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# Harmonization of the Nordic electricity retail market – benefits and challenges

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# Index

1	Executive Summary .....	3
2	Yhteenveto .....	4
3	Background of a common retail market for electricity.....	6
3.1	NordREG views on a common Nordic retail market .....	6
3.2	European development - Guidelines of Good Practice by CEER .....	8
3.3	Scope of this study .....	9
4	Areas of harmonization .....	10
4.1	Customer interface and billing.....	10
4.2	Measurement and data exchange .....	11
4.3	Business processes.....	13
4.4	Balance settlement .....	14
4.5	Risk management .....	14
4.6	Network tariffs.....	14
4.7	Collecting taxes .....	15
4.8	Contracts.....	15
4.9	Supplier of last resort.....	16
4.10	Legislation .....	17
4.11	Analogies from the telecom business.....	17
5	Opinions of different stakeholders .....	18
5.1	Background information .....	18
5.2	Views on harmonization .....	20
5.3	Customer interface, billing and contracts.....	23
5.4	Business processes.....	26
5.5	Metering and data exchange .....	27
5.6	Network tariffs.....	28
5.7	Supplier of last resort.....	28
5.8	Legislation and consumer protection .....	29
5.9	Opinions on the timetable .....	29
6	Roadmap for the harmonization process .....	30
7	Summary of stakeholder opinions .....	34
7.1	Principles of harmonization .....	34
7.2	Consensus by stakeholders.....	35
7.3	Differences in the opinion of stakeholders.....	37
7.4	Stakeholders' uncertainties .....	38
8	Challenges and bottlenecks .....	38
9	Conclusions and recommendations .....	41



# 1 Executive Summary

Plans for the harmonization of the Nordic electricity retail market have been suggested on a general level. In some areas, such as customer interface, billing and data exchange, more detailed planning has been conducted. In these areas, NordREG has published a number of recommendations on how harmonization should be done. However, thorough cost benefit analyses, which would be seen as credible by market participants, have not yet been conducted. More detailed planning is needed to allow companies to estimate the impacts and related costs on a company level.

There are some key points, which should be taken into account when harmonizing the common Nordic retail market. Firstly, the operating costs of companies should be low in a long term. Secondly the barriers for market entry should be low. Thirdly, different kinds and sizes of companies should be able to operate on the market in a cost-efficient way. In addition, the possibility to operate with one IT system in all Nordic countries is one of the key issues when evaluating the benefits of Nordic retail market harmonization. Furthermore the market model should be clear and intuitive from the customer point-of-view and customers should be able to see benefits.

Based on a survey and interviews performed in this study, suppliers, distributors and other stakeholders in Finland have differing opinions concerning the benefits, needs and practicalities of harmonizing the Nordic electricity retail market. Half of the respondents to the questionnaire performed in this study would prefer focusing on national level development and the other half would focus on Nordic level development. A small minority does not see any need to develop current practices. The majority of respondents does not see any benefit in changing to a Nordic supplier centric model with combined billing for their operations. Hence, it is challenging to define how the retail market should be harmonized so that most suppliers and distributors in Finland would agree on the solutions.

Despite disagreement on many issues related to the supplier centric model and combined billing, some recommendations for next steps in harmonization and development can be presented. Most agree that there should be common models and standards for data exchange. This is seen as very beneficial for the functioning of the market. In addition, the contents of the bills need to be simplified to make them easier for customers to understand. The general terms in the supplier contracts, and especially the contract terms concerning commencement and termination of contracts, could be the same or similar in each country. The practice for supplier of last resort in Finland is suggested to be adopted by other countries.

If a supplier centric model with combined billing is selected on a Nordic level, there are some operations that need to be harmonized. In addition to the data exchange specifications, the rules for metering, balance settlement and billing would also need to be harmonized. When planning the billing process, risk sharing and risk management as well as tax collection procedures must be carefully considered. The contents of the bills and processes around billing need to be harmonized to the extent that the same IT systems can be used in different countries. It is also possible that distribution tariff structures need to be simplified and harmonized to accommodate for the billing process. However, this depends on what kind of billing solution is chosen. In practice, the supplier centric combined billing model will require extensive harmonization of business processes, starting with the processes that involve the most interaction with the customer or data exchange between suppliers and DSOs.



There is a need for clear governance of the Nordic electricity retail market. Some entity should be responsible for the governance of the operation of the common market in the future. This entity should have the power to decide on practical issues and would be responsible for the future development of the retail market model. Furthermore, realistic cost benefit calculations and stakeholder consultations are needed. The cost benefit calculations should be transparent and should include analysis of the impacts of the proposed solutions on different types of stakeholders including customers, smaller DSOs and suppliers. Scenarios should ideally be compared to a baseline scenario. In the baseline scenario only the necessary changes are made on a national level. However, the baseline scenario includes the development work needed to implement hourly metering and other necessary development stated by laws and EU directives. Stakeholder consultations should ideally be held in such a way that stakeholders are presented with a specific, sufficiently detailed, solution, which would make it possible to evaluate impacts on a company level.

The timetable for the harmonization of the Nordic electricity retail market should take into account the deployment of hourly metering and the lifecycle of IT systems<sup>1</sup>. The timetable should attempt to optimize system costs at least to some extent, by phasing the changes that are needed for retail market development into future IT system renewals or updates. Most of the respondents of the survey considered the timetable of the original implementation plan suggested by NordREG<sup>2</sup> to be unrealistic. It is important to communicate a more realistic timetable to stakeholders. Companies need to have a reasonably clear and realistic picture of the schedule for implementation in order to be able to plan investments.

In addition, the extent and ways in which the current wholesale market is seen as being a barrier for a common Nordic retail market should be evaluated. The evaluation should also address what could be done to lower these barriers to ensure that customers in all areas can benefit from a common retail market.

European developments should be followed carefully and it would be prudent to make sure no changes of a fundamental nature (with high costs) are made, which would not be in line with future European practice. At the same time it should be considered that a well functioning Nordic retail market model could serve as a model for future European development.

## 2 Yhteenveto

Pohjoismaisen vähittäismarkkinan harmonisoinnin suunnitteluprosessi on toteutettu yleisellä tasolla. Joidenkin osa-alueiden, kuten asiakasrajapinnan, laskutuksen ja tietojen vaihdon osalta on toteutettu myös yksityiskohtaisempaa suunnittelua. NordREG on julkaissut näihin osa-alueisiin liittyviä pohjoismaisen vähittäismarkkinan toteuttamista koskevia suosituksia. Tästä huolimatta, perusteellisia kustannus-hyötyanalyyskejä, joita markkinaosapuolet pitäisivät luotettavina, ei vielä ole toteutettu. Tehtyjen suunnitelmien tulisi olla yksityiskohtaisempia, jotta markkinoilla toimivat osapuolet voisivat arvioida pohjoismaisen vähittäismarkkinan harmonisoinnin vaikutuksia myös yhtiötasolla.

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<sup>1</sup> Systems for customer data management and metering data management.

<sup>2</sup> The implementation plan is outlined in the document: NordREG, 2010, Implementation Plan for a Common Nordic Retail Market. Implementation of a common Nordic retail market by the year 2015.



Pohjoismaisia vähittäismarkkinoita harmonisoitaessa tulisi huomioida seuraavia asioita. Ensinnäkin pitkän aikavälin kustannusten tulisi pysyä alhaisina. Toiseksi markkinoille tulolle ei saisi muodostua korkeaa kynnystä. Lisäksi erikokoisilla yrityksillä pitäisi olla edellytykset toimia markkinoilla kustannustehokkaasti. Mahdollisuus käyttää yhtä tietojärjestelmää useissa eri maissa pitäisi olla yksi peruslähtökohta markkinoiden harmonisoinnin hyötyjä arvioitaessa. Lisäksi markkinoiden pitäisi toimia kuluttajan kannalta sujuvasti ja kuluttajien pitäisi nähdä harmonisoinnin hyödyt selkeästi.

Näkemykset pohjoismaisen vähittäismarkkinan harmonisoinnin tarpeesta vaihtelevat. Näkemykset saavutettavista hyödyistä sekä mielipiteet siitä minkälaiset käytännön ratkaisut olisivat toimivia, poikkeavat varsin paljon. Puolet tutkimuksen kyselyyn vastanneista haluaisivat keskittyä kansallisten toimitapojen harmonisointiin ja kehittämiseen, ja noin puolet pitää pohjoismaista harmonisointia suotavana ja hyödyllisenä. Pieni osa toimijoista ei näe erityistä tarvetta kehittää toimintaa mihinkään suuntaan. Suurin osa kyselyyn vastanneista ei näe myyjäkeskeisessä yhden laskun mallissa mitään hyötyjä omalle toiminnalleen. Tästä johtuen on haastavaa määritellä miten pohjoismainen vähittäismarkkina pitäisi harmonisoida niin, että suurin osa suomalaisista verkkoyhtiöistä ja sähkönmyyjistä olisivat samaa mieltä ratkaisusta.

Vaikka monista asioista on erimielisyyttä, on kuitenkin mahdollista tehdä joitakin harmonisointia koskevia suosituksia. Useimmat ovat samaa mieltä siitä, että tietojen vaihdolle pitäisi olla yhtenäisiä standardeja ja virallisia sääntöjä, joita kaikki osapuolet noudattavat. Tämä nähdään erittäin tarpeellisenä markkinoiden toiminnalle. Lisäksi laskujen sisältöä haluttaisiin yksinkertaistaa ja selkeyttää, jotta niiden ymmärrettävyys paranisi. Yleiset sopimusehdot voitaisiin yhtenäistää, etenkin sopimuksen alkamisen ja päättymisen osalta niin, että ehdot olisivat kutakuinkin samat eri maissa.

Mikäli myyjäkeskeinen yhden laskun malli päätetään toteuttaa, monia toimintatapoja pitäisi yhtenäistää. Tietoliikenteen protokollien ja formaattien lisäksi, energian mittaamisen, taseselvityksen ja laskutuksen käytännöt tulisi yhtenäistää. Laskutusprosessia suunniteltaessa pitäisi riskien jakautuminen, riskien hallinta, sekä verojen kerääminen ja perinnän prosessit suunnitella hyvin huolellisesti ja yksityiskohtaisesti. Laskujen sisältö sekä laskutusprosessit tulisi suunnitella sellaisiksi, että samojen tietojärjestelmien hyödyntäminen eri maissa olisi mahdollista. On myös mahdollista, että siirtotariffeja joudutaan yhtenäistämään ja yksinkertaistamaan jotta laskutusprosessi toimisi toivotusti. Yhtenäistämistarve riippuu kuitenkin siitä, millainen laskutusmalli ja prosessi valitaan vallitsevaksi käytännöksi. Myyjäkeskeinen yhden laskun malli tulee vaatimaan käytännössä paljon muutoksia liiketoimintaprosesseissa. Tärkeimpiä harmonisoitavia prosesseja ovat ne, joihin sisältyy kontakteja asiakkaaseen ja joihin liittyy verkkoyhtiöiden tai myyjien välistä tiedonvaihtoa.

Pohjoismaisen vähittäismarkkinan harmonisointi vaatii selkeää hallinnointia. Jonkin yksikön tulisi olla vastuussa ja hallinnoida vähittäismarkkinan toimintaa käytännön tasolla. Tällä yksiköllä tulisi olla valtuudet tehdä päätöksiä käytännön asioista ja sen pitäisi olla vastuussa markkinamallin tulevasta kehittämisestä. Harmonisoinnin pohjaksi tarvitaan lisäksi realistisia ja läpinäkyviä kustannus-hyötyanalyyskejä sekä toimijoiden kuulemista näihin liittyen. Kustannus-hyötyanalyysien tulisi olla riittävän yksityiskohtaisia, jotta toimijat voisivat arvioida ratkaisujen vaikutuksia eri osapuoliin sekä asiakkaisiin. Kustannus-hyötyanalyysin tulisi verrata tulevaisuuden vaihtoehtoja nk. baseline-vaihtoehtoon, jossa vain välttämättömimmät muutokset toteutetaan kansallisella tasolla. Baseline-vaihtoehtoon tulisi kuitenkin ottaa huomioon tuntimittauksen toteuttamisen vaatimat muutokset ja muut välttämättömät lainsäädännöstä ja EU-direktiiveistä tulevat kehitystarpeet. Toimijoiden kuuleminen tulisi toteuttaa siten, että toimijoille esitellään riittävän yksityiskohtaisia ratkaisuja, joiden perusteella on mahdollista ottaa kantaa yhtiö- ja asiakastason muutostarpeisiin.



Pohjoismaisen vähittäismarkkinan harmonisoinnin aikataulun tulisi ottaa huomioon tuntimittauksen tilanne ja kehitysvaiheet eri maissa. Aikataulun tulisi myös parhaassa tapauksessa huomioida tietojärjestelmien uusimisen tai päivittämisen ajankohdat. Aikataulun tulisi, edes osittain, pyrkiä optimoimaan tietojärjestelmäinvestointien kustannukset, sillä korkeat tietojärjestelmäkustannukset nähdään suurimmaksi esteeksi pohjoismaisen vähittäismarkkinan toiminnalle ja toiminnan laajentamiselle uusiin maihin. Useimmat kyselyyn vastanneista pitivät alkuperäistä esitettyä aikataulua epärealistisena.<sup>3</sup> Uskottavamman aikataulun viestiminen eri osapuolille helpottaisi investointipäätösten tekemistä yhtiöissä. Lisäksi pitäisi arvioida kuinka suuren esteen tukkumarkkinoiden hinta-alueet muodostavat vähittäismarkkinoiden toiminnalle. Arvioinnissa tulisi pohtia, mitä tukkumarkkinan toimivuuden edistämiseksi voitaisiin tehdä, jotta pohjoismaisen vähittäismarkkinan mahdollisesta harmonisoinnista saataisiin täysi hyöty irti ja eri alueiden asiakkaat olisivat samassa asemassa.

Eurooppalaista kehitystä tulisi seurata ja varmistaa ettei tehdä kalliita muutoksia, jotka eivät ole linjassa eurooppalaisten tulevaisuuden käytäntöjen kanssa. Samalla on pidettävä mielessä, että pohjoismaisen mallin toteuttaminen voisi tarjota vaikutusmahdollisuuksia eurooppalaisen mallin suunnitteluun.

## 3 Background of a common retail market for electricity

### 3.1 NordREG views on a common Nordic retail market

#### 3.1.1 Background and requirements of a common retail market

NordREG has for several years promoted the development of a common Nordic retail market for electricity. At the same time, there is on-going work within the EU to plan a common European retail market for both electricity and gas.

The Nordic energy ministers have asked NordREG to develop the framework and details for how a common retail market for electricity should be designed. According to NordREG, there are some basic requirements that should be met by the common Nordic retail market. The first requirement is for the market model to provide solutions to enable all customers to take part in the common market. NordREG states that restricting the common Nordic retail market only to e.g. hourly/monthly metered customers or commercial and industrial customers would introduce unnecessary confusion and possibly barriers of entry. The second requirement is that consumers must have the same protection regardless of the origin of the supplier. This is seen as necessary to ensure customers' confidence in the market, which is essential for the development of the end user market.

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<sup>3</sup> Alkuperäisessä aikataulussa pohjoismaiset vähittäismarkkinat olisivat harmonisoitu 2015 mennessä.



Low entry barriers should be ensured by making it easy for suppliers to operate in all Nordic countries. Suppliers that are already operating in one country should easily be able to establish their business in the other Nordic countries. At the same time they should comply with the national requirements for registration and licensing of legal entities and all other national laws and regulations common to all suppliers in the country.

It is important that a supplier is able to use a single IT system within the same company while operating in all Nordic countries. To achieve this objective, the Nordic countries need to decide on standardized formats for data exchange in order to communicate data between the actors. In addition, the different business processes have to be harmonized with regard to timeframes and relevant data needs in each process.

In designing the common Nordic retail market, NordREG states that it is important to keep in mind and follow the harmonization process of the EU electricity market so that the recommended market model and business process solutions are as future proof as possible.<sup>4</sup>

In some reports published in 2011 and 2012<sup>5</sup>, the objectives of the common Nordic retail market are stated to be the following:

- Customer friendliness
- Improved competition
- Well-functioning common market
- Improved efficiency
- Compliance with EU regulation and development
- Neutrality of DSOs

The suggested ways of operating are compared to the above mentioned objectives. The objectives of NordREG are stated in somewhat different ways in different reports. Therefore it is not entirely clear what are the exact objectives against which the presented solutions should be evaluated.

### **3.1.2 Views of NordREG on the benefits of a harmonized retail market**

NordREG expects that the common Nordic retail market brings some benefits to all stakeholders. Increased competition among suppliers is expected to improve efficiency, which should bring benefits to customers through increased pressure on retail prices and a wider choice of products and offerings. Suppliers are expected to benefit from being able to operate in a wider market area, which should improve efficiency and reduce unit costs. According to NordREG's assessment, the operational cost related to a harmonized Nordic retail market will be lower than the total cost of operating separate national markets in the long term. Economies of scale and increased competition among the providers of IT solutions will be the main drivers.<sup>6</sup>

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<sup>4</sup> High level suggestions for common Nordic processes for information exchange- obstacles and possibilities, NordREG 1/2012

<sup>5</sup> The requirements are first mentioned in Consideration of alternative billing regimes for the common Nordic end-user market (Vaasa ETT) and thereafter in High level suggestions for common Nordic processes for information exchange- obstacles and possibilities, Credit risk management in future billing regime and Tax collection in the future billing regime

<sup>6</sup> Lundteigen Fossdal, Chairman of NordREG, in a letter to the Nordic Council of Ministers, 2010



NordREG feels that a larger market area will reduce the possibility to regulate from only a national perspective. A larger market area may lead to a more stable and predictable long term regulatory environment, reducing regulatory risks. Furthermore, it is expected that a common retail market will strengthen the connection between the wholesale and retail markets, especially in Denmark and Finland. The price signals from the wholesale market are reflected in the retail prices whilst promoting demand response. The increased connection between the wholesale and retail prices will, in NordREG's view, also improve the functioning of the wholesale market.

According to NordREG, DSOs and TSOs will benefit from the common Nordic retail market through improved efficiency and automated processes. An expected improvement in data quality will reduce the use of manual work in most processes. Stable retail market regulation, including clear definitions of the roles and responsibilities of different market actors, should reduce the regulatory risk also for the network operators.

NordREG believes that in the long run it is more efficient to operate one market compared to four national markets.

## **3.2 European development - Guidelines of Good Practice by CEER**

In 2012, the Council of European Energy Regulators (CEER) produced Guidelines of Good Practice (GGP) of retail market design, which address the roles and responsibilities of market actors in the European electricity and gas retail markets. As competition and consumer protection issues are central in the report, it also gives guidance on what the role of the DSO as neutral market facilitator should be. The work is intended to complement the handbook on market design developed by the EC's working group and it will feed into CEER's further work on retail market design.

CEER believes that in order to reach a harmonized European energy market, there needs to be a step-by-step approach to put into practice the necessary policies. The proposal recommends that the interface to the customer should be easy and intuitive to understand. A customer should always know who to contact depending on his/her need. Especially suppliers need to provide transparent, comprehensive and easy to understand information to customers and deal with enquiries and complaints promptly and efficiently.

The report proposes that the general market model should be supplier centric, with the supplier being the main, but not only contact to the customer. This initial choice of market model then guides the design of the processes that enable market actors to operate on the energy markets. CEER recognizes that demand response and smart grid developments may lead to a different, more sophisticated approach for those customers that are active in for example micro-generation, but a supplier centric model is still seen as a feasible solution.

CEER has focused on the two processes that have the most frequent customer interaction: supplier switching and billing. If these processes are designed well and function properly, the customer will have a positive experience when engaging in different transactions resulting in increased customer trust and engagement. CEER considers there to be major benefits for the suppliers, DSOs and metering operators. CEER highlights that competition in retail markets will evolve with the existence of a fair and non-discriminating framework. This includes a regulated and binding framework for electronic data exchange with a minimum set of information. This would include standards for data formats, processes and timeframes, as well as the abolition of regulated retail prices.





The report foresees that changes in national setups may be necessary. When updating IT systems, and if smart meters are introduced, CEER feels that it is important to keep the customer perspective in mind. CEER underlines in the report that costs and benefits of redesigning retail markets should be thoroughly assessed when planning new processes or installing new hardware and software.

### 3.3 Scope of this study

There is willingness to develop a common retail market both on the European and Nordic levels. However, there are still many open practical questions related to harmonization. Therefore Finnish Energy Industries has decided to launch this study to find out the opinions on harmonization of relevant stakeholders and to identify the main benefits and challenges of the harmonization process.

The goals of the study are as follows:

- To identify the most important processes to be harmonized, in order to ensure that the goals set by Finnish Energy Industries for the Nordic retail market harmonization are reached.
- To identify some national differences that makes it difficult for the supplier to be active in more than one country.
- To describe in what way the goals set by Finnish Energy Industries could be taken into account in the practical definition and planning work of the common Nordic retail market.
- To bring forth the opinions of Finnish stakeholders regarding the common Nordic retail market and the most important things to be harmonized considering the national differences.

Furthermore, this study tries to illustrate how the harmonization process could continue and to give recommendations for the next steps.

This study consisted of a desktop study to review the studies previously conducted about the Nordic retail market harmonization work and European retail market development. In addition, a survey was sent to Finnish Energy Industries member organizations where views on retail market harmonization and benefits and challenges were collected. Fifteen stakeholder interviews were also conducted, which gave in-depth information on the views of different stakeholders. In addition a workshop was held where a roadmap for further development was elaborated and discussed.

A steering group consisting of Finnish Energy Industries and member organizations as well as authorities<sup>7</sup> gave guidance during the implementation of the study.

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<sup>7</sup> Energy Market Authority and Ministry of Employment and the Economy



## 4 Areas of harmonization

This chapter lists the areas where harmonization may be required to create a common Nordic retail market. Under each area, the potential ways to harmonize rules and procedures that have been mentioned in interviews, questionnaire responses, NordREG documents or CEER documents are described.

### 4.1 Customer interface and billing

NordREG has suggested that the supplier centric model should be used in the Nordic electricity retail market. This has been defined so that “a majority of the customer contacts will be handled by the supplier”. However, the DSO would have “ultimate responsibility towards customers regarding strictly network related issues”. The suggestion by NordREG also includes that customers would always receive only one bill and it would be the responsibility of the supplier to send the bill.<sup>8</sup>

Another suggestion brought up in the interviews and in the questionnaire would be to preserve the responsibilities mainly as they currently are in all Nordic countries. The DSO would have the responsibility for network related issues and billing of electricity distribution. Also in this case, the details of the business processes would need to be harmonized in all Nordic countries. These are further discussed in chapter 4.3.

The point of contact for the customer as well as the responsibility for the following issues needs to be agreed on: billing, collecting taxes, moving in/out, switching supplier, outages, meter readings and metering devices, quality of supply, new connections, compensation for outages, offering energy efficiency services and handling questions and complaints.

There are two different suggestions for combining the billing of electricity distribution and energy to one common bill. These are described by Lewis as “Integrated combined billing” and “Simple combined billing”.<sup>9</sup> Integrated combined billing refers to forming the bill so that it is one bill rather than two combined bills. In practice this would mean that the supplier formulates the bill including costs of distribution and energy. To what extent the costs would be shown separately on the bill, is still an open issue. A simple combined bill would in the simplest form attach the two bills together and provide a total sum to be paid in the end. Currently in Norway, legislation does not allow combining distribution and energy bills into one, but a proposal has been made to change this legislation<sup>10</sup>.

In addition, the need for a common standard for billing has been discussed along with possibilities to rationalise the information that needs to be included in the bill. In the interviews, several stakeholders highlighted the need to have less complicated bills. In the future, a larger share of customers may receive their bills in electronic format and therefore the distribution channels for information on consumption or CO<sub>2</sub>-emissions will need to be reconsidered.

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<sup>8</sup> Source: NordREG, Road map towards harmonised Nordic end-user markets – DRAFT\_v3

<sup>9</sup> Source: Lewis, P., 2011, Consideration of alternative billing regimes for the Common Nordic End-User Market, A research report conducted for and in co-operation with the NordREG Market Rules Task Force

<sup>10</sup> Ernst&Young, 2012, Tax collection in the future billing regime, A common Nordic end-user market with combined billing, Draft report



The Council of European Energy Regulators (CEER) recommends that the general market model should be supplier centric, with the supplier being the main but not only contact to the customer. CEER considers that the same applies even in a situation where demand response and smart grid solutions are used more widely. CEER finds that a mandatory combined billing regime performed by the supplier is the most appropriate approach for the billing process, since the supplier is the market actor operating in the market which is open for competition.<sup>11</sup>

Other CEER recommendations on billing include:

- The final bill should be received by the customer as soon as possible. This could mean within two weeks and in any case within six weeks after switching supplier or moving.
- The customer should be offered at least two different payment methods that are easily accessible and at least one of them should be free of charge.
- The customer should have a choice of a minimum set of different billing and payment frequencies including the possibility of a monthly frequency.

## 4.2 Measurement and data exchange

In relation to the data exchange, harmonization should cover the following issues: decision on whether data hubs will be used, what kind of data hubs will be used, other general structures of data exchange, data formats, data transfer protocols, content of messages and schedules of data exchange.

For the general structure of data exchange, centralised systems are generally considered to be more efficient compared to bilateral solutions. The practical solution may be either a common Nordic data hub or national data hubs in all Nordic countries. It has also been suggested that there could be several data hubs in one country that would be based on market demand where the data hub would not operate as a monopoly.

The Nordic Balance Settlement report<sup>12</sup> suggests that one Nordic balance settlement unit is established. It may be possible to take advantage of the functionalities to be built in the Nordic balance settlement unit for the retail market in general. On the other hand, it may be more secure to establish a data hub in each country. One solution may also be to establish data hubs in each country based on the current data formats used in each country, and to ensure that the national data hubs can communicate by interpreting the content of the message from one data format to another. In addition, the tasks of the data hub should be determined. The tasks may include only delivering data to a defined party or be extended to verifying or storing data or taking care of some other additional tasks. The content of messages needs to be defined after the business processes have been defined.

Currently, there is some variation in the measurement of consumption in Nordic countries. In Sweden, legislation requires monthly measurement to be used. Some meters are also able to deliver hourly data and this is used in some occasions. Consumption points with over 63 A fuses are measured hourly. In Finland, most consumption points will have an hourly meter by the end of 2013. All consumption points with a fuse

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<sup>11</sup> Source: CEER, 2012, Electricity and Gas Retail market design, with a focus on supplier switching and billing Guidelines of Good Practice, Ref: C11-RMF-39-03

<sup>12</sup> Svenska Kraftnät, Fingrid, Statnett, 2011, Nordic Balance Settlement (NBS), Common Balance & Reconciliation Settlement, Design



over 63 A are measured hourly. In Norway, the legislation requires 80 % of consumption points to have hourly measurement by 2016 and all to have hourly measurement by 2017<sup>13</sup>.

In the interviews and questionnaire, the following issues related to measurements that would be important to harmonize in the Nordic market were highlighted:

- Measurement requirements for consumption and generation points
- Meter reading frequency
- Rules on handing over data
- Rules on the quality of measurement
- Correcting measurement errors and related responsibilities

CEER highlights that a regulated and binding framework for electronic data exchange should be established with a minimum set of information, including data formats, processes and timeframes. This is important in creating competition in retail markets. When updating IT systems, CEER finds that it is important to keep the customer perspective in mind with respect to designing these changes and that the costs and benefits of redesigning retail markets are assessed thoroughly.<sup>14</sup>

NordREG's report<sup>15</sup> discusses three models for data exchange:

- Model 1: Simple web service search tool
- Model 2: Simple central database
- Model 3: Extensive central database with data storage

The report does not give any reasoning for choosing these models for discussion and it does not, for example, include the option of having central routers. There are clear benefits and challenges in each model mentioned in the report. Investment costs are higher for models 2 and 3, but with these models the communication and data exchange is more efficient. For the market as a whole, it would be important to have a harmonized approach to data exchange in all countries. According to NordREG, an optimal solution on a national level may not lead to the most efficient solution on a Nordic level.

The report further suggests that, in order to avoid entry barriers and to facilitate a common Nordic market, it is essential that the responsibility for customer data and processes is the same in all countries. This means that suppliers should have the same responsibility no matter which country they operate in. If all countries do not have the same communication model, it is more likely that there are differences in responsibilities.

Related to the discussed data exchange models, the report claims the following:

- It is preferable to arrange communication between a few parties as central databases compared to bilateral communication between hundreds of DSOs and suppliers.

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<sup>13</sup> Source: <http://simonsenlaw.no/en/News/Articles/Norway+adopts+smart+metering+regulation.9UFRzGYK.ips>

<sup>14</sup> Source: CEER, 2012, Electricity and Gas Retail market design, with a focus on supplier switching and billing Guidelines of Good Practice, Ref: C11-RMF-39-03

<sup>15</sup> NordREG, 2012, High level suggestions for common Nordic processes for information exchange- obstacles and possibilities



- A web service search tool seems easy to operate and may represent a smaller change from today's system than the central database.
- DSO neutrality is a priority for the common market and it appears as if a central database may offer a good solution for this.
- The preferred option for harmonization is that all countries go for similar models.

## 4.3 Business processes

The following business processes have been recognised as the ones that could be harmonized:

- Moving in/out
- Switching supplier
- Making a contract
- Renewing a contract
- Management of basic customer data
- Recording of metering data and distributing the data
- Correcting metering data and errors in balance settlement
- Billing including securities, risk management processes and the format of bill
- Collecting debt
- Balance management rules and processes
- Balance settlement rules and processes
- Disconnecting a customer when the bill has not been paid

In the interviews it was suggested that the processes do not need to be harmonized all at once. Harmonization could be started with the most relevant processes and rarely occurring processes could be harmonized later. In practice, it may not be possible to harmonize all processes completely. For example, the national legislation for debt collection may differ and this may not be possible to change.

In harmonizing the business processes, rules would need to be set for practices, communication, responsibilities, schedules, correction of mistakes, etc. Harmonizing general contract terms would be especially beneficial for household consumers. Harmonization should not cover pricing or restrict product and service development.

CEER has made some recommendations on supplier switching:

- A switch should be executed as quickly as possible. This could be as quickly as within 24 hours and in any case within three weeks of the customer's request.
- A supplier switch should be possible any day of the week
- No market actor should be able to stop an initiated switch except for in limited cases foreseen in the regulatory framework.



## 4.4 Balance settlement

The TSOs of Finland, Sweden and Norway have suggested a common balance settlement to be developed and implemented at the earliest in 2014<sup>16</sup>. This report does not give any further guidance on potential harmonization of balance settlement, as the model presented by the TSOs is currently the only concrete suggestion.

It should be noted that the changes in the balance settlement require some changes to be made especially by the DSO. The data format to be used in the common balance settlement has not been decided. Potentially, a common Nordic balance settlement unit could be used in the future also for customer specific data management. However, there are several areas that need to be harmonized in the retail processes and data management to enable this.

## 4.5 Risk management

If the supplier is responsible for customer billing in the future, there is a need to discuss how this will affect the risks of the DSOs and suppliers and how these risks should be dealt with. Currently both the DSO and the supplier are paid directly by the consumer and hence both bear some credit risk in case of non-payment. If consumers would in the future pay for the electricity only to the supplier, the counterparty risk of a DSO would increase significantly as the number of counterparties would be reduced to only a few suppliers. If a supplier goes to default, a DSO may potentially lose a significant share of its income. If the supplier would have the responsibility for collecting debt from consumers and the supplier would in any case be obligated to make a payment on behalf of the DSO, the credit risk of a supplier would increase.

The division of credit risk may be divided between the supplier and the DSO. In addition, it is possible to set some guarantees to be paid by the supplier to a DSO or to a central depository where a DSO could get compensation in case a supplier goes to default. A draft report from Ernst & Young suggests methods to keep the current division of credit risk: establishing a third body responsible for collecting the payments and dividing the monetary flows to the DSO and the supplier<sup>17</sup>. In practice, this may lead to increasing operative costs. In addition, the draft report suggests several voluntary and obligatory arrangements to mitigate risks especially from the DSO point-of-view. This includes a monthly billing frequency between supplier and DSO, professional credit management, supplier or DSO industry funds as well as strict market entry requirements for suppliers.

## 4.6 Network tariffs

Currently, DSOs may determine the share of fixed and variable fees paid by the consumer. In addition, there is some variation in the timing of winter/summer and day/night tariffs used by some consumers. DSOs have determined the structure of the network tariffs based on their needs. NordREG has stated that it

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<sup>16</sup> Svenska Kraftnät, Fingrid, Statnett, 2011, Nordic Balance Settlement (NBS), Common Balance & Reconciliation Settlement, Design

<sup>17</sup> Ernst & Young, 2012, Credit risk management in future billing regime, A common Nordic end-user market with combined billing, Draft report



does not recommend harmonization of network tariff types or levels<sup>18</sup>. The necessity to harmonize network tariffs depends on the implementation of the combined billing.

## 4.7 Collecting taxes

If billing would be done by suppliers and there would not be an obligation to establish a company in the country of operation, collection of taxes would need to be reconsidered. The taxes that would need to be discussed include VAT, energy taxes and other fees. There is existing legislation on collection of VAT in the EU by organisations in foreign countries hence this should not cause any challenges from the legislation point-of-view. However, the NordREG draft report points out that if a consumer has a foreign supplier in some cases the consumer would be responsible for paying and reporting VAT. To avoid this, some changes in legislation would be required.

The NordREG draft report<sup>19</sup> on taxation gives a recommendation that suppliers would collect all taxes and fees and forward relevant taxes and fees to the DSOs. Suppliers would only be liable for VAT on supply of electricity and DSOs would be liable for VAT of distribution services. The report suggests that DSOs would be liable for energy tax in all Nordic countries. Currently, In Denmark, Finland and Norway the DSOs collect energy tax whereas in Sweden the energy tax is collected by the supplier. In Denmark, the Danish Energy Agency has made a proposal to make the suppliers responsible for reporting and paying energy taxes and fees to authorities. The report also suggests that DSOs would be responsible for the classification of end users regarding energy taxation and that supplier would be the main point of contact regarding questions on taxation or other fees. The report does not take into account market trends that are emphasized in new directives, i.e. new functions in energy efficiency and smart grids in relation to taxation. In line with ongoing development it would make sense to also move the tax liability and collection closer to the point where the electricity is consumed. Taxation plays a role as an environmental and political tool, which could be investigated further.

The report assumes that in the future common Nordic retail market the customer will have two agreements, one with the supplier and one with the DSO. If the customer only has one agreement with the supplier, it could have an impact on VAT.

To implement these changes, national legislation on collection of energy taxes and other fees would need to be changed. Especially, it is not clear how a foreign organization could be responsible for collecting energy taxes and fees from consumers.

## 4.8 Contracts

It has been discussed whether or not customers should, in the future, have a single contract that would cover both retail sales and distribution. This issue is clearly connected to whether or not a customer would receive only one bill from the supplier. So far NordREG has not given recommendations on this issue. In any

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<sup>18</sup> NordREG letter to EMG Sept 2011, source:

[https://www.nordicenergyregulators.org/upload/Reports/retail%20market/NordREG%20letter%20to%20EMG\\_Sept%202011.pdf](https://www.nordicenergyregulators.org/upload/Reports/retail%20market/NordREG%20letter%20to%20EMG_Sept%202011.pdf)

<sup>19</sup> Ernst&Young, 2012, Tax collection in the future billing regime, A common Nordic end-user market with combined billing, Draft report



case, a contract to connect a house to the network would be done with the DSO. It is possible that some of the terms in current distribution contracts could be included in the connection contract, if only one contract would cover both distribution and supply of electricity.

To improve the transparency when switching a supplier, it has also been suggested that the general terms of a contract should be harmonized in all Nordic countries.

## 4.9 Supplier of last resort

The regulation on supplier of last resort varies in Nordic countries. It has been discussed, whether it would be necessary to harmonize the regulation. The table below summarizes the characteristics of each country regarding the obligation to supply and supplier of last resort.

**Table 4.1.** *Obligation to supply and supplier of last resort in Nordic countries<sup>20</sup>*

	Denmark	Finland	Norway	Sweden
Is the obligation to supply regulated?	Yes	Yes	Yes	Yes
Which party has the obligation to supply?	Suppliers with a license	Supplier	The DSO has the obligation to supply within its network area	The default supplier
What are the requirements for a party to have the obligation to supply?	Financial and technical	Supplier which has significant market power in each distribution network area	DSO	Not available
What are the responsibilities included in the obligation to supply?	Supply all passive customers in the concession area	Obligation to supply electricity at reasonable prices to consumers and other small users	Supply electricity to all customers without a ordinary supplier	Not available
Does a customer have to take any actions to get electricity? (e.g. while moving in)	No, they will be supplied under the obligation to supply scheme	Yes	If not choosing a supplier, they will be supplied by the DSO under the obligation to supply	Contact the DSO
Is the supplier of last resort regulated?	Same as the obligation to supply	Yes	Same as the obligation to supply	Yes, the DSO has to have one
Which party is the supplier of last resort?	Same as the obligation to supply	DSO in the first place, and then the supplier with the obligation to supply	Same as the obligation to supply	Default supplier
What are the requirements for a party to be a supplier of last resort?	Same as the obligation to supply	No specific requirements	Same as the obligation to supply	Not applicable

<sup>20</sup> Source: NordREG, 2009, Market Design, Common Nordic end-user market





<b>What are the responsibilities for a party being a supplier of last resort?</b>	Same as the obligation to supply	Take care that customers will be supplied with energy for a certain period	Same as the obligation to supply	Obligation to supply electricity to customers
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NordREG originally stated that even though there are differences between the Nordic countries in how the obligation to supply and the supplier of last resort schemes are implemented, it does not suggest harmonization relating to these obligations.<sup>21</sup> However, in a publication released in January 2012, NordREG states that the Customer Empowerment Task Force is analyzing if the existing obligation to supply and the supplier of last resort schemes include elements that negatively impact the market and whether there is a need for harmonization.<sup>22</sup> Some stakeholders consulted in this study consider it necessary to harmonize the rules for obligation to supply and supplier of last resort.

## 4.10 Legislation

To harmonize the Nordic retail market, several changes in legislation are required. Market players would first need to agree on practices to be used and thereafter legislation needs to be changed accordingly. The time required to change required national legislation is estimated to be 2-3 years.

## 4.11 Analogies from the telecom business

In the telecom business, the closest analogies to electricity business are roaming in the network of a foreign operator and broadband network connection in the area of another network operator. However, there are fundamental differences in these business processes compared to electricity markets and hence the same operation methods cannot be copied directly. The relevant differences are the following:

- For establishing a broadband network connection in another network operator's area, there is only a flat monthly fee. The network operators only need to communicate when the network connection is established and when the service is discontinued. Data delivered is much simpler, and data exchange is not required regularly for each customer.
- The GSM standard has been constructed so that companies will get information directly about the minutes used, number of sms sent and kilobytes of data transferred no matter if the customer is in the company's own network or roaming.

Potential lessons to be learned from telecom operation to electricity retail sector may include the following:

- Having a strong international standardization body that could create a standard that all companies need to adhere to and be responsible for the development of further standards.
- Automation of companies' internal processes: the objective is that any fault messages are sent directly to those responsible for handling the case.

<sup>21</sup> NordREG, 2010, Implementation Plan for a Common Nordic Retail Market

<sup>22</sup> Source: NordREG, 2012, High level suggestions for common Nordic processes for information exchange- obstacles and possibilities



- Usage of brokers in managing payments of roaming: a broker would collect payments receivable from several network companies and thus be able to aggregate bills to each network operator. There are altogether ca. 500 network operators so this makes the managing of bills much more efficient. There are several competing brokers.

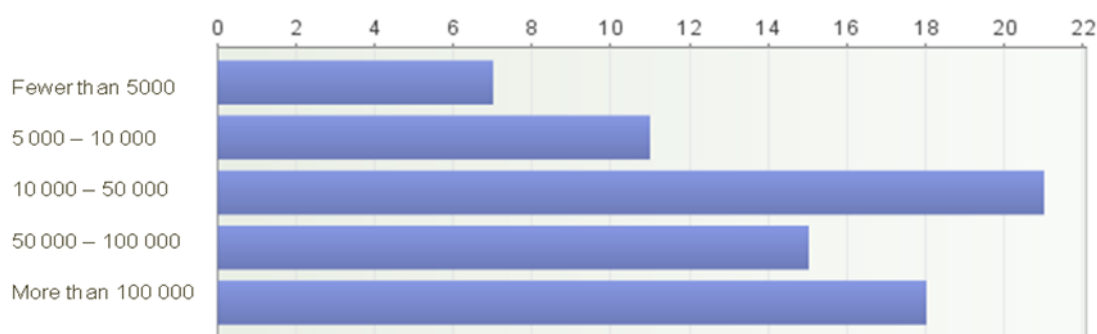
## 5 Opinions of different stakeholders

### 5.1 Background information

#### 5.1.1 Goals and implementation of the survey and interviews

A web-based questionnaire was sent to 185 people in Finnish Energy Industries member organizations. 72 responses were received, which gave a good response rate (40%) to the survey. The responses represented different sizes of DSOs and suppliers. Figure 5.1 shows the sizes of the surveyed companies by the number of customers.

In some cases the survey has been sent to more than one person within the same company, for instance, to one person representing the distribution services and one representing the supplier side. The responses do not represent the number of companies. The respondents were asked to answer the questions from the viewpoint of the organization which they represent. 52 of the respondents indicated that they represented sales and 48 represented distribution services.



**Figure 5.1.** The number of customers in the companies which the respondents represented.

In addition to the survey, a total of 15 interviews of key stakeholders were conducted. These included representatives of suppliers and DSOs of different sizes as well as The Ministry of Employment and the Economy, the Energy Market Authority, the Consumer Protection Agency and some IT suppliers. Views from the telecom sector were also collected in order to get analogies from the telecom sector.

#### 5.1.2 Background information on the respondents

In the survey and interviews, a starting point was a supplier centric model with one bill. Taking this as a given, the pros and cons of harmonization from different perspectives were studied and views on the most

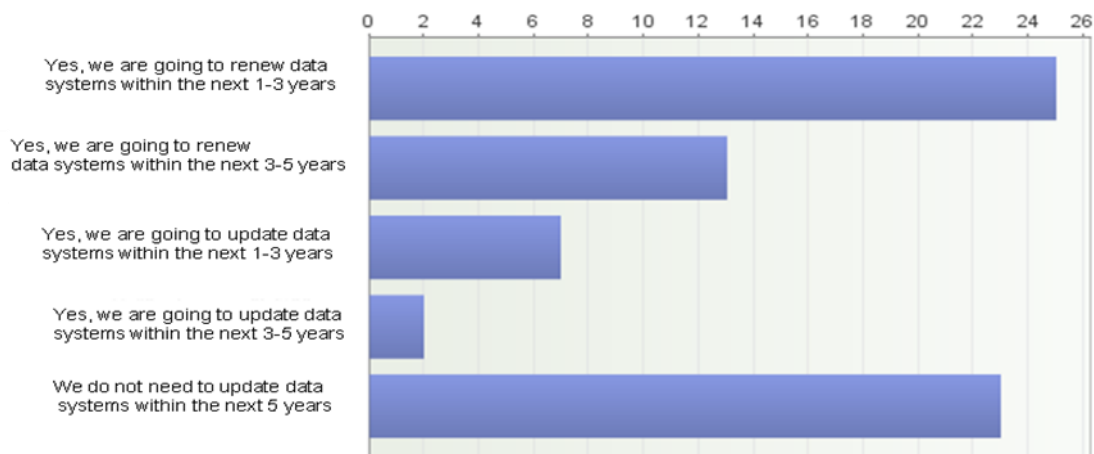


important processes to be harmonized were collected. The survey also attempted to get feedback on what a reasonable timetable for harmonization could be and what the associated costs would be.

Most of the respondents to the survey were currently only active in Finland. Only 18% of the respondents stated that they would be interested in establishing sales activities in other Nordic countries given that the same systems for customer management could be used and that the same harmonized business processes would be in place.

The harmonization of processes on a Nordic level will have an impact on IT systems and these are a key factor influencing investment costs for the DSOs and suppliers. Furthermore, these costs will be carried by the end customers. Therefore, some background information was collected regarding IT systems.

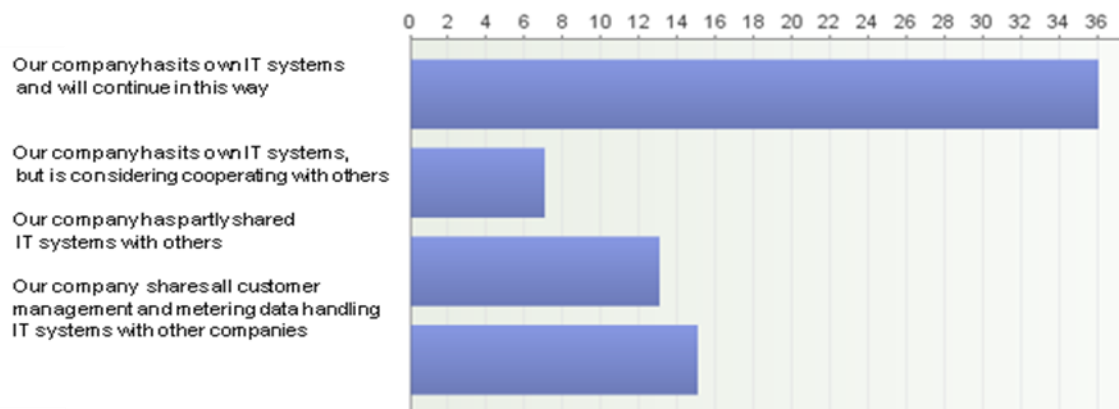
The mandatory requirement to enable 80% of meters to be remotely read by the end of 2013 has led to the need for renewing many systems. Most companies have needed new systems for customer management (CRM), metering information management and on-line reporting. Work is still on-going in many companies to implement the changes. 36% of the respondents stated that new systems for either customer management or for handling measurement data were going to be acquired within the next 1 to 3 years. Almost 20% expect these acquisitions to occur during the next 3 to 5 years (see Fig. 5.2). Some were only going to update their current systems. Noteworthy is also that one third answered that there would be no need to update systems within the next 5 years.



**Figure 5.2.** *The need for renewing or updating customer management or measurement administration systems.*

Over half of the respondents answered that their company uses its own IT systems for customer management or handling of measurement data (see Fig. 5.3). Almost the same number answered that systems or parts of systems are shared with other companies or that they are considering doing so in the future.



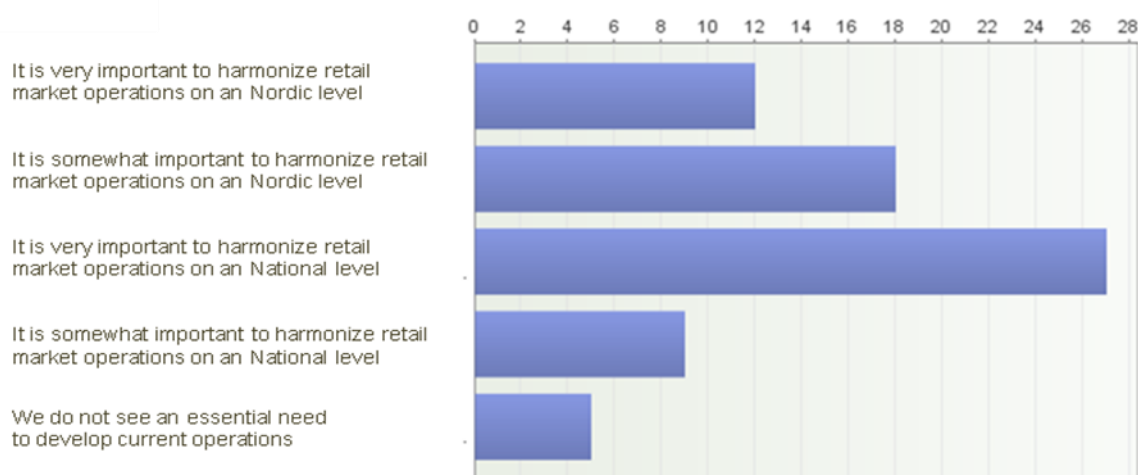


**Figure 5.3.** Arrangements regarding IT systems

## 5.2 Views on harmonization

### Differing views on the need for harmonization of the retail market

There is a clear need for harmonizing practices. Most respondents confirmed the need for harmonizing practices on a Nordic or national level. 42% answered that it is important or somewhat necessary to harmonize practices on a Nordic level. 50% considered that it is important or somewhat necessary to harmonize practices on a national level (see figure 5.4.). It is not clear to many of the respondents whether the objectives of Nordic retail market harmonization can be reached by implementing the proposed changes.

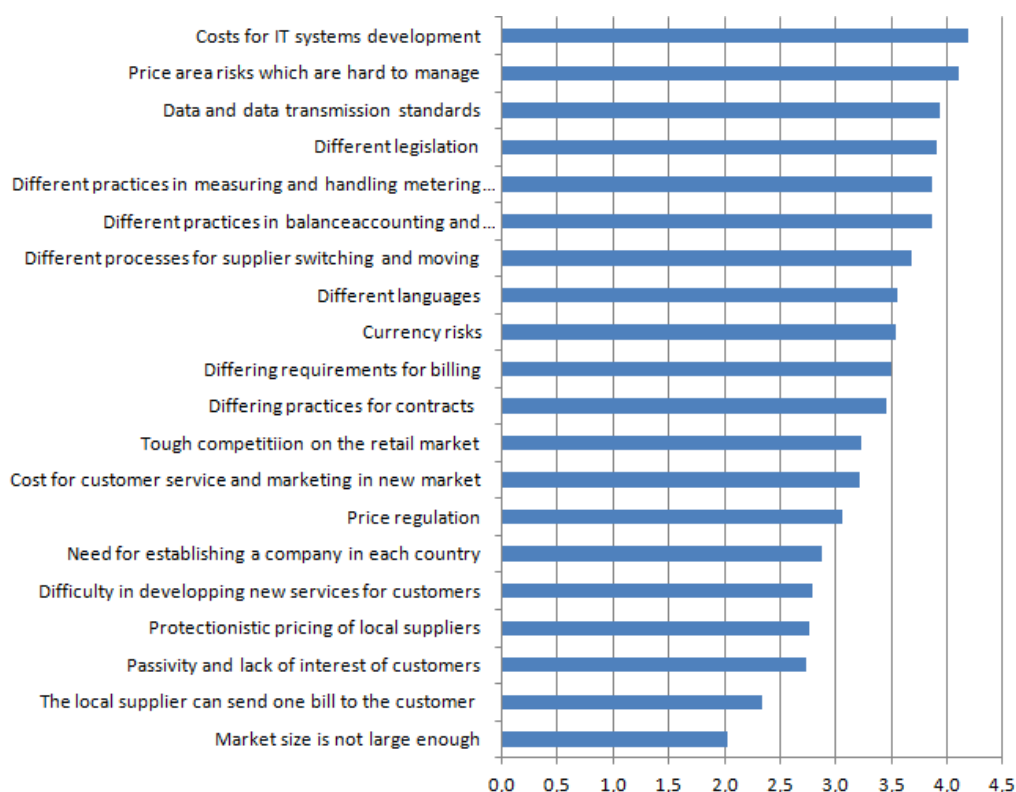


**Figure 5.4.** The need for harmonizing practices.



## Barriers for a supplier to enter new markets

Nordic retail market harmonization has as its goal to lower the barriers for suppliers to operate in several Nordic countries. According to survey, the most important barrier for the supplier to establish operations in other Nordic countries was the **costs of IT systems**, as it is not possible to operate with the same IT system in different Nordic countries. Some other significant barriers identified included the different data formats and data exchange standards, different metering practices and metering data handling, and balance accounting and handling. Other barriers mentioned were legislation, differences in processes for supplier switching and different agreement practices. In the interviews and open answers of the survey, some were skeptical as to whether it would be possible to harmonize processes cost-efficiently so that the same systems could be possible to use in the future in different countries. See figure 5.5.



**Figure 5.5.** The most important barriers for suppliers for establishing operations in other Nordic countries

The survey highlighted some barriers which the **Nordic retail project does not address**. Noteworthy is that the problems with the **functioning of the wholesale market** are mentioned to be almost as equally important a barrier as the high IT system costs for suppliers to operate in other Nordic countries. The price areas and the trend that price areas seem to be increasing in number are seen to hinder sales to some areas. Handling the risks for a few customers in some price areas, without good possibilities for financial risk management, is at the moment seen as a major barrier for starting sales operations in some regions. Language and different currencies (currency risk) are also mentioned as important barriers.

## Benefits and risks

Generally, the respondents had difficulty in seeing what the benefits of Nordic retail market harmonization would be for the end users, given the current low margins in the retail market in Finland. According to some interviewees, the customers who would benefit the most would be the business customers who



operate in several countries for whom it would be practical. Many interviewees thought that there was a wide range of supplier choices for customers already. Others stated that it is possible that some more innovative players may enter the market with new products, which would benefit customers.

Most respondents felt that mainly the larger suppliers would benefit from harmonization. Some felt that there were almost no benefits for the players themselves. This view may be understandable given that most of the survey respondents had no interest in establishing operations in other Nordic countries.

Those companies who did have an interest in establishing sales operations in other Nordic countries were of the opinion that harmonization on a Nordic level would be necessary or somewhat necessary. These respondents also had more positive views towards the combined billing model. Over 50% felt combined billing would be somewhat beneficial and 8% that it would be very beneficial. Still, 38 % of these respondents felt it would be disadvantageous or harmful to operations. Most of these respondents were already well into the process of implementing hourly metering.

Many respondents feared that the harmonization project could lead to higher IT system costs for the customer. Some stated that costs were unlikely to be recovered in the long term, especially if harmonization was not done in a sufficient way or within a timetable that matched the timetable for refurbishment of IT systems. Some respondents pointed out that long term operating costs must be brought down or otherwise the whole harmonization process would be pointless. Savings in IT system costs could be foreseen by some interviewees if harmonization was implemented in such a way that IT suppliers could develop and sell the same systems to several countries without extensive tailoring – economies of scale would follow.

Some respondents feared that smaller suppliers would no longer be able to fulfill the new requirements (especially after combined billing is required), which were understood to mean substantial investments in IT systems. Some also feared that new suppliers wishing to enter the market would not be able to make the initial investments into IT systems that are necessary to establish operations. It was felt that the rising IT system costs/investments would, in fact, limit competition in the future. Smaller players would be either phased out or not be able to enter the market at all. There were also fears that smaller DSOs would be burdened with system costs in connection with the common retail market (even if they were not active themselves). Smaller DSOs or suppliers would no longer be able to stay independent and a phase of consolidation would begin. When discussing these fears in interviews some suggested solutions for the smaller companies: to invest in common systems, to share system costs or to outsource the service to other providers, who would be able to start providing services to many companies on a Nordic level. In fact, some already do so.

Some respondents felt that because Finland is so far ahead of the other Nordic countries in the implementation of hourly metering and hourly billing, it would be easy for others to establish sales operations in Finland if the retail market was harmonized and open to all. It was felt that the same possibilities would not exist for Finnish suppliers active in other countries for some years.

### **How harmonization should be done**

In general, it was felt that if a common Nordic retail market is created, harmonization should be conducted after careful consideration of what the best options are and what costs these entail for different stakeholders. Some interviewees feared that compromises would be made, which would lead to fewer benefits from the investments into hourly metering, or that suboptimal solutions would be chosen in the spirit of Nordic political compromise, which would not benefit customers, DSOs or suppliers in the long term. Some wanted to emphasize, that giving the possibility for exceptions to general rules would first require making costly



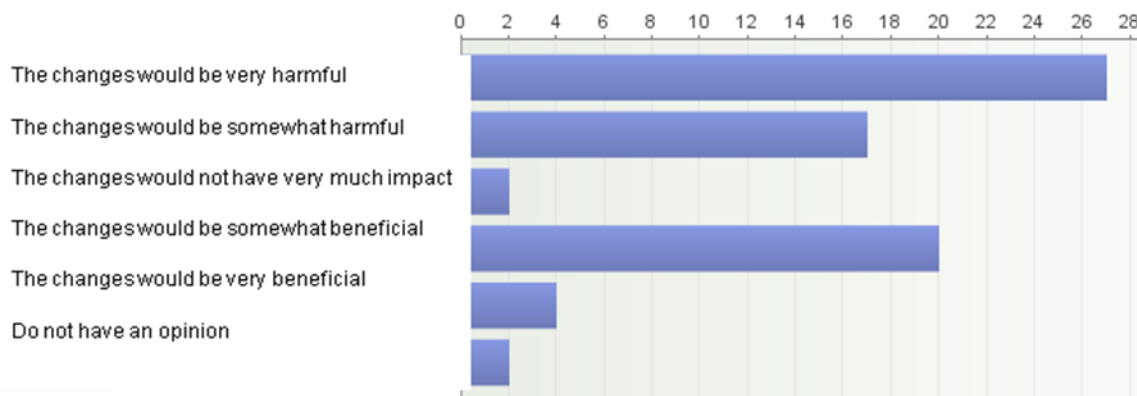
changes to accommodate the new harmonized general practices. The exceptions left would then lead to expensive parallel processes, which would further lead to additional costs. This was seen by some as the worst case scenario in Nordic harmonization. The benefits from harmonization could only be reaped if the processes were sufficiently harmonized and in such a way that best practice would be the norm. Processes should thus be sufficiently harmonized with very few exceptions to ensure that the same IT systems could be used in different countries.

In the opinion of some survey respondents and interviewees, the most important areas to be harmonized and the ones which should be concentrated on first, were data exchange, energy measurement and balance settlement. These are seen to create the foundation that will enable suppliers to act in the same way in different countries.

## 5.3 Customer interface, billing and contracts

### Customer interface

The current model in Finland is considered quite supplier centric and in principle seems to correspond to the proposal set forth by NordREG. In most situations the customer is in contact with the supplier and supplier switching does not in most cases require contact with the DSO. Contacts with the DSO are normally limited to the obvious situations when a new connection is built or when disturbances or quality problems with electricity supply occur. However, there are some differences in the ways companies operate and not all companies (DSOs) will support the supplier switching process in the same way. There is a need to clarify the rules governing the rights and obligations of the different players in the supplier switching process. At present many of the rules for supplier switching and other interactions are industry recommendations and are not mandatory. They should be formalized and clarified anyway.



**Figure 5.6.** *Do you see benefits from the supplier centric model from your perspective?*

Almost 65 % of the respondents to the survey did not see benefits in a Nordic supplier centric model (see figure 5.6). Many foresaw challenges in how the practicalities in the operations were going to be resolved, for example in disturbance situations and with billing. Some of the challenges identified in the supplier centric model may relate to the fact that many fundamental questions are unclear to respondents and interviewees. There were also great differences in how people saw how some fundamental processes would develop in the future. The future degree of automation and the penetration of online services will influence the billing process. Similarly, the way in which communication related to disturbances develops



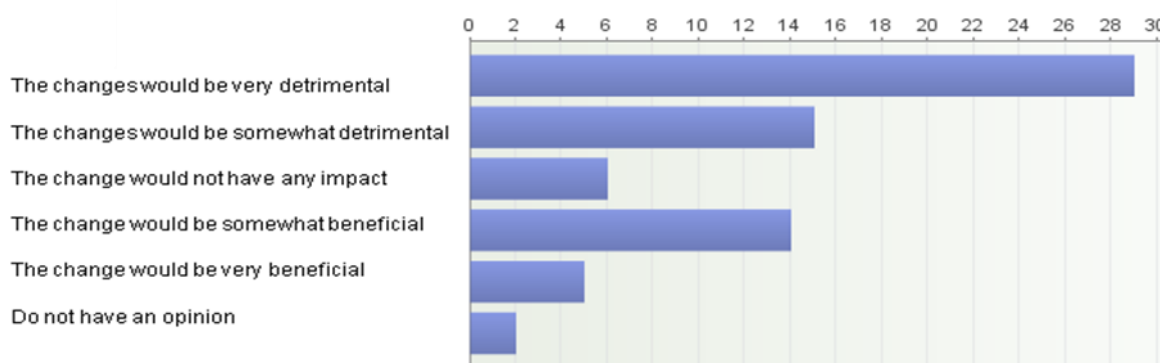
will have an impact on the level of personal customer service required and the resources needed by DSOs or suppliers for resolving customers' issues. There were differing views amongst the DSOs and suppliers on what the role of customer service or a call centre is going to be or should be in the future. Smaller companies pointed out that DSOs and suppliers have multitasking personnel who work for both DSOs and the supply side, and that the operations are in some cases currently mostly separated on a bookkeeping level. How this type of work would be affected by a strict supplier centric model was a question of interest especially for small companies.

## Billing

Simplifying the content of bills was considered necessary by most respondents. Many commented that customers still had problems with understanding their bills. According to respondents, the complicated content was unnecessary and a result of the requirements imposed by authorities. Some stated that reporting and billing are two different things and that reporting should be kept separate, especially if electronic bills are going to be the norm in the future. Harmonization and reducing the minimum information requirements of bills was seen as necessary also on a national level (see figure 5.9). Some feared that if harmonization on a Nordic level was implemented, the bill content would not be simplified and that the bills would remain or become even more complicated.

There is a great deal of disagreement on the combined bill model. Most respondents do not see this as a positive development for the DSOs or suppliers because of the IT system costs anticipated. However benefits are seen from the customer point-of-view. See figures 5.7. and 5.8.

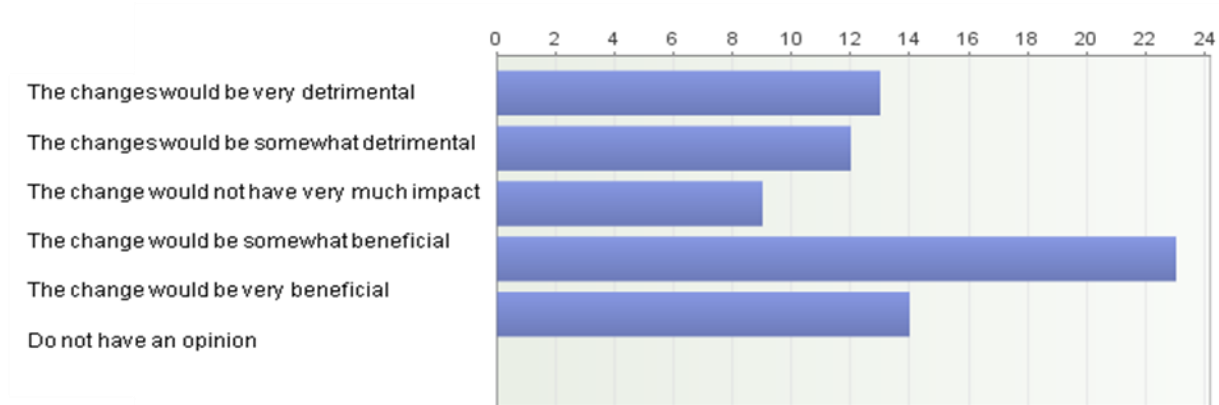
What a future typical billing process will be like in the future is not clear to many (electronic billing etc.). Bills are today seen as one channel for customer communication. In the future, for instance as the share of electronic billing will rise, the importance of bills as a channel for customer communication will be reduced. Many were of the opinion that the calculations made within the NordREG harmonization project on the benefits of combined billing are unreliable and do not necessarily take into account future developments in billing. Some respondent and interviewees thought that paper bills may in time become obsolete. The discussion on the cost of paper bills, or reduced paper billing cost associated with one bill, would then become irrelevant.



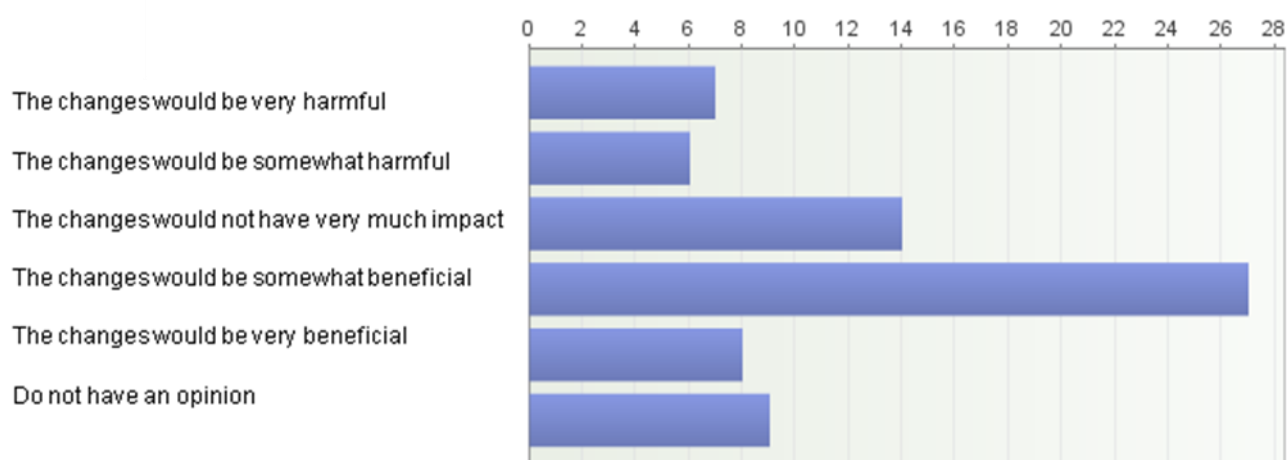
**Figure 5.7.** Benefits from the one bill model for stakeholders (DSOs and suppliers)







**Figure 5.8.** Benefits from the one bill requirement for the customer compared with the current model



**Figure 5.9.** Would it be beneficial for the Finnish companies and the retail market to harmonize the requirements of the minimum content of the bills?

If combined billing were to become the norm, some interviewees believed that a so-called integrated bill, where the billing information from the supplier and DSO is integrated into one bill, is a better option for the customer than a simplified model. In the simplified model, the DSO and supplier would produce separate bills, which would then be placed within one bill that the customer receives. The integrated approach could mean that the billing information would be produced by the DSO and sent to the supplier or a data exchange and service HUB. The supplier would then be responsible for producing the integrated bill. Another alternative would be to have a third party who produces bills based on publicly available DSO tariff information, metering data and information from the supplier. This last option was seen to require harmonization of the network tariffs and their structure nationally, and most likely also on a Nordic level, in order to simplify the process.

#### Collecting taxes, collecting debt and risks

If the billing model is based on a supplier centric model with only one bill the billing processes need to be harmonized. The taxation principles (who collects taxes and how) and tax collection processes were seen to



require harmonization. These are subordinate to and dependent on the billing model used and the kind of supplier centric model that would be in place. About half of the costs billed by DSOs are taxes.

The **debt collection** processes in the case of customer default of a payment should be carefully planned. It should at the least be made clear to all parties, including the customer what the responsibilities of the DSO and the supplier are. In the interviews, many speculated on the question how could DSO taxes be collected by a company situated in a third country and what would happen if a customer does not pay and the supplier is responsible for billing? Or if the customer only pays a part of the bill, what part should then be paid to the DSO and when? The question of the distribution of risks was seen as very important by both survey respondents and interviewees. These were some of the concrete down to earth questions about the future rules on a harmonized open Nordic retail market that would need to be resolved.

## Contracts

In general, among the survey respondents, there is opposition to having only one agreement between the supplier and the end customer. Most consider it clearer if there are separate agreements like today. However, if a combined bill model would be taken into use, then most respondents were of the opinion that one contract will be the right, or necessary solution. Even in this case a separate contract would still exist between the DSO and the customer for the connection. In the interviews, it was suggested that some issues which are included in the transmission agreement could be transferred to the connection agreement if a one contract model was to be the norm.

There was some agreement on what should be harmonized in the contracts. There should be common rules on how a new agreement begins and how and on what terms it will be terminated. The same applies for when the customer is moving. According to the interviewees, information and terms, that relate specifically to the product and pricing of electricity, should be left to the supplier and DSO as long as the terms are in compliance with legislation and the general rules and good practice on the market. This would leave freedom for product and service development and differentiation.

## 5.4 Business processes

Despite the fact that the respondents expressed a level of uncertainty and there were differences in opinion, most felt that the main business processes (outside the company) should be harmonized, if a well functioning Nordic retail market is to be created. Most respondents felt that if processes were harmonized they should be harmonized thoroughly and carefully so that operative costs would be reduced. Many were still of the opinion that the Nordic market would not benefit them in any way.

In addition to the metering and metering data exchange, the supplier switching, move in or out processes and billing processes are by most seen as the main processes to be harmonized. The last three mentioned above are the processes where the customer will have to be in some contact with the supplier and where several stakeholders are involved: DSOs, the old supplier and the new supplier. Some other processes, such as tax collection and debt collection, were regarded as important but as subordinate or to be part of the billing process.

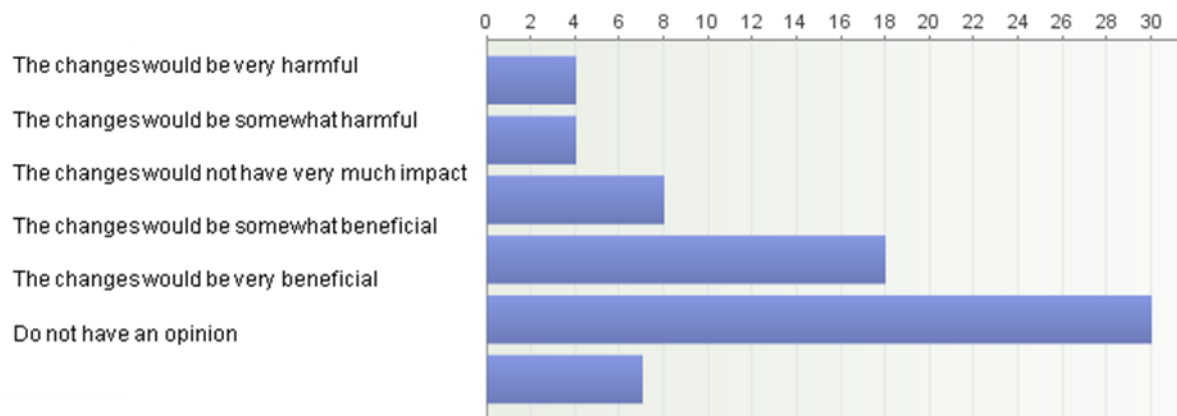
Formalising the supplier centric model and adopting it on a Nordic level will have some impact on these processes. However, some felt that as the supplier centric model is very near the current model in Finland, not so many practical changes may in reality be necessary. Some of the major changes which need to be made would mainly be related to the combined bill requirement and data exchange.



As the details related to the supplier centric model and the practical implementation of the combined bill model are still unclear, the respondents quite understandably are unable to evaluate in detail what in the processes should be harmonized and what the costs for each specific change would be. This will require more knowledge of what the practical solution could look like at least on a principal level.

## 5.5 Metering and data exchange

Most respondent felt that it was very useful to harmonized practices for data exchange (see figure 5.10). However, there are different views on how data exchange should be implemented.



**Figure 5.10.** Need for harmonizing practices for data exchange.

Most respondents were of the opinion that some common centralized way of transferring data should exist. When asked if a national or Nordic level “HUB” for data exchange was preferred, most answered that a national HUB was preferable. As a reason, respondents stated that a Nordic level HUB would most likely not be realistic and it could also being a monopoly with less incentive to develop efficient operations, be less cost-effective. In Finland there are several service providers who provide HUB services for data transfer. There are several private initiatives/service providers who help with data transfer between suppliers and DSOs. Some respondents wanted to point out in the open answers as well as in the interviews, that allowing several HUBs would be cost-efficient, since this would include an element of competition and would provide incentives to improve efficiency and develop services.

It must be emphasized, that the term HUB may be understood by different respondents in different ways. A HUB may be just a form of data exchange. In a more advanced form it could, for instance, produce the billing information required to produce a single bill. Some felt that it is difficult to consider different options when so many questions are still unanswered as to what the HUB or HUBs would actually do and under what rules they would operate.

The metering requirement, the frequency that the meters are read, time limits for when the balance is closed, the rules governing the use of metering data, the quality of the metering data as well as requirements for correcting of the data and responsibility for this, were seen as needing common rules. In addition, common rules for what data should be transmitted, and how it is transmitted would be needed. Common metering point ID would also be needed in the Nordic area. Harmonising the time limits and content of the exchanged data was seen as important by most respondents.

The common view was that the load estimate curves should be abandoned as a base for billing in all Nordic countries. Most respondents felt a common market should be created only when hourly metering has been implemented in Sweden and Norway. The practices in place in Sweden were seen as hampering the functioning of the market, or at least as a barrier for entry to the market, for Finnish suppliers.

Most respondents were not familiar with the NBS<sup>23</sup> report. The main message from respondents was that hourly data should be used as the basis of balance settlement. One third of the respondents were not able to assess the impacts of new balance settlement methods on their company.

## 5.6 Network tariffs

There are different views on the necessity of harmonizing tariff structures. This is seen as depending on the billing model. A billing model, where the supplier in the supplier centric model produces the billing information from tariff and measurement data on behalf of the DSO, would require very clear and possibly harmonized tariff structures. The tariff information should then be made available in some centralized and standardized manner.

Some views were presented that the tariff structures in place today could be harmonized and that they are partly still what they are because of history. The current structure of DSO pricing has elements which steer consumption. This produces some beneficial effects for demand response. Some considered that, in principle, the DSO should not be steering consumption. Generally it is viewed that it should be the supplier who steers consumption based on market prices.

## 5.7 Supplier of last resort

EU-directives determine that there should be a supplier of last resort, but that this can be determined in different ways. The practices in place for determining the supplier of last resort in Finland were seen as functioning well. In Finland the customer is required to be active in finding a supplier when moving or when a contract expires. Most of those who were interviewed in the study were of the opinion that the current practices are well suited for the current open market. It is seen as positive that the customer needs to be active when moving or when a supplier agreement is ending. This is seen as beneficial for increasing competition and for providing a more level playing field for the suppliers. A rule where the customer would automatically be transferred to the local supplier and no active choice is required is seen to give an unfair advantage for the local supplier who receives “free, lazy, customers”. Most respondents were of the opinion that if harmonization was to take place then the current practice in place in Finland should become the norm.

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<sup>23</sup> Svenska Kraftnät, Fingrid, Statnett, 2011, Nordic Balance Settlement (NBS), Common Balance & Reconciliation Settlement, Design



## 5.8 Legislation and consumer protection

### Legislation

Legislation will need changes in each country nationally if the plans to harmonize the Nordic retail market are to be realised. Changes will have to be made to legislation as changes are made to practices and processes. Many of the current practices are regulated in the Electricity Market Act. The Electricity Market Act will most likely need many changes, which will need legislative work during a time span of several years. The Nordic one bill principle may lead to the need to renew the legislation on the collection of the energy tax as well as the supply security fee. In the interviews some stated that it could be beneficial to formalise some of the industry recommendations into legislation in order to ensure that everyone complies with the rules.

### Consumer protection

The laws on consumer protection are seen to be already quite similar in the Nordic countries. The needed changes related to consumer protection may not be so extensive. Not all aspects of consumer protection need to be harmonized.

Most respondents were of the opinion that consumer protection issues should be taken care of locally by each national consumer protection agency. Some respondents suggested that it would be beneficial if there was a specialised unit in the consumer protection agency, which had the necessary expertise in energy market questions, which can be complicated.

The consumer protection agency's view is that an agreement on electricity supply can be considered a "long standing or continuous" agreement and not a one-off purchase. In this case there should be a counterpart in each country, and also the consumer protection issues should be handled in the country where the customer is located. A viewpoint to be noted in this context is that the initial transaction and the language in which the transaction has been initiated and undertaken, can determine what service channel is used and the language in which the customer can expect to be served. If the agreement is, for instance, based on an internet transaction in English, then the future customer service contact could be in English and service channel the internet. If the sales transaction has been initiated and completed in the customer's domestic language, the customer should expect to be served in his or her language also in the future.

## 5.9 Opinions on the timetable

The original timetable, which has been communicated by NordREG, is seen as unrealistic by most respondents to the survey as well as interviewees. Some commented in the open answers, that all resources should at present be concentrated on implementing hourly metering and in being able to handle the measurement data. A lack of resources in the companies for the implementation of additional changes was seen as a problem, which should be taken into account when planning a timetable.

Most respondents felt that the use of the load estimation curves should be abolished and a common market should be created only when hourly metering has been implemented in Sweden and Norway. A few commented that not all customers were necessarily going to be using hourly metering even then, which



meant that this would not necessarily be the most important element to be considered when making a realistic timetable.

Views were expressed that the systems renewal will require 2-7 years. The current systems in Finland are in the process of renewal because of the requirement for hourly metering. To phase the changes in the next wave for renewals or updates would mean, according to some, that the changes should be implemented in 5-10 years, if system costs were to be optimised. This would mean that the work to lay the foundation for the harmonization work should be done long before this, but that the processes would not be harmonized on a Nordic level before current systems are to be updated or renewed. Some felt that if the needed system changes could be phased in the next system updates the costs could be kept lower. Some expressed the opinion that some level of payback should be gotten and experiences collected from the current hourly metering investments before a new wave of renewal is initiated. Whether the views on the timetable would be the same in the other Nordic countries is unclear as the system renewal may be in a different phase because of the different timetables for hourly metering and settlement implementation.

The European plans for harmonizing the retail market was a subject discussed in some interviews. The view was expressed that the European developments (i.e. on market and regulatory issues) should be followed carefully. Some considered that it would be prudent to make sure no changes of a fundamental nature (which would involve high costs) were made, that would not be in line with future European practice. Some feared that if changes, which are not in line with future European practice or requirements were made now in the Nordic process, costly changes would be necessitated once more to comply with common European market rules. Others expressed the opinion that if nothing was done in the Nordic area, possibilities to influence the model to be used on a European level would diminish.

## 6 Roadmap for the harmonization process

A workshop to develop a roadmap for the harmonization process was organized on 5.3.2012. A total of 22 representatives of various stakeholders participated in the workshop. The goal of the workshop was to develop a concrete plan according to which the harmonization process could progress. In the workshop, three different groups were formed. The groups included representatives from distributors, suppliers, IT system suppliers, authorities<sup>24</sup> and the Finnish Energy Industries. The groups' goal was to produce a suggestion for a plan for the harmonization process. The questions that the groups were asked to address were:

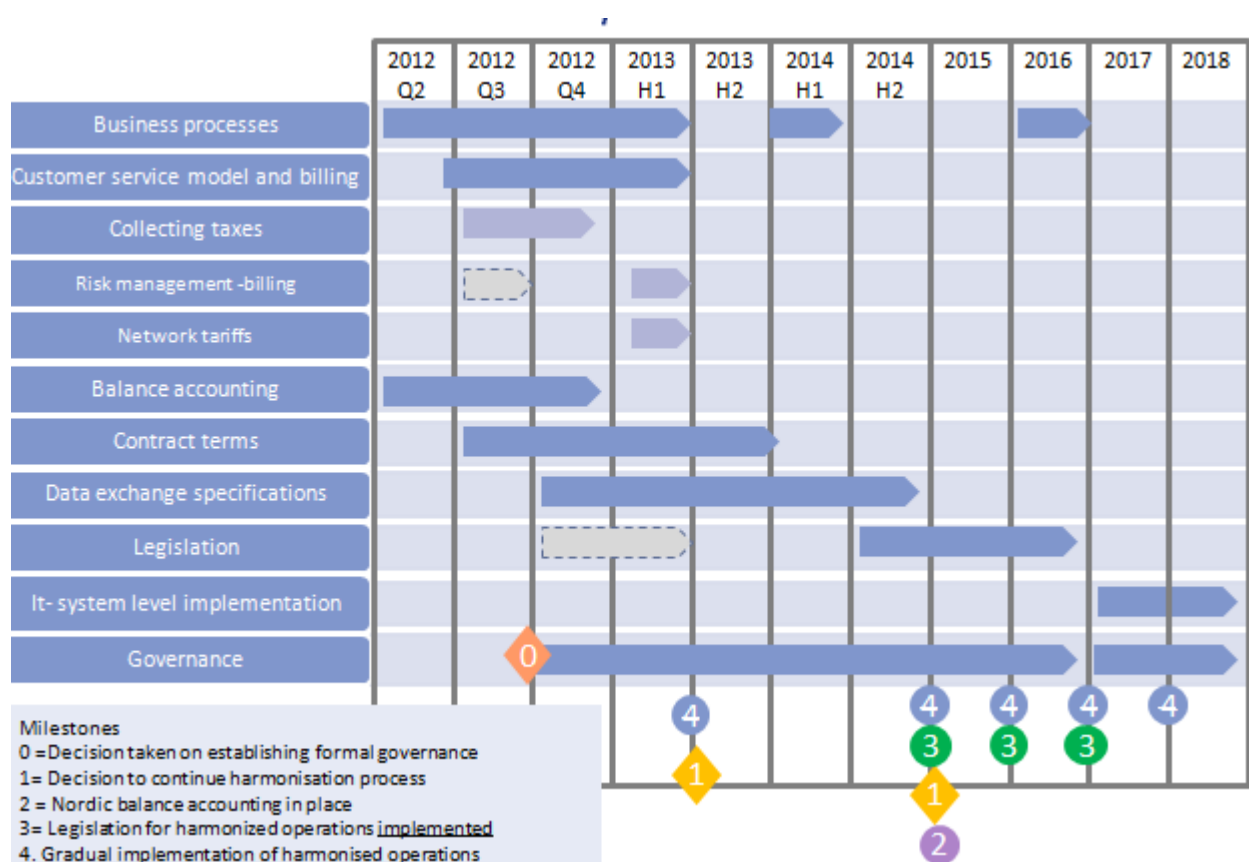
1. What are the most important phases in the process?
2. What is a realistic timetable for the whole process and for the different stages of the processes?
3. What parties should be responsible for and involved in the planning or implementation of the different stages?
4. At what stages should decisions be made, what kind of cost benefit analysis the decisions should be based on and who should have a say?

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<sup>24</sup> Energy Market Authority and Ministry of Labor and the Economy



The groups presented the results and outlined the views expressed in the group discussions. Two of the groups concluded that the customer service model and billing regime options should still be evaluated and that options should be kept open. They felt that the process should still include an evaluation of the best options for these issues. They thought that there is still a need to build some alternative scenarios and to do some further cost benefit analyses on which final decisions should then be based. According to the groups, it should be possible to make preliminary plans on how the processes would operate in different scenarios, which would enable making an impact analysis and a tentative cost benefit analysis for different stakeholders. One of the three groups presented an optional plan which was based on the assumption that a final decision has been made on the supplier centric, combined bill model. The plan presented here is based on the assumption that there are still alternative options. A tentative plan for an outline of the harmonization process is presented in Figure 6.1.



**Figure 6.1.** A tentative high level plan for the harmonization process.

There are some stages in the process when critical decisions should be taken. The governance issue is suggested to be resolved in the fall of 2012. In the suggested plan the decision to go on with the harmonization process is made in mid 2013. At this point the market model and billing model would be finally decided upon. In this plan harmonization would be implemented in stages with legislation also being implemented in stages. The defining of data exchange specifications would be the first step to complete. The final decisions on retail market harmonization would be made at the end of 2014. Most changes required by the harmonization process would be in place by 2018. At this stage, hourly metering would be in place in



Norway meaning that the timetables for the implementation of hourly metering and retail market harmonization would converge.

### **The plans for a customer service model, billing and business processes**

The key defining processes, according to workshop participants, are the business processes and the process for defining the customer service model and billing regime. Most of the other steps in the harmonization process are subordinate to these, with the possible exception of defining how to exchange data. Defining how to exchange data in this context means, for instance, specifying data formats, time limits and data protocols.

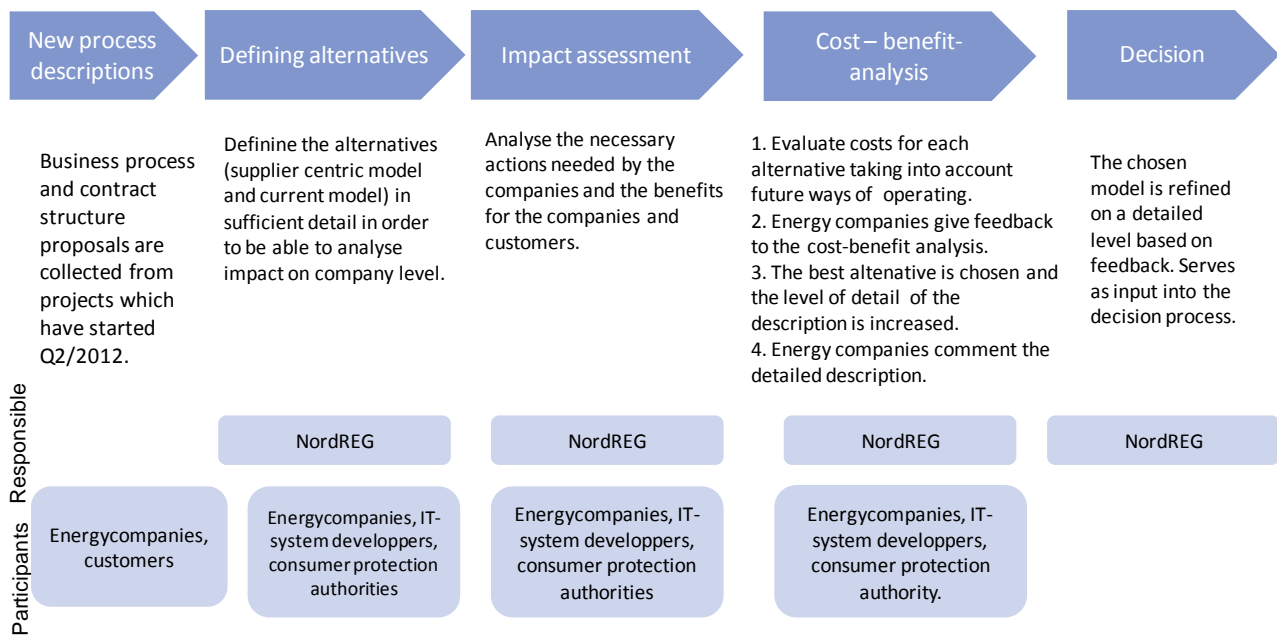
It was pointed out by workshop participants that many of the stages required for planning harmonization should be implemented in parallel and that the planning processes should feed into each other at critical points. For instance, there will be input to the assessment of impacts task in the business process from the cost benefit analysis task in the customer interface and billing process. The results from the “Define common ways of operating” task will feed into the customer interface and billing process.

The subordinate steps are presented in a lighter blue color in figure 6.1. The grey dotted arrows indicate some preparatory work which is needed.

Figure 6.2 presents tasks included in the billing and customer interface planning processes and the stakeholders who should be involved in or responsible for the tasks. The process starts with the collection of the proposals which have been made so far during the harmonization planning projects. The alternatives that should be described are the current model and the models which have been proposed in the harmonization project. The alternatives are to be described on a reasonably detailed level in order to be able to evaluate impacts on a company level. The changes that companies need to implement should be analyzed and benefits for companies and customers identified. The fourth step would involve doing a formal cost benefit analysis for the different alternatives. Energy companies would give feedback on the presented model and the cost benefit analysis. Based on the cost benefit analysis and the feedback, the best alternative would then be selected. This approach would enable an even more detailed plan to be composed. Feedback would then again be requested from the energy companies on a new, more detailed, proposal. A decision to proceed or not to proceed would then be based on a proposal with sufficient detail which makes it possible to analyse impacts and benefits to different stakeholder, including customers. The process should be an iterative process, which enables stakeholders to evaluate and comment the proposals.





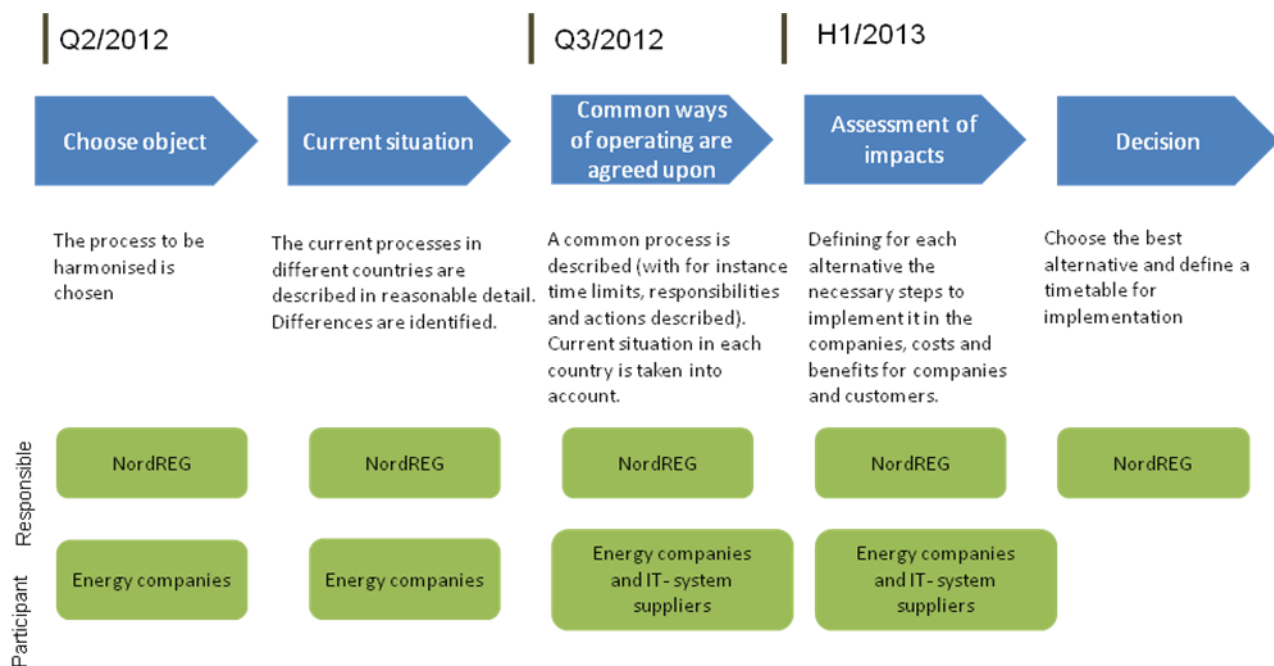


**Figure 6.2.** Tasks of the customer interface and billing process.

The steps that should be included in the business process planning are outlined in figure 6.3 below. The business processes in this context are for instance moving in/out, supplier switching and billing etc. Work that involves defining business processes, the customer service model as well as deciding on a billing regime are connected and are conducted in parallel.

The steps in the business process planning begin with choosing the process to be harmonized. The following step is to describe the current situation and processes in the different countries on a sufficient level. The third step is to describe a common target process or alternative target processes, which would be based on best practice. The level of detail would include actions, responsibilities, time limits for different actions. The fourth step would be to assess the impacts of implementing the described process. In practice this means that it is necessary to identify what changes would need to be made by companies and other stakeholders in each country in order to implement the process. Costs and benefits would be identified for both companies and customers. Finally, the last step would be to choose the best alternative and to define a timetable for implementation.





**Figure 6.3.** Tasks within business process planning.

The decision on whether the customer should have separate contracts with the supplier and DSO or just one contract with the supplier will be done together with defining the customer service and billing model. After the decision has been made on the contract structure, the general contract terms can be harmonized in the contract terms process.

Other processes, such as tax collection and debt collection, are seen as subordinate to or to be part of the billing process. First the needs for harmonizing the aforementioned processes should be determined and the necessary changes to operations identified. After this, common ways of operating can be agreed upon. In the tax collection sub-process, the tax authorities are involved in the planning together with energy companies. In the debt collection process the consumer protection authorities are involved. NordREG is responsible for all phases of the work.

## 7 Summary of stakeholder opinions

### 7.1 Principles of harmonization

Finnish Energy Industries has set the following principles for the harmonization of the Nordic retail market:

- Impartiality of harmonization should be ensured by having a common implementation schedule in all countries. Renewal of the metering infrastructure in Finland is ahead of other countries and this should be taken into account in the plan.
- A clear operating environment for all stakeholders
- Cost-efficient for customers and other energy market stakeholders
- A supplier needs to be able to operate with only one information system in all Nordic countries
- A supplier needs to be able to operate profitably even with a smaller customer base



- A well functioning and liquid wholesale market, big price areas
- A realistic schedule for implementation taking into account a suitable transition period required especially for changing information systems
- The future smart grid development should be taken into account so that the common Nordic retail market does not hinder development
- The cost and other impacts of decisions and especially the so-called supplier centric model should be known in advance of making the decision
- Continuous bidirectional communication to European development

Based on our analysis, it seems that most Finnish stakeholders agree with these principles. However, there are differences in opinion on whether the suggestions made so far are in accordance with these principles. Especially companies that are not interested in operating in other Nordic countries or that do not support harmonization on a Nordic level, would most likely not see the importance of having only one information system for operation in all Nordic countries. It should be noted that in comparing these principles to the objectives set by NordREG, the suggestions and publications of NordREG do not mention the functioning of the wholesale market. It may be that NordREG does not consider it to be a core focus of harmonization of the retail market. In addition, NordREG does not mention the importance of suppliers to be able to operate profitably even with a small customer base.

Based on stakeholders' views, the suggested original schedule is not seen as realistic and the costs and other impacts of the decisions have not been adequately analyzed. In the "Implementation Plan for a Common Nordic Retail Market"<sup>25</sup>, NordREG states that it is important for a supplier to be able to use a single IT system inside the same company while operating in all Nordic countries. However, in the "High level suggestions for common Nordic processes for information exchange obstacles and possibilities"<sup>26</sup>, NordREG states that "the national solutions should ensure that only one system is required for the market actors on the Nordic market without costly country specific adjustments". As several stakeholders have highlighted, there is the risk that procedures are not harmonized sufficiently and that compromises are made that require utilities to retain costly parallel processes. It should be highlighted that if the retail market is harmonized in all Nordic countries, suppliers should in the end be able to operate with the same information system in all countries.

Overall, the challenge is whether it is possible to achieve all the objectives and what are the impacts of making compromises.

## 7.2 Consensus by stakeholders

Based on the interviews, questionnaire and workshop, some conclusions can be drawn on the issues where consensus exists among most stakeholders. These issues should be taken into account in designing the common Nordic retail market and it is clear that Finnish Energy Industries should promote these issues in NordREG working groups.

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<sup>25</sup> NordREG, 2010, Implementation Plan for a Common Nordic Retail Market

<sup>26</sup> NordREG, 2012, High level suggestions for common Nordic processes for information exchange - obstacles and possibilities



### **The level of harmonization must be sufficient and following set rules must be obligatory**

If the Nordic retail market is harmonized, especially the processes related to data exchange must be harmonized up to a sufficient level of detail and the set rules must be obligatory for all market parties. If variation from the rules is allowed, the costs of harmonization may increase. Increasing costs for companies would in the end mean increased costs for consumers.

It is important to have common principles for the customer interface in the electricity retail market and to build harmonized business processes based on these principles. As an example, voluntary combined billing would not be an efficient solution as it would require DSOs to have billing management capacity and also to build new processes and data systems to deliver the required data to suppliers.

### **The suggested schedule is too ambitious**

Designing a well-functioning common Nordic retail market, evaluating the costs of various alternatives, implementing legislation and the required changes in all companies' information systems, is not feasible in the original timeframe suggested by NordREG. It would be beneficial to start operation of the common Nordic retail market after hourly meters are in use in Norway and hourly information is available in Sweden<sup>27</sup>. As the cost of information systems and their modification is considered to be a significant barrier for harmonization, the schedule should be planned to minimize the costs of modification.

### **Reduce the number of price areas and ensure liquidity**

Based on the questionnaire, the Finnish utilities identified the following two most important barriers for a supplier to start operating in other Nordic countries:

- Costs of modifying information systems
- Price area risks that are difficult to manage

Even if all rules and processes would be harmonized in the retail market, companies would still need to manage price area risks. To improve competition and to ensure a well-functioning market, price areas should be larger than they are today. If managing price area risks remains a significant barrier for suppliers, investments in information systems and development of processes may not improve competition in the market place as much as wanted.

### **A common data exchange standard should be established**

Two thirds of the survey respondents stated that it would be very beneficial or somewhat beneficial to establish a common standard for data exchange. However, most (45 – 65 %) of the respondents did not consider the suggested solutions<sup>28</sup> for data exchange cost-efficient.

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<sup>27</sup> However, some interviewees and survey respondents also stated that in any case some consumers will not have hour-based measurement and hence the harmonization rules and procedures should be structured to take into account also these consumers in any case.

<sup>28</sup> The suggested solutions included the following: - A Nordic HUB and a common data exchange standard.

- National HUBs that can communicate, suppliers in contact with their national HUB. Continue using current data exchange standards in each country and change the data message to a required format between national HUBs.

- Each supplier is in contact with the national HUB located in country of the end customer. Common data exchange standard.

- Current solution where suppliers are directly in contact with DSOs but all use a common data exchange standard.



It is important to note that there may be several respondents from one company and the quantitative results are based on individual respondents.

### 7.3 Differences in the opinion of stakeholders

Based on the interviews, questionnaire and workshop, some conclusions can be drawn on the issues where the opinions of stakeholders differ. On these issues, it is not possible for the Finnish Energy Industries to promote a position that would be considered to be beneficial by a large majority of the Finnish utilities.

Finland is not the only country where differences in opinions exist. It should be noted that in Sweden there is also strong opposition against the suggested changes for Nordic level harmonization especially amongst smaller companies<sup>29</sup>. Despite this, Swedenergy has stated that they welcome the decision to strive for further Nordic harmonization and that they accept a market model where the supplier is the main point of contact for the customer.<sup>30 31</sup>

The results provided below are based on the questionnaire and quantitative results represent respondents and not companies (there may have been several respondents from one company).

#### Creating a common harmonized Nordic retail market

Some companies consider it important to create a common harmonized Nordic retail market. Others see harmonization as mainly causing additional costs for the companies, and as a result, for consumers. A large share of respondents to the questionnaire (42 %) would prefer developing national rules and procedures and not aim at harmonization on the Nordic level. The reasons for this may be that a large share of the companies is not interested in operating in other Nordic countries. About 70 % of the respondents to the questionnaire, who are interested in operating in other countries or already operate in them, consider it important or somewhat important to harmonize market rules on a Nordic level.

Some stakeholders are of the opinion that the retail price of electricity would be reduced because of harmonization. Others believe the price would increase because of additional costs required for information systems or because of reduced competition which could result.

#### A supplier centric model with combined billing

A majority (52 %) of the respondents to the questionnaire consider that it would be beneficial or somewhat beneficial for customers to have combined billing. However, 35 % of respondents consider that combined billing would be disadvantageous for a customer mainly because of increased costs that would eventually be paid by customers and because it could confuse the customer on the scope of competition in the elec-

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<sup>29</sup> Remissvar till NordREG och de nordiska energitillsynsmyndigheternaangående rapporterna "Consideration of alternative billing regimes for the Common Nordic End-User Market" och "Rights and obligations of DSOs and suppliers in the customer interface", Forum för en gemensam Nordisk elmarknad, 2011

<sup>30</sup> SWEDENERGY Response to NordREG's Public Consultation Paper on Implementation Plan for a Common Nordic Retail Market, July 30 2010, available in:  
<http://www.svenskenergi.se/upload/Swedenergy%C2%B4s%20Response%20to%20NordREG%C2%B4s%20Public%20Consultation%20Paper%20on%20Implementation%20Plan%20for%20a%20Common%20Nordic%20Retail%20Market.pdf>

<sup>31</sup> Svensk Energi, 2011, Nytt fokusblad: Nya roller på en framtida nordisk slutkundsmarknad available in:  
<http://www.svenskenergi.se/upload/Nyheter%20och%20press/Fokusfr%C3%A5gor/Fokus-111221-nya%20roller%20p%C3%A5%20nordisk%20slutkundsmarknad.pdf>



tricity market. 65 % of the respondents consider combined billing to be disadvantageous for the functioning of the retail market while 27 % consider it to be beneficial.

The majority (61 %) of respondents consider the supplier centric model to be disadvantageous for the retail market while 33 % of the respondents consider it to be beneficial or somewhat beneficial. Some point out that NordREG's supplier centric model is quite close to the existing division of roles in the Finnish market. The significant difference is that NordREG also proposes billing to be the responsibility of the supplier.

## 7.4 Stakeholders' uncertainties

Based on the questionnaire and interviews, a large share of the Finnish utilities is uncertain about the concrete impacts of harmonization to their operation and on the market as a whole. The suggested plans for harmonization have not been detailed enough for the companies to estimate what their impacts on company operation are. As a consequence, it is very difficult for the utilities to estimate the costs of harmonization as they do not have a clear understanding of the required changes. It would be beneficial for the harmonization process to present concrete and thorough plans of future ways of operation so that companies could evaluate their impact and related costs. This would also increase the companies' confidence in the planning process.

In addition, a thorough analysis needs to be done on the short and long term impacts on the market: what would be the benefits to consumers and how would the changes affect competition? There is a risk that increasing market entry costs will undermine the benefits of increasing competition by lowering the barrier for suppliers to operate in several Nordic countries.

# 8 Challenges and bottlenecks

Based on the questionnaire and interviews, there are several challenges in achieving a well-functioning harmonized Nordic retail market. Careful analysis and planning is needed to find the best solutions for a harmonized Nordic retail market.

### Company level of knowledge and interests

Companies don't have a clear picture of the suggested changes and their impacts. It would be important to analyse the costs of different alternatives even though it will be cumbersome to make detailed enough planning to estimate costs. It is important to estimate the cost of required investments and impacts on operative costs. Based on these estimates it will be possible to assess what the impact on customer electricity rates would be.

The interests of market participants differ to a large extent. A large share of utilities is not interested in operating in several Nordic countries and thus sees harmonization only as increasing costs. For other utilities that already operate in several Nordic countries, harmonization could help to reduce costs. There is disagreement on whether combined billing would be beneficial for the consumer and for the market as a whole.

As a result, companies and even other market participants do not have a common understanding of what the level of harmonization in the Nordic retail market should be. Some consider that harmonization should



focus only on the most relevant activities and slightly lower the barriers to operate in several Nordic countries. Others consider that harmonization should cover all possible areas and aim at lowering the barrier to operate in several Nordic countries as much as possible.

### **Schedule of implementation**

The original schedule suggested by NordREG is not considered to be realistic. After agreeing on the common rules and procedures, national legislation needs to be changed and only thereafter will the companies make changes to their information systems. In addition many Finnish companies have recently renewed or are in the process of renewing their information systems to adapt to the current needs of hourly metering. Potentially, a share of the investment made will not be adaptable to the common Nordic retail market. It is not possible to adopt common procedures quickly enough to ensure that the timing of the investment is optimal to all companies. By lengthening the schedule of the implementation of harmonization and providing some long term predictability, the investment costs may be reduced to some extent.

A more realistic schedule for the implementation of common rules and procedures in the Nordic retail market may be such that all countries have, in practice, already implemented hour-based metering. However, some differences in the frequency of collecting the data from the meters could still remain. Early implementation of a harmonized Nordic retail market could serve as a basis for the future EU-level legislation on retail markets and may increase the possibility for Nordic countries to influence the solutions chosen on a European level.

### **Political commitment and clear governance**

There is at present no clear indication of political commitment to the harmonization process. For the planning of harmonization it would be important to have clearly set targets and a structure for governance.

When establishing a common Nordic retail market there is an inherent risk that decision making processes can become slow. During the planning of the harmonized retail market, several issues will arise, where it is important to have clear rules on authority of decision making for both

- defining the harmonized rules and procedures for the Nordic retail market and
- modifying the rules after the harmonized rules and procedures have been taken into use.

This means having strong governance of Nordic regulation as well as having a clear structure for taking care of the practical challenges in the day-to-day operation of the market. Governance should be non-biased, transparent and should engage all market participants on a sufficient level in the decision making process.

If there is to be regulation of the retail market on the EU-level, it is possible that regulation will in any case be less dynamic in the future. However, providing a well-functioning example for the EU-level regulation can also be seen as an opportunity for the Nordic retail market.

### **EU-level requirements**

One significant challenge in the process is to anticipate potential future regulation on the EU-level. A supplier centric model with combined billing has been included in the recommendations made by Eurelectric<sup>32</sup>

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<sup>32</sup> Source: Eurelectric, 2011, Customer-Centric Retail Markets: A Future-Proof Market Design



and CEER<sup>33</sup>. However, no decisions have so far been made on whether the European Union will set any regulations on the combined billing of retail and distribution.

### **Impacts of harmonization and the market model**

It is very difficult to analyze the impacts of the suggested changes on the market as a whole. The scope of the suggested changes is very wide and the baseline of development is not clear. Most of the companies agree that it is necessary to have common practices and to develop the market in general. There is no common understanding of what practices and procedures should in any case be developed in the national market.

There is a clear risk that as a result of required changes to companies' IT systems and potential changes in the responsibility areas of companies, the entry costs may become high for new companies or investment costs too high especially for existing smaller companies. This may lead to reduced competition in the market. On the other hand, increasing the level of automation and lowering the barriers for a supplier to operate in several Nordic countries, may improve the efficiency of the market as a whole. This may in the end lower the costs for the consumers. The important question is whether the required costs of harmonization are acceptable when evaluated against benefits created for consumers. In the harmonization process, it is important to determine the additional costs of harmonization compared to a baseline. The costs of baseline development should be based on the development which is necessary on a national level even without Nordic level retail market harmonization. Impact assessment is very challenging as it should focus on the resulting impact for consumers.

In practice, it is challenging to find effective solutions where the investment in training personnel or in developing information systems would be offset by reduced operating costs or increased value for customers. Some consider that it may not be possible to find suitable and cost-efficient information systems in the market in the short term. Especially for small companies, it may be challenging to find a profitable way of operation and changes in business models may be needed.

If harmonization is not done in a sufficiently detailed manner, and as a result parallel processes need to be maintained, costs may increase. If harmonization includes taking into use combined billing, it may be a challenge to communicate the roles of suppliers and DSOs to customers. It may be challenging for the DSOs to create a customer relationship as they would lose their only regular contact with the customers. However, some consider that the primary role of the DSO is to be a market facilitator. A customer relationship in a deeper sense may not need to be maintained by the DSO and that contacts should naturally be limited to electricity quality and disturbance issues, and perhaps in the future, for instance, to the connection of microgeneration.

### **Varying status of consumption measurement in Nordic countries**

In the Nordic countries, there is variation on how energy consumption is currently measured and what the schedule for implementing hourly measurement is. Hence, the starting point of harmonization varies. This creates a challenge for establishing common data exchange systems and for implementing business pro-

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<sup>33</sup> Source: CEER, 2012, Electricity and Gas Retail market design, with a focus on supplier switching and billing Guidelines of Good Practice, Ref: C11-RMF-39-03





cesses related to measurements as consumption points with load estimate curves and different measuring practices need to be taken into account.

## 9 Conclusions and recommendations

### Operations to be harmonized

There is a high level of disagreement amongst companies on whether the supplier centric, combined bill model is the right path in Nordic retail market harmonization or whether Nordic level retail market harmonization is beneficial. Some of the opposition to Nordic harmonization seems to center on the combined bill model, which is seen by many as having negative implications for their operations. The recommendations in this section must be viewed against this fact, and also the fact that many do not see benefits from Nordic retail market harmonization for their operations in general.

Despite disagreement of the general benefits of the harmonization, many respondents agree that harmonization could bring some benefits for customers. The combined billing model is seen by 53% of survey respondents as somewhat or very beneficial for customers.

Despite a high level of disagreement on central issues and even without a decision on a supplier centric model with combined billing, some recommendations for the harmonization of the Nordic retail market can be made:

- In the retail market model it should be clear and intuitive to the customer which party to contact concerning different issues.
- The contents of bills should be harmonized and simplified so that they would be easier for customers to understand.
- The general terms in the supplier contracts and especially the contract commencement and termination terms should be the same in each country, if possible. However, the part of the agreement that concerns electricity product and pricing itself should not be harmonized, as there needs to be room for product development. Detailed regulation of the product part of the agreement could hinder innovative product development.
- There is a need to clarify the rules governing the rights and obligations of the different players in the supplier switching process. At present many of the rules for supplier switching and other interactions are industry recommendations and they are not mandatory. They should be formalized and clarified.
- There needs to be a common model and standards for data exchange, which make it possible to harmonize processes. The data which needs to be transmitted between different parties is defined by the business processes and by what customer service model and billing regime is chosen. The data exchange standards that govern how data is to be transmitted and within what time limits and with what protocols, need to be defined. There are at present rules and standards that govern data exchange and other market operation, but the challenge is that these rules and recommendations are voluntary and they are not always followed.



- A centralized hub for data exchange on a national level or several national level hubs are the preferred and possibly most cost-effective and realistic option. In Finland there are currently some functioning data exchange service providers. A model with several hubs in the market may work well, providing that they operate under the same rules and use the same standards. If there are several hubs then this means that the DSO can choose a hub. This in turn leads to a model where the suppliers need to operate within several hubs. In order for the operations to be cost efficient for the supplier, it should also be possible for a supplier to choose only one hub. This means that the hubs should communicate with each other. These are so far preliminary ideas, which need further analysis.
- The supplier of last resort should ideally be defined according to the same principles in different countries. The model in place in Finland is one that promotes competition and does not give unfair advantage to local suppliers.

### **Operations to be harmonized, if a supplier centric model with combined billing is chosen**

Careful planning is needed to design a billing process which takes into account financial risks and who carries these risks. The DSO should not have to carry more risks than at present. Taxation issues will also need to be resolved if the supplier is the one who collects the taxes in the future. It may not be necessary to harmonize taxes.

If a supplier centric market model with combined billing is chosen, the content of the bills need to be harmonized to the extent that the same IT systems can be used in different countries. It is also possible that distribution tariff structures need to be simplified and harmonized to accommodate for the billing process. This depends on how the billing process is designed. The content of the bills should in any case be simplified to make bills easier to understand for the customer and to make prices easier to compare when choosing a supplier.

The debt collection processes in case of customer default of a payment should be carefully planned. It should be made clear to all parties, including the customer, what the responsibilities of the DSO and the supplier are.

### **Aim at low operating costs and market entry costs**

The target market model should promote competition and make it possible for suppliers to operate on equal terms in the different countries. Different kinds and sizes of companies should be able to operate on the market in a cost-efficient way.

Market entry costs should also be reasonable to enable innovative new service providers to operate. A larger market is more attractive for market entry, but it is a very different situation for a large international operator to enter the market than a small local one. Smaller suppliers should also be able to operate in the market.

There is a risk that the fixed costs will be high, especially for IT systems, which are not dependent on the size of the company. There will in any case be initial costs, but if these costs are very high there is a risk that the number of companies in the market will be reduced. A solution that could reduce investment and operating costs for smaller suppliers and DSOs could be to outsource some non-core operations. It may not be sensible for each individual company to invest in expensive IT systems, when shared systems or service outsourcing may be more efficient, providing that there is sufficient competition among these service providers. Having separate systems may not be necessary to be able to differentiate basic services.



The goal should be that the customer's energy cost should be lower in the long term. Only if the customer's service level is markedly improved could higher costs be acceptable.

### **Need for clear governance of the Nordic retail market**

Some type of entity should be made responsible for the governance of the operation of the common Nordic retail market in the future. This entity should clarify what are the most important goals of Nordic harmonization and what are the most important benefits and costs. Prioritizing the goals<sup>34</sup> would make it easier to evaluate different solutions and to evaluate if there are potential negative effects of market harmonization to some stakeholders, which can be considered as being acceptable.

This governance entity should have the power to decide on practical issues, be responsible for handling operative questions, set demands and negotiate with service providers and be responsible for the future development of the retail market. The kind of task force or project-based organization in place at present, may not be able to guide and manage future operations.

The governance body should be established during the project phase and then continue operating after the plans for a common retail market have been implemented. Development work will not end after the project phase is completed as there will always be a need to adopt new practices and to develop operations to better meet the needs of customers and other stakeholders.

The informal ways of working on developing markets, market rules and common practice on a national level, may no longer work well if several nations are involved.

### **Realistic cost benefit calculations and stakeholder consultations are needed**

The decisions taken should be based on realistic and well-founded cost benefit calculations on the supplier centric model and billing regime. The cost benefit calculations should be transparent and include analysis of the impacts on different types of stakeholders including customers, smaller DSOs and suppliers. The calculations should be based on scenarios where a variety of elements have been decided upon and some level of detail in the processes has been described, making evaluations possible. Scenarios should ideally be compared to a baseline scenario, where only the necessary national level changes are made. The description of the baseline scenario should incorporate investment costs and changes which will in any case be necessary, for instance, because of the adoption of hourly metering and other future development work stated by laws and EU directives. Some examples of necessary development include making it possible to adopt demand flexibility and energy savings solutions or connecting microgeneration to the grid.

Stakeholder consultations should ideally be done in such a way that the stakeholders are presented with a specific, sufficiently detailed, solution that they can evaluate. The solutions should then be revised or refined based on the stakeholder consultations. This could be done in an iterative way which would enable reaching a well-founded and functional solution, which has broad stakeholder buy-in.

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<sup>34</sup>What is more important? For instance lower operating costs, increased competition, better service etc.



### **Timetable which takes into account penetration of hourly metering and IT system lifecycle**

The current IT systems in Finland are in the process of renewal because of the requirement for hourly metering. In many cases the changes to meet the requirements have already been made<sup>35</sup>. The implementation plan timetable for the harmonized common retail market should attempt to optimize system investments at least to some extent. According to some views, phasing changes that are needed for harmonization of the retail market into the next wave for IT system renewals or updates would mean that the changes should be implemented within a span of 5-10 years. However, planning an optimal timetable for most suppliers and DSOs would need further analysis. In any case, the work to lay the foundation for the harmonization work, including defining specific changes and the legislation changes, should be done well before system changes and changes in operations can be implemented.

It is possible that the timing of implementing the necessary changes for harmonization will in fact converge with the timing of implementing hourly metering in the Nordic countries. The process for harmonizing the retail market will very likely need more time than originally planned.

### **Being able to operate with only one IT system in different countries**

The requirement to be able to operate cost efficiently and with sufficiently standardized processes with one IT system in all Nordic countries is one of the key considerations in evaluating the benefits of Nordic retail market harmonization.

### **Consider how the wholesale market function impacts the retail market and competition**

NordREG should also make some evaluations of the extent and ways in which the current wholesale market is seen as being a barrier for a common Nordic retail market. Since many companies have been of the opinion that this is a key barrier for establishing operations in other areas, this should be addressed alongside other questions in order for customers in all areas to be able to benefit from a common Nordic retail market.

### **European development work should be closely followed**

European developments should be followed carefully and it would be prudent to make sure no changes of a fundamental nature (with high costs) are made, which would not be in line with future European practice. At the same time presenting a well functioning Nordic retail market model could make it possible to influence future European development.

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<sup>35</sup> Some interviewees mentioned that there are some changes that they have been wanting to do already, but that they are waiting for some indication of what will happen with the Nordic harmonization before updating systems. The uncertainty is making it difficult to take decisions on when the best time for updating systems would be.

