operating independent PCTs.

Only the Swedish NRA registers complaints about the independent PCT. Such complaints mostly concern pricing and differences between prices for the same contract on independent and commercial PCTs. According to a study initiated by the European Commission, customers in Finland and Sweden are more willing to compare tariffs offered by different suppliers before switching than customers in Denmark. When customers were asked to score their own ability to compare products or services, customers in all Nordic countries, except Finland, scored lower than the EU average.

### Wide range of different suppliers and contracts to choose from

In all Nordic countries, except Iceland, customers have more than one contract type to choose from. Some kind of variable price, which is connected to the wholesale market, is by far the customers' most common choice of contract. Termination fees are typically allowed for fixed price contracts if explicitly agreed upon by the contract parties.

Customers on variable or spot based contracts in Sweden and Finland, have during the last five years payed less than customers on fixed price contracts. The average retail price for the most common contract also differs between the Nordic countries. In 2014, Finland had the highest and Norway the lowest retail prices.

Many Swedish customers complain about changes in contract terms, possible unfair terms, notice periods and terms for automatic extensions of fixed contracts. Finnish customers complain about procedures for concluding a contract (confirmation notification) and amending the terms of contract (notification of changes in contract). Many Finnish customers complain to the Competition and Consumer Authority regarding unreasonable contract terms, price changes, or other terms and conditions of contracts. 10 % of complaints to the Norwegian ADR concern switching and contracts.

In all Nordic countries, except Iceland, there are a number of ESCOs offering services to customers. There are also organisations, both publicly owned and NGOs, that nationally coordinate and promote different kinds of

energy services. In all countries, except Iceland and Denmark, customers are offered a variety of flexibility products.

#### Customers have access to important information

Nordic customers can access information on consumption and prices through their invoice, the Internet, the energy companies' homepages, or on-line services.

Both the DSOs and the suppliers are required to provide customers with information concerning, for example, contractual terms, pricing alternatives, consumption data, quality of supply, the right to compensation and where and how to complain. In Sweden, customers also receive information on default contracts and information to customers on contracts about to expire.

Many complaints come from customers that want to know whether a contractual change is legal. Between 2013 and 2015, half of the complaints about suppliers in Sweden were disputes about the terms of contract. In 2015, the Swedish NRA audited how electricity companies fulfilled their obligations to inform customers. The result was that 96 % of suppliers broke at least one legal obligation. The Swedish Consumer Agency confirmed this picture. According to an annual survey, Swedish customers find it harder to gather information and compare different alternatives in the electricity market than 41 other common consumer markets.

A study initiated by the European Commission<sup>55</sup> asked customers if their electricity company informs provides sufficient information. Icelandic, Danish and Norwegian customers were more negative than the EU average to the quality of their company's information. Swedish and Finnish customers were more positive than the EU average.

#### Only Denmark have implemented mandatory combined billing

Only Denmark has implemented mandatory combined billing, where the supplier bills the customer for both electricity and network fee. In Finland, Sweden and Iceland, customers normally have combined billing when supplier and DSO are part of the same company group. In Norway, the law requires that if one DSO offers combined billing to a supplier, all suppliers are entitled to combined billing with this DSO.

All countries have regulations concerning billing and information required on invoices. In all countries suppliers have to bill customers at least quarterly, invoice fees are not permitted (not regulated for energy bills in Norway) and the invoice must show consumption data and current prices. Prepayment is not permitted in Sweden. It is limited to a period of maximum 10 weeks in Norway and permitted in Denmark if the supplier specifies on the invoice how much the customer must pay in advance.

In Sweden, 9 % of all complaints about suppliers concern billing. Invoice fee, prepayment, missing or unclear invoices and unauthorised charging for late payment are typical reasons for complaint. In addition, in Finland, one of the most common customer complaints concern billing is unclear or unfounded invoices.

According to a study initiated by the European Commission, Finnish and Norwegian customers find it easier to understand their bill, compared to the EU average. Whereas, Danish and Icelandic customers find it harder.

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<sup>55</sup> 2nd Consumer market study on functioning of retail electricity markets for consumers in the EU, a study commissioned by CHAFAEA acting on behalf of the European Commission

Customers retail prices are closely connected to wholesale prices

Retail prices in Norway, Sweden, Denmark and Finland are characterised by a close connection with the underlying common Nordic wholesale electricity market. Spot price contracts settled against wholesale markets are on average cheaper than other contract types.

Changes in retail prices for customers on the most common contracts in 2013 and 2014 have been more dramatic in Norway and Sweden than in Finland. Denmark had changes, but not as big as Norway and Sweden. Retail prices for the most common contract differ between the Nordic countries. In 2014, Finland had the highest retail prices and Norway the lowest.

About 8 % of all complaints about suppliers to the Swedish NRA concern prices. Here, customers mostly have problems understanding how prices are set and how the different price components affect the final price. Price is also the second most common complaint to the Finnish Competition and Consumer Authority.