Survey SMEs

Ecodesign and energy labelling of heating products

THE NORDIC REGION
– leading in green growth

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heating products

Technetium Consulting Oy

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Nordic Council of Ministers

Ved Stranden 18
DK-1061 Copenhagen K
Phone (+45) 3396 0200

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Summary

The aim of this project Nordsyn 3c “Survey SME’s” was to make a survey and investigation of what small and middle sized enterprises (SMEs) within the Nordic countries know about ecodesign and energy labelling today, what material they need to be better prepared and to better inform consumers and what they desire from market surveillance authorities (MSAs). The survey aimed to gather important information to MSAs upon how to best work with preventive market surveillance and how to best design information material, how to distribute it and what needs to be further clarified.

The survey was addressed to companies in heat pump, air conditioning, cooling, water or liquid chiller, boiler, local room heater, water heater and hot water storage tank businesses. Companies were manufacturers, importers to EU, retailers to business-to-consumers (B2C) and business-to-business (B2B), distributors, authorised representatives in those businesses.

The big picture of the survey is that answers are surprisingly uniform all over the Nordic countries, business areas, size of the companies and the roles of the companies.

Preferred language option when receiving information about ecodesign and energy labelling regulations is either native language or native language with English. Information delivered only in English was not suggested by the respondents. This will have direct implication to Nordsyn and specially MSAs’ work.

Ways of delivering information was divided two separate groups. Visits to companies, news send as RSS feed, and all social media (e.g. Facebook, Twitter, Instagram, etc.) were the least wanted options, while possibility to ask questions directly on email or by phone (“helpdesk”), information on webpages, direct emails sent to companies and guidance documents were the most wanted options. All support and any information is welcomed by the respondents, which is easily understood when looking at the answering about knowledge on ecodesign and energy labelling directives.

Responses to certification of installers were divided widely. There were no clearly favoured option, however about 90% of all respondent supported either compulsory or voluntary certification of installers. Heat

pump business is more in favour of compulsory certification while boiler business is divided half between compulsory and voluntary certification.

Respondents gave numerous written comments and suggestions.

This report is part of the Nordic Prime Ministers' green growth initiative under the Nordic Council of Ministers. See more on www.norden.org/greengrowth

Summary of recommendations

Detailed recommendations are presented in chapter 7

For future surveys

In order to increase response rate invitations should be sent to personal email address like boris.becker@company.com. Contact lists provided for the survey had numerous general email addresses like info@company.com. It is unlikely that someone would respond to invitations send to a general email address.

It would be better only to consider turnover as classifying factor, when all major roles are present in a survey. Number of personnel depends on a lot about role of the enterprise in supply chain. For example retailer or distributor has fewer personnel than manufacturer even they have the same turnover.

Information and support

Preferred language when receiving information

All information is needed in all Nordic languages and in English. Because of the different size and roles of the enterprises there will always be different needs on language to be used when receiving information. For micro and small enterprises English only is not a viable option. It is recommended that in order to avoid extra work MSAs would compile together a common English version of a document, advisory, leaflet, etc., and then every MSA would translate it to their native language.

Preferred means of receiving information

Forget the social media, at least it should not be the major mean of delivering information. As the most favoured option, MSAs should arrange helpdesks where enterprises could ask questions by phone or by email. E.g. on your webpages there could be a contact form for asking the questions.

Instead of social media, concentrate on good webpages that are easy to use and the information is not written as legal texts. Webpages are also “natural” repository of guidance documents. Articles in professional

magazines could be one way of delivering information, but also marketing channel for webpages and other services provided by the MSAs.

Importance of certain areas of information

All information is welcome, especially if it is in short, condensed and understandable form. It could be a good idea of arranging consumer – customer – end-user dedicated ecodesign and energy labelling awareness campaign in Scandinavia, since some responses have stated that customers do not know even that what respondents know already.

Importance of certain areas of support

All support is welcome, especially if it is in short, condensed and understandable form.

Knowledge about ecodesign and energy labelling

Have you ever heard about ecodesign or energy labelling?

Awareness campaign should be directed to heat pump sector, especially in Norway and in Finland. Campaign should be targeting all other roles except manufacturers, independent of their size.

Ecodesign related questions

Based on these observations, awareness campaign should be targeting small and micro enterprises, and preferably all other roles except manufacturers. As a part of awareness campaign an information table presenting different roles with its responsibilities should be delivered to all enterprises with multiple delivery options (email, articles in magazines, webpage, etc.).

Energy labelling related questions

Like in ecodesign, based on these observations, awareness campaign should be targeted small and micro enterprises, and preferably all other roles except manufacturers. The situation is the same as in ecodesign: as a part of awareness campaign an information table presenting different roles with its responsibilities should be delivered to all enterprises with multiple delivery options (email, articles in magazines, webpage, etc.).

Certification of installers

Availability and use of certified installers

It should be checked how uniform or widely dispersed requirements for certification of different installers there are in Nordic countries. There might be historical, cultural, etc. differences, e.g. what is required from electrical installers, HVAC/VVS installers, etc. Awareness campaign should be directed to end-users, customers and consumers about who can do and what kind of installations. Promoting the use of certified installers to the end-users, consumers and customers is suggested.

At the moment we are not able recommend common Nordic certification system for installers, even it would be ideal solution for all stakeholders. Before any recommendations, it should be checked how uniform or widely dispersed requirements for certification of different installers there are in Nordic countries.

1. Introduction

The aim of this project Nordsyn 3c “Survey SME’s” was to make a survey and investigation of what small and middle sized enterprises (SMEs) within the Nordic countries know about ecodesign and energy labelling, what material they need to be better prepared and to better inform consumers and what they desire from market surveillance authorities (MSAs).

The survey aimed to gather important information to MSAs upon how to best work with preventive market surveillance and how to best design information material, how to distribute it and what needs to be further clarified. This way the project could make market surveillance more efficient and effective and is thus very relevant. The study could also form an important base for MSAs to support the Nordic companies in the development of better, more resource efficient products and green growth.

Project was more for research and development purposes. This meant in practice, that in the project plan and in outcome report the emphasis was on analysing the survey results and giving recommendations to Member state authorities on what SMEs need more information about and how it should be designed.

Project had as its main tasks the internet survey including some interviews and reporting. Technetium Consulting Oy (Finland) was the responsible consultant, while Viegand Maagoe A/S (Denmark) had administrative tasks.

The survey was addressed to companies in heat pump, air conditioning, cooling, water or liquid chiller, boiler, local room heater, water heater and hot water storage tank businesses. Companies were manufacturers, importers to EU, retailers to business-to-consumers (B2C) and business-to-business (B2B), distributors, authorised representatives in those businesses.

1.1 Limitations

The survey was limited to the following product groups and business areas:

1. Products using heat pump technology, i.e. heat pumps for water and/or space heating, air conditioning, cooling, and water or liquid chilling. These enterprises answered *questionnaire* “Heat pumps”.
2. Heating products not using heat pump technology, i.e. boilers (gas/oil/solid fuel/electric), local room heaters, water heaters and hot water storage tanks. These enterprises answered *questionnaire* “Boilers”.

The original idea of the survey was to limit size of the responding enterprises only to micro, small and medium size enterprises located in any of the five Nordic countries. Because of the very limited number of large enterprises in Nordic countries, questionnaires were also sent to large ones.

1.2 Survey methods

Main method of the survey was internet survey where enterprises had possibility to answer either “Heat pumps” and/or “Boilers” questionnaire depending on product groups they are manufacturing, importing to EU, selling, etc. Interviews was meant to find out more detailed information from the few selected enterprises.

1.2.1 *Internet survey*

For the internet survey detailed questionnaires were compiled based on the MSAs’ information needs. Responding companies were listed by the MSAs. Invitation for answering the internet survey questionnaires was sent to in total 1,450 companies in all Nordic countries on 19th November 2014. Note: invitation was sent also to large companies, not only SMEs.

Survey was open till 31st December 2014, and in total 179 companies answered to at least part of the questions. About all responded companies 92% of them were SMEs. There were responses from all Nordic countries, product groups and from all roles (manufacturers, importers etc.).

Because of the relatively low number of answers compared to the number of factors, statistical analysis was limited to classification of answers and average values per classes.

1.2.2 Interviews

Based on the responses to the survey interviews were directed to market surveillance of CE marking, ecodesign and energy labelling and support needs from MSAs to companies. Invitations and questions for interviews were sent to 22 companies on 16th December 2014. Twelve companies have been interviewed or at least given some additional information.

1.2.3 Structure of report

This report presents the main findings of the survey, in textual and tabular form.

For more background data and full numerical tables please contact Mika Kapanen Mika.Kapanen@technetium.fi or Lovisa Blomqvist Lovisa.Blomqvist@energimyndigheten.se

Some parts of the text could be found in several different chapters. This is intentionally done, because a reader should be able to read every chapter independent of others.

2. Background information

This information is used only for classification of the data of other questions.

2.1 Number of contacts and responses

Invitation to internet survey was sent by email in total to 1,450 enterprises, and 179 responses was received. This gives 12.3% response rate to internet survey. Response rate varied between countries (see Table 1). Questionnaire “Heat pumps” was answered by 108 enterprises, and “Boilers” by 71 enterprises. These 179 enterprises responded at least one question. However, 95 enterprises (53%) answered all the questions throughout the questionnaires (49 on “Heat pumps” and 46 on “Boilers”).

Based on our experience about internet surveys this response rate is somewhat expected. For example, year 2013 in an internet survey within technology industry in Finland 15% of invited 650 enterprises answered the survey.

Recommendation: In order to increase response rate invitations should be sent to personal email address like boris.becker@company.com. Contact lists provided for the survey had numerous general email addresses like info@company.com. It is more unlikely that someone would respond to invitations send to a general email address.

2.1.1 *Country of location*

Table 1 is also data to question “Country of your location” (question number 29 in “Heat pumps”, and 31 in “Boilers”). In some cases country of location of a responding enterprise was deducted about the language version of the questionnaire it answered. There were seven enterprises that answered English version of questionnaires, but did not give their country of location. These enterprises are classified as “unknown” in Tables 1 to 3 (and in any further tables).

Table 1: Number of contacts, answers and answering percentage per country and questionnaire

Country	Heatpumps	Boilers	All Products	Contacts	Answering-%
Denmark	6	4	10	41	24.4
Finland	28	22	50	403	12.4
Iceland	1	1	2	9	22.2
Norway	55	24	79	525	15.0
Sweden	13	18	31	472	6.6
Unknown	5	2	7		
All answers	108	71	179	1450	12.3
Distribution, %	60.3	39.7			

Table 2 shows that Norwegian and Finnish enterprises covers about 77% of all responses to “Heat pump” questionnaire and 65% to “Boilers” questionnaire. With responses from Swedish enterprises coverage is about 90% in both cases.

Table 2: Answers per all countries and questionnaire (%)

Country	Heat pumps, %	Boilers, %	All Products, %
Denmark	5.6	5.6	5.6
Finland	25.9	31.0	27.9
Iceland	0.9	1.4	1.1
Norway	50.9	33.8	44.1
Sweden	12.0	25.4	17.3
Unknown	4.6	2.8	3.9
All answers	100	100	100

In the Table 3 the distribution of answers per country and questionnaire is presented. It is worth noticing that only in Sweden more answers came from “Boilers” questionnaire than “Heat pumps” questionnaire.

Table 3: Distribution of answers per country and questionnaire (%)

Country	Questionnaire answers distribution, % per country		
	Heat pumps, %	Boilers, %	All Products, %
Denmark	60.0	40.0	100.0
Finland	56.0	44.0	100.0
Iceland	50.0	50.0	100.0
Norway	69.6	30.4	100.0
Sweden	41.9	58.1	100.0
Unknown	71.4	28.6	100.0
All answers	60.3	39.7	100.0

2.1.2 Size of the company

There were two indicators for size of the company: turnover and personnel. Both indicators were asked as “in country of location” and “in all countries” (question numbers 30–33 in “Heat pumps”, and 32–35 in “Boilers”).

Size classification is according to Commission recommendation 2003/361/EC, where:

Size class	Turnover	Personnel
Micro	≤ 2 M€	< 10 employees
Small	≤ 10 M€	< 50 employees
Medium	≤ 50 M€	< 250 employees
Large	> 50 M€	≥ 250 employees

In Table 4 there is size of the enterprises as turnover and as personnel “in country of location” presented as number of answers, and in Table 5 the same data as distribution percentage per questionnaire. It is worth noticing that original idea of survey where only SMEs would have been asked to participate the survey, was achieved since 90% of all answers came from SME enterprises. There were also 83 companies (46% out of 179 of all companies) that did not give any indications of their size. These enterprises are classified as “unknown” in Table 4 (and in any further tables).

The differences between turnover and personnel distributions should be also observed. Micro and small enterprises cover 65% of all responses. As turnover micro enterprises cover 38%, but as personnel there are 51% micro enterprises. This difference is explained by the major roles of companies since retailers and distributors have higher turnover per person than manufacturers have. Classification of enterprises in the following chapters have been done according to turnover.

Recommendation: It would be better only to consider turnover as classifying factor, when all major roles are present in a survey.

Table 4: Size of the company in turnover and personnel per questionnaire (number of answers)

Size	Size as Turnover			Size as Personnel		
	Heatpumps	Boilers	All Products	Heatpumps	Boilers	All Products
Micro	22	15	37	28	21	49
Small	10	16	26	6	8	14
Medium	10	15	25	9	15	24
Large	7	1	8	6	3	9
All known	49	47	96	49	47	96
Unknown	59	24	83	59	24	83
All answers	108	71	179	108	71	179

Table 5: Size of the company, distribution of turnover and personnel per questionnaire (%)

Size	% per product group (turnover)			% per product group (personnel)		
	Heatpumps	Boilers	All Products	Heatpumps	Boilers	All Products
Micro	44.9	31.9	38.5	57.1	44.7	51.0
Small	20.4	34.0	27.1	12.2	17.0	14.6
Medium	20.4	31.9	26.0	18.4	31.9	25.0
Large	14.3	2.1	8.3	12.2	6.4	9.4
All sizes	100.0	100.0	100.0	100.0	100.0	100.0

Table 6 shows that there were 17 respondent companies which are part of a larger enterprise. In total 88 enterprises gave their both turnovers “in country of location” and “in all countries”, hence about 19% of enterprises are part of larger one. One third of these enterprises are manufacturers.

Table 6: Company as part of larger one, per role and questionnaire (number of answers and distribution, %)

Major roles	Number of answers			Distribution per questionnaire, %		
	Heatpumps	Boilers	All products	Heatpumps	Boilers	All products
Manufacturer	4	11	15	26.7	33.3	31.3
Importer to EU	1	0	1	11.1	0.0	5.9
Retailer B2C	3	0	3	13.6	0.0	10.0
Retailer B2B	1	2	3	9.1	15.4	12.5
Distributor	0	0	0	0.0	0.0	0.0
Author. repr.	0	1	1	0.0	25.0	6.3
Known roles	9	14	23	11.5	18.7	15.0
Companies	5	12	17			
Role / company	1.8	1.2	1.4			

2.1.3 Major roles of the company

Table 7 shows answers to question “What are the major roles of the company” (question number 34 in “Heat pumps”, and 36 in “Boilers”). There were 95 enterprises answering this question. Main differences are the share of manufacturers and retailers per questionnaire. Those who answered “Heat pump” questionnaire the B2C retailers were the largest group followed by manufacturers. In “Boilers” questionnaire manufacturers were the largest group followed by the B2B retailers.

Note: An enterprise may have more than one role, hence total number of answers differs e.g. from Tables 1–5. On average there is more than one role (1.6 roles) per company.

Table 7: Major roles of the company, per questionnaire (number of answers and distribution, %)

Major roles	Number of answers			Distribution per questionnaire, %		
	Heatpumps	Boilers	All products	Heatpumps	Boilers	All products
Manufacturer	15	33	48	19.2	44.0	31.4
Importer to EU	9	8	17	11.5	10.7	11.1
Retailer B2C	22	8	30	28.2	10.7	19.6
Retailer B2B	11	13	24	14.1	17.3	15.7
Distributor	9	9	18	11.5	12.0	11.8
Author. repr.	12	4	16	15.4	5.3	10.5
Known roles	78	75	153	100.0	100.0	100.0
Roles / company	1.59	1.63	1.61			

2.2 Combinations of factors

Because of the number of combinations of factors would be high, but number of answers are relatively low, one can not dig very deep in to the data. In statistics the rule of thumb says that in minimum three observations should be collected. Based on this we should limit combinations only to two factors at once, otherwise we would be looking at the one or two responses per combination.

2.2.1 *Size of the company and country of location*

In Table 8 there is number of answers per country and per size group presented for all products, and Table 9 distribution of size of the companies is presented. Average size of the responded enterprise varies between countries. Finnish and Swedish enterprises is between small and medium sizes, when Norwegian and Danish enterprises are between micro and small sizes.

Finland has odd distribution because the share of medium size companies is more than 50%, but according to official statistics there are 82% micro companies of all manufacturing enterprises in Finland. Also among the responded Swedish enterprises almost half of the companies are small ones, not micros.

Tables 10 and 11 present the number of answers and answer distributions for “Heat pumps” and Tables 12 and 13 for “Boilers”. The major difference between “Heat pumps” and “Boilers” is the share of large companies. Amongst “Boilers” there is only one large company, but “Heat pumps” there are seven large ones.

Table 8: Size of the company, all products, per country (number of answers)

Size	Denmark	Finland	Iceland	Norway	Sweden	unknown	All countrie
Micro	2	9	2	20	4	0	37
Small	2	2	0	14	8	0	26
Medium	1	14	0	7	3	0	25
Large	0	2	0	3	3	0	8
Unknown						83	
All known	5	27	2	44	18		96

Table 9: Size of the company, all products, distribution per country (%)

Size	Denmark	Finland	Iceland	Norway	Sweden
Micro	40.0	33.3	100.0	45.5	22.2
Small	40.0	7.4	0.0	31.8	44.4
Medium	20.0	51.9	0.0	15.9	16.7
Large	0.0	7.4	0.0	6.8	16.7
All sizes	100	100	100	100	100

Table 10: Size of the company, heat pumps, per country (number of answers)

Size	Denmark	Finland	Iceland	Norway	Sweden	All countrie
Micro	1	5	1	15	0	22
Small	0	1	0	7	2	10
Medium	1	5	0	4	0	10
Large	0	2	0	2	3	7
All sizes	2	13	1	28	5	49

Table 11: Size of the company, heat pumps, distribution per country (%)

Size	Denmark	Finland	Iceland	Norway	Sweden
Micro	50.0	38.5	100.0	53.6	0.0
Small	0.0	7.7	0.0	25.0	40.0
Medium	50.0	38.5	0.0	14.3	0.0
Large	0.0	15.4	0.0	7.1	60.0
All sizes	100	100	100	100	100

Table 12: Size of the company, boilers, per country (number of answers)

Size	Denmark	Finland	Iceland	Norway	Sweden	All countrie
Micro	1	4	1	5	4	15
Small	2	1	0	7	6	16
Medium	0	9	0	3	3	15
Large	0	0	0	1	0	1
All sizes	3	14	1	16	13	47

Table 13: Size of the company, boilers, distribution per country (%)

Size	Denmark	Finland	Iceland	Norway	Sweden
Micro	33.3	28.6	100.0	31.3	30.8
Small	66.7	7.1	0.0	43.8	46.2
Medium	0.0	64.3	0.0	18.8	23.1
Large	0.0	0.0	0.0	6.3	0.0
All sizes	100	100	100	100	100

2.2.2 Size of the company and major roles

In Table 14 number of answers per major role and per size group is presented for all products, and Table 15 distribution of major roles of the companies is presented. Average number of roles is independent of the size of the responded enterprise.

Tables 16 and 17 presents the number of answers and answer distributions for “Heat pumps” and Tables 18 and 19 for “Boilers”. The major difference between “Heat pumps” and “Boilers” is the share of manufacturing companies and B2C retailers. Amongst “Boilers” the manufacturing companies are micro to medium size, but heat pump manufacturers are medium to large ones. Also, the share of authorised representatives differs: in “Heat pumps” 15% and in “Boilers” 5% are authorised representatives.

Table 14: Size of the company per major roles, all products (number of answers and distributions, %)

Major role	Micro	Small	Medium	Large	All sizes	Role distrib. %
Manufacturer	13	13	17	5	48	31.4
Importer to EU	6	5	4	2	17	11.1
Retailer B2C	18	6	5	1	30	19.6
Retailer B2B	8	7	7	2	24	15.7
Distributor	7	4	5	2	18	11.8
Author. repr.	9	3	2	2	16	10.5
All known roles	61	38	40	14	153	100.0
Size distrib. %	39.9	24.8	26.1	9.2	100	
Roles/company	1.65	1.46	1.60	1.75	1.59	

Table 15: Size of the company per major roles, all products (role distribution per size, %)

Major role	Micro	Small	Medium	Large	All sizes
Manufacturer	21.3	34.2	42.5	35.7	31.4
Importer to EU	9.8	13.2	10.0	14.3	11.1
Retailer B2C	29.5	15.8	12.5	7.1	19.6
Retailer B2B	13.1	18.4	17.5	14.3	15.7
Distributor	11.5	10.5	12.5	14.3	11.8
Author. repr.	14.8	7.9	5.0	14.3	10.5
All known roles	100.0	100.0	100.0	100.0	100.0

Table 16: Size of the company per major roles, heat pumps (number of answers and distributions, %)

Major role	Micro	Small	Medium	Large	All sizes	Role distrib.
Manufacturer	3	2	6	4	15	19.2
Importer to EU	3	2	2	2	9	11.5
Retailer B2C	14	4	3	1	22	28.2
Retailer B2B	5	1	3	2	11	14.1
Distributor	4	1	2	2	9	11.5
Author. repr.	7	1	2	2	12	15.4
All known roles	36	11	18	13	78	100.0
Size distrib. %	46.2	14.1	23.1	16.7	100.0	

Table 17: Size of the company per major roles, heat pumps (role distribution per size, %)

Major role	Micro	Small	Medium	large	All sizes
Manufacturer	8.3	18.2	33.3	30.8	19.2
Importer to EU	8.3	18.2	11.1	15.4	11.5
Retailer B2C	38.9	36.4	16.7	7.7	28.2
Retailer B2B	13.9	9.1	16.7	15.4	14.1
Distributor	11.1	9.1	11.1	15.4	11.5
Author. repr.	19.4	9.1	11.1	15.4	15.4
All known roles	100.0	100.0	100.0	100.0	100.0

Table 18: Size of the company per major roles, boilers (number of answers and distributions, %)

Major role	Micro	Small	Medium	Large	All sizes	Role distrib.
Manufacturer	10	11	11	1	33	44.0
Importer to EU	3	3	2	0	8	10.7
Retailer B2C	4	2	2	0	8	10.7
Retailer B2B	3	6	4	0	13	17.3
Distributor	3	3	3	0	9	12.0
Author. repr.	2	2	0	0	4	5.3
All known roles	25	27	22	1	75	100.0
Size distrib. %	33.3	36.0	29.3	1.3	100.0	

Table 19: Size of the company per major roles, boilers (role distribution per size, %)

Major role	Micro	Small	Medium	Large	All sizes
Manufacturer	40.0	40.7	50.0	100.0	44.0
Importer to EU	12.0	11.1	9.1	0.0	10.7
Retailer B2C	16.0	7.4	9.1	0.0	10.7
Retailer B2B	12.0	22.2	18.2	0.0	17.3
Distributor	12.0	11.1	13.6	0.0	12.0
Author. repr.	8.0	7.4	0.0	0.0	5.3
All known roles	100.0	100.0	100.0	100.0	100.0

2.2.3 Major roles of the company and country of location

In Table 20 number of answers per major role and per country of location is presented for all products, and Table 21 distribution of major roles of the companies is presented.

Tables 22 and 23 presents the number of answers and answer distributions for “Heat pumps” and Tables 24 and 25 for “Boilers”. The major difference between “Heat pumps” and “Boilers” is the share of manufacturing companies and B2C retailers. Amongst “Boilers” the manufacturing companies are majority in all countries (exception Iceland). In “Heat pumps” manufacturers have the largest share in Denmark and in Finland, but in Norway B2C retailers is the largest group. In Sweden distribution of roles of the heat pump enterprises is very even, since any of the roles is not larger than others.

Table 20: Major roles of the company per country of location, all products (number of answers)

Country	Manufact.	Importer	Retail B2C	Retail B2B	Distributor	Auth. repr.
Denmark	5	2	1	2	1	1
Finland	20	6	6	8	5	4
Iceland	0	1	0	0	2	1
Norway	12	5	21	7	7	7
Sweden	11	3	2	7	3	3
All countries	48	17	30	24	18	16

Table 21: Major roles of the company per country of location, all products (distribution, %)

Country	Manufact.	Importer	Retail B2C	Retail B2B	Distributor	Auth. repr.
Denmark	41.7	16.7	8.3	16.7	8.3	8.3
Finland	40.8	12.2	12.2	16.3	10.2	8.2
Iceland	0.0	25.0	0.0	0.0	50.0	25.0
Norway	20.3	8.5	35.6	11.9	11.9	11.9
Sweden	37.9	10.3	6.9	24.1	10.3	10.3
All countries	31.4	11.1	19.6	15.7	11.8	10.5

Table 22: Major roles of the company per country of location, heat pumps (number of answers)

Country	Manufact.	Importer	Retail B2C	Retail B2B	Distributor	Auth. repr.
Denmark	2	1	0	1	0	0
Finland	8	3	4	6	2	3
Iceland	0	0	0	0	1	1
Norway	3	4	17	2	5	6
Sweden	2	1	1	2	1	2
All countries	15	9	22	11	9	12

Table 23: Major roles of the company per country of location, heat pumps (distribution, %)

Country	Manufact.	Importer	Retail B2C	Retail B2B	Distributor	Auth. repr.
Denmark	50.0	25.0	0.0	25.0	0.0	0.0
Finland	30.8	11.5	15.4	23.1	7.7	11.5
Iceland	0.0	0.0	0.0	0.0	50.0	50.0
Norway	8.1	10.8	45.9	5.4	13.5	16.2
Sweden	22.2	11.1	11.1	22.2	11.1	22.2
All countries	19.2	11.5	28.2	14.1	11.5	15.4

Table 24: Major roles of the company per country of location, boilers (number of answers)

Country	Manufact.	Importer	Retail B2C	Retail B2B	Distributor	Auth. repr.
Denmark	3	1	1	1	1	1
Finland	12	3	2	2	3	1
Iceland	0	1	0	0	1	0
Norway	9	1	4	5	2	1
Sweden	9	2	1	5	2	1
All countries	33	8	8	13	9	4

Table 25: Major roles of the company per country of location, boilers (distribution, %)

Country	Manufact.	Importer	Retail B2C	Retail B2B	Distributor	Auth. repr.
Denmark	37.5	12.5	12.5	12.5	12.5	12.5
Finland	52.2	13.0	8.7	8.7	13.0	4.3
Iceland	0.0	50.0	0.0	0.0	50.0	0.0
Norway	40.9	4.5	18.2	22.7	9.1	4.5
Sweden	45.0	10.0	5.0	25.0	10.0	5.0
All countries	44.0	10.7	10.7	17.3	12.0	5.3

2.3 Major products and product groups

In this chapter major products and product groups are presented per country, per size of the company and per major roles of the company.

2.3.1 *Boilers and heaters*

Question 19 ("Boilers") Boilers for space heating: Do you manufacture, import to EU (EEA) or sell boilers for space heating (lots 1, 15 and 21)?

Size	Denmark	Finland	Iceland	Norway	Sweden	All countries
Micro	1	2	0	2	2	7
Small	1	1	0	5	3	10
Medium	0	6	0	3	1	10
Large	0	0	0	0	0	0
Not given	1	1	0	0	0	2
All sizes	3	10	0	10	6	29

Major role	Denmark	Finland	Iceland	Norway	Sweden	All countries
Manufacturer	2	7	0	6	4	19
Importer to EU	1	2	0	1	2	6
Retailer B2C	1	1	0	2	0	4
Retailer B2B	1	1	0	3	3	8
Distributor	1	2	0	2	2	7
Author. repr.	1	0	0	1	0	2
All roles	7	13	0	15	11	46
Companies	2	9	0	10	6	27

Major role	Micro	Small	Medium	Large	All sizes
Manufacturer	6	6	7	0	19
Importer to EU	1	3	2	0	6
Retailer B2C	1	2	1	0	4
Retailer B2B	1	4	3	0	8
Distributor	1	3	3	0	7
Author. repr.	0	2	0	0	2
All roles	10	20	16	0	46
Companies	7	10	10	0	27

*Question 21 ("Boilers") Combination boilers for space and water heating:
Do you manufacture, import to EU (EEA) or sell boilers for space and wa-
ter heating (lots 1 and 15)?*

Size	Denmark	Finland	Iceland	Norway	Sweden	All countries
Micro		1			2	3
Small	1	1		4	3	9
Medium		5		2		7
Large						0
Not given	1	1				2
All sizes	2	8	0	6	5	21

Major role	Denmark	Finland	Iceland	Norway	Sweden	All countries
Manufacturer	1	5	0	4	4	14
Importer to EU	1	2	0	1	2	6
Retailer B2C	1	1	0	0	0	2
Retailer B2B	1	1	0	2	2	6
Distributor	1	2	0	2	2	7
Author. repr.	1	0	0	1	0	2
All roles	6	11	0	10	10	37
Companies	1	7	0	6	5	19

Major role	micro	small	medium	large	All sizes
Manufacturer	3	6	5	0	14
Importer to EU	1	3	2	0	6
Retailer B2C	0	1	1	0	2
Retailer B2B	1	3	2	0	6
Distributor	1	3	3	0	7
Author. repr.	0	2	0	0	2
All roles	6	18	13	0	37
Companies	3	9	7	0	19

Question 23 ("Boilers") Local space heaters and room heaters for human thermal comfort: Do you manufacture, import to EU (EEA) or sell local space heaters and room heaters for human thermal comfort (lot 20)?

Company	Denmark	Finland	Iceland	Norway	Sweden	All countries
Micro	0	1	0	3	1	5
Small	2	1	0	4	3	10
Medium	0	3	0	1	3	7
Large	0	0	0	1	0	1
Not given	0	0	0	1	0	1
All sizes	2	5	0	10	7	24

Major role	Denmark	Finland	Iceland	Norway	Sweden	All countries
Manufacturer	2	5	0	5	5	17
Importer to EU	1	1	0	0	1	3
Retailer B2C	1	1	0	3	1	6
Retailer B2B	1	1	0	3	2	7
Distributor	1	1	0	0	1	3
Author. repr.	1	1	0	1	0	3
All roles	7	10	0	12	10	39

Major role	Micro	Small	Medium	Large	All sizes
Manufacturer	5	8	5	1	19
Importer to EU	1	2	0	0	3
Retailer B2C	3	2	1	0	6
Retailer B2B	2	3	2	0	7
Distributor	1	2	0	0	3
Author. repr.	1	2	0	0	3
All roles	13	19	8	1	41
Companies	5	10	7	1	23

Question 25 ("Boilers") Water heaters and hot water storage tanks: Do you manufacture, import to EU (EEA) or sell water heaters and hot water storage tanks (lots 2 and 15)?

Size	Denmark	Finland	Iceland	Norway	Sweden	All countries
Micro	0	0	1	2	2	5
Small	0	0	0	4	3	7
Medium	0	4	0	2	0	6
Large	0	0	0	0	0	0
Not given	1	1	0	0	0	2
All sizes	1	5	1	8	5	20

Major role	Denmark	Finland	Iceland	Norway	Sweden	All countries
Manufacturer	0	3	0	5	5	13
Importer to EU	0	1	1	1	2	5
Retailer B2C	0	1	0	2	0	3
Retailer B2B	0	1	0	2	2	5
Distributor	0	1	1	1	2	5
Author. repr.	0	0	0	1	0	1
All roles	0	7	2	12	11	32
Companies	0	4	1	8	5	18

Major role	Micro	Small	Medium	Large	All sizes
Manufacturer	3	5	5	0	13
Importer to EU	2	2	1	0	5
Retailer B2C	1	1	1	0	3
Retailer B2B	1	2	2	0	5
Distributor	2	1	2	0	5
Author. repr.	0	1	0	0	1
All roles	9	12	11	0	32
Companies	5	7	6	0	18

2.3.2 Heat pumps

Question 19 (“Heat pumps”) Heat pumps for space and/or water heating:
Do you manufacture, import to EU (EEA) or sell heat pumps for space
and/or water heating (lots 1, 2, 10 and 21)?

Size	Denmark	Finland	Iceland	Norway	Sweden	All countries
Micro	1	4	1	15	0	21
Small	0	1	0	7	1	9
Medium	1	5	0	4	0	10
Large	0	0	0	1	3	4
Not given	1	1	0	5	2	9
All sizes	3	11	1	32	6	53

Major role	Denmark	Finland	Iceland	Norway	Sweden	All countries
Manufacturer	2	6	0	2	3	13
Importer to EU	1	2	0	4	1	8
Retailer B2C	0	4	0	17	1	22
Retailer B2B	1	5	0	2	2	10
Distributor	0	2	1	5	1	9
Author. repr.	0	3	1	5	1	10
All roles	4	22	2	35	9	72
Companies	2	10	1	27	4	44

Major role	Micro	Small	Medium	Large	All sizes
Manufacturer	2	2	6	3	13
Importer to EU	3	2	2	1	8
Retailer B2C	14	4	3	1	22
Retailer B2B	5	1	3	1	10
Distributor	4	1	2	2	9
Author. repr.	7	0	2	1	10
All roles	35	10	18	9	72
Companies	21	9	10	4	44

Question 21 ("Heat pumps") Air conditioning and cooling: Do you manufacture, import to EU (EEA) or sell heat pumps for air conditioning and cooling (lots 10 and 21, and ENTR lot06)?

Company	Denmark	Finland	Iceland	Norway	Sweden	All countries
Micro	1	3	1	15	0	20
Small	0	1	0	7	0	8
Medium	1	4	0	3	0	8
Large	0	1	0	2	3	6
Not given	0	0	0	4	2	6
Total	2	9	1	31	5	48

Major role	Denmark	Finland	Iceland	Norway	Sweden	All countries
Manufacturer	2	4	0	1	3	10
Importer to EU	1	2	0	4	1	8
Retailer B2C	0	3	0	17	1	21
Retailer B2B	1	5	0	2	1	9
Distributor	0	2	0	5	1	8
Author. repr.	0	3	0	6	1	10
All roles	4	19	0	35	8	66
Companies	2	9	1	27	3	42

Major role	Micro	Small	Medium	Large	All sizes
Manufacturer	1	2	4	3	10
Importer to EU	2	2	2	2	8
Retailer B2C	14	4	2	1	21
Retailer B2B	5	0	2	2	9
Distributor	4	1	2	2	9
Author. repr.	7	0	2	2	11
All roles	33	9	14	12	68
Companies	20	8	8	6	42

Question 23 (“Heat pumps”) Water or liquid chillers: Do you manufacture, import to EU (EEA) or sell the following types of chillers (lot 21 and ENTR lots 01 and 06)?

Size	Denmark	Finland	Iceland	Norway	Sweden	All countries
Micro	0	1	1	4	0	6
Small	0	1	0	1	0	2
Medium	1	4	0	2	0	7
Large	0	0	0	0	3	3
Not given	0	1	0	0	2	3
All sizes	1	7	1	7	5	21

Major role	Denmark	Finland	Iceland	Norway	Sweden	All countries
Manufacturer	1	5	0	0	3	9
Importer to EU	0	2	0	2	1	5
Retailer B2C	0	1	0	3	1	5
Retailer B2B	0	2	0	0	1	3
Distributor	0	1	1	3	1	6
Author. repr.	0	1	1	2	1	5
All roles	1	12	2	10	8	33
Companies	1	6	1	7	3	18

Major role	Micro	Small	Medium	Large	All sizes
Manufacturer	1	1	4	3	9
Importer to EU	2	0	2	1	5
Retailer B2C	2	1	1	1	5
Retailer B2B	0	0	2	1	3
Distributor	3	0	2	1	6
Author. repr.	3	0	1	1	5
All roles	11	2	12	8	33
Companies	6	2	7	3	18

2.4 Type of production

Responding enterprises were asked to estimate their product mix of their sales per production type (question number 26 in “Heat pumps”, and 28 in “Boilers”).

There were four different production type categories to be estimated:

- Mass products (produced >100 units per serie).
- Serial products (produced 20–100 units per serie).
- Small serie products (produced <20 units per serie).
- Single unit products.

Respondents selected between the following options: 0–20%, 20–40%, 40–60%, 60–80%, 80–100%, and “not this type of production”.

In total 105 enterprises gave their estimations about product mixes, where 55 were “Heat pumps” and 50 were “Boilers” sellers. In Tables 26 to 32 estimations of product mixes are presented as distributions for “Heat pumps”, and for “Boilers”. These tables include all countries and sizes of the companies.

Type of productions and product mixes are best described with words complexity and combinations. Over 70% of all responded enterprises use two or more types of production as shown in Table 26. It is interesting to observe clear difference between “Heat pumps” and “Boilers” businesses. In “Heat pump” business majority of enterprises use either one certain production type or all four production types, while in “Boilers” business there is no dominant number of production types.

Table 26: Number of production types, per questionnaire (number of answers and distribution, %)

Number of production types	Heat pumps		Boilers		All products	
	Number of companies	%	Number of companies	%	Number of companies	%
1	17	30.9	12	24.0	29	27.6
2	11	20.0	11	22.0	22	21.0
3	6	10.9	13	26.0	19	18.1
4	21	38.2	14	28.0	35	33.3
Total	55	100	50	100	105	100

When looking at the Tables 27 to 31 where all major roles are presented in separate tables, one should concentrate on columns “60–100%” and compare those values between the major roles, product groups and production types.

Manufacturers have combinations of all different types of production, because any of the share values are smaller than 40%. Importers and authorised representatives of heat pumps sell either mass produced or single unit produced products, but importers and authorised representatives of boilers have mixed product mix. Retailer (B2C) of heat pumps sell mass produced products, but retailers (B2C) of boilers have mixed product mix. Retailers (B2B) of heat pumps and boilers also have mixed product mix. Distributors have mixed product mix in both product groups.

This means that there is no clear single group inside of e.g. manufacturers or retailers, but all major roles have number of smaller groups when production type is also considered.

Table 27: Product mix, manufacturers (distribution per type of production, %)

Manufacturer	Heat pumps (n=15)			Boilers (n=33)		
	Not & 0–20%	20–60%	60–100%	Not & 0–20%	20–60%	60–100%
Mass products	61.5	7.7	30.8	48.1	14.8	37.0
Serial products	78.6	14.3	7.1	40.0	44.0	16.0
Small series	69.2	15.4	15.4	53.8	38.5	7.7
Single units	72.7	0.0	27.3	70.8	4.2	25.0

Table 28: Product mix, importers to EU (distribution per type of production, %)

Importer to EU	Heat pumps (n=9)			Boilers (n=8)		
	Not & 0–20%	20–60%	60–100%	Not & 0–20%	20–60%	60–100%
Mass products	28.6	0.0	71.4	42.9	42.9	14.3
Serial products	83.3	0.0	16.7	16.7	66.7	16.7
Small series	50.0	16.7	33.3	71.4	28.6	0.0
Single units	40.0	0.0	60.0	50.0	0.0	50.0

Table 29: Product mix, retailers B2C (distribution per type of production, %)

Retailer B2C	Heat pumps (n=22)			Boilers (n=8)		
	Not & 0–20%	20–60%	60–100%	Not & 0–20%	20–60%	60–100%
Mass products	33.3	4.8	61.9	42.9	14.3	42.9
Serial products	88.2	11.8	0.0	83.3	16.7	0.0
Small series	77.8	16.7	5.6	83.3	16.7	0.0
Single units	82.4	17.6	0.0	60.0	0.0	40.0

Table 30: Product mix, retailers B2B (distribution per type of production, %)

Retailer B2B	Heat pumps (n=11)			Boilers (n=13)		
	Not & 0–20%	20–60%	60–100%	Not & 0–20%	20–60%	60–100%
Mass products	55.6	0.0	44.4	50.0	20.0	30.0
Serial products	75.0	12.5	12.5	66.7	33.3	0.0
Small series	50.0	37.5	12.5	63.6	18.2	18.2
Single units	71.4	14.3	14.3	57.1	0.0	42.9

Table 31: Product mix, distributors (distribution per type of production, %)

Distributor	Heat pumps (n=9)			Boilers (n=9)		
	Not & 0–20%	20–60%	60–100%	Not & 0–20%	20–60%	60–100%
Mass products	33.3	0.0	66.7	50.0	37.5	12.5
Serial products	75.0	12.5	12.5	28.6	57.1	14.3
Small series	57.1	28.6	14.3	75.0	25.0	0.0
Single units	50.0	16.7	33.3	50.0	0.0	50.0

Table 32: Product mix, authorised representatives (distribution per type of production, %)

Author.repres.	Heat pumps (n=12)			Boilers (n=4)		
	Not & 0–20%	20–60%	60–100%	Not & 0–20%	20–60%	60–100%
Mass products	50.0	8.3	41.7	33.3	33.3	33.3
Serial products	77.8	11.1	11.1	66.7	33.3	0.0
Small series	60.0	30.0	10.0	66.7	33.3	0.0
Single units	20.0	40.0	40.0	66.7	0.0	33.3

3. Information needs

Responding enterprises were asked to define what kind of needs companies have on information and support about ecodesign and energy labelling directives and regulations

- preferred languages to be used when delivering information to companies (Question #2)
- preferred ways when delivering information to companies (Question #3)
- the most important areas of information regarding ecodesign and energy labelling (Question #4)
- the most important areas of support regarding ecodesign and energy labelling (Question #5).

3.1 Preferred language when receiving information

Question 2. What is your preferred language option when receiving information about ecodesign and energy labelling regulations (please, select one choice per row)?

Enterprises was asked to estimate the following subquestions:

- Subquestion 2.1. Do you think information is needed in both English and your native language?
- Subquestion 2.2. Would it be enough with information in English?
- Subquestion 2.3. Would it be enough with information in your native language?

Respondent selected between the following options: highly preferred, preferred, less preferred, not preferred, no need for this.

In Table 33 the preferred language options are presented per questionnaire as number of answers, and in Table 34 as distribution. Tables 35–37 present the same data in view of other factors (country of location, size of the company and major roles of the company) as average values. The smaller the average value the more preferred the option is, e.g. aver-

age value 2 means that option is “preferred”, while average value 3 means it is “less preferred”.

The conclusion is that enterprises prefer information delivered in their native language or in combination of native language with English. “Only English” (option 2.2) is less preferred option because average value is 3 or higher.

When looking at Table 35 Danish and Finnish enterprises prefer native language with English (option 2.1.), but Icelandic, Norwegian and Swedish enterprises prefer option 2.1 (native language with English) and option 2.3 (only native language) equally.

In the Table 36 there is clear differences on size of the company. Micro and small enterprises need information on native language, while medium and large enterprises prefer native language with English option. If the major roles are considered (Table 37), then heat pump importers to EU and boiler retailers (B2C) have highest preference on information in native language with English and lowest preference only in English. Boiler authorised representatives are unanimous on both language option.

Seven respondents gave additional data as written comments (Question 2.4). These comments just verified the outcome of questions 2.1.–2.3. Only one respondent requested an additional language: German. Other comments were that either only native language or native language with English should be used when delivering information.

Recommendations

All information is needed in all Nordic languages and in English. Because of the different size and roles of the enterprises there will always be different needs on language to be used when receiving information. For micro and small enterprises English only is not a viable option. It is recommended that in order to avoid extra work MSAs would compile together a common English version of a document, advisory, leaflet, etc., and then every MSA would translate it to their native language.

Table 33: Preferred language option, per questionnaire (number of answers)

	Heatpumps			Boilers			All products		
	Both languages	Only English	Only native	Both languages	Only English	Only native	Both languages	Only English	Only native
Highly preferred	33	6	29	31	0	22	64	6	51
Preferred	24	6	23	19	16	23	43	22	46
Less preferred	6	33	10	7	15	7	13	48	17
Not preferred	0	17	4	3	25	10	3	42	14
No need	4	3	3	3	5	0	7	8	3
All given	67	65	69	63	61	62	130	126	131
Empty	41	43	39	8	10	9	49	53	48
Average	1.78	3.08	1.97	1.86	3.31	2.08	1.82	3.19	2.02

Table 34: Preferred language option, per questionnaire (distribution, %)

	Heatpumps			Boilers			All products		
	Both languages	Only English	Only native	Both languages	Only English	Only native	Both languages	Only English	Only native
Highly Preferred	49.3	9.2	42.0	49.2	0.0	35.5	49.2	4.8	38.9
Preferred	35.8	9.2	33.3	30.2	26.2	37.1	33.1	17.5	35.1
Less preferred	9.0	50.8	14.5	11.1	24.6	11.3	10.0	38.1	13.0
Not Preferred	0.0	26.2	5.8	4.8	41.0	16.1	2.3	33.3	10.7
No need	6.0	4.6	4.3	4.8	8.2	0.0	5.4	6.3	2.3
All given	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 35: Preferred language option, per questionnaire and country (averages)

Averages Country of loaction	Heatpumps			Boilers			All products		
	Both languages	Only English	Only native	Both languages	Only English	Only native	Both languages	Only English	Only native
Denmark	1.33	3.00	2.17	2.00	2.50	3.25	1.60	2.80	2.60
Finland	1.76	2.93	2.28	1.95	3.67	2.16	1.86	3.33	2.22
Iceland	2.00	3.00	2.00	2.00	2.00	2.00	2.00	2.50	2.00
Norway	1.76	3.09	1.74	1.65	3.40	1.85	1.72	3.21	1.78
Sweden	2.29	3.33	2.00	1.89	3.18	2.00	2.00	3.23	2.00
Unknown	1.50	3.00	2.50	3.00	2.00	2.00	2.00	2.67	2.33
Total	1.78	3.08	1.97	1.86	3.31	2.08	1.82	3.19	2.02

Table 36: Preferred language option, per questionnaire and size (average)

Averages	Heatpumps			Boilers			All products		
Size	Both languages	Only English	Only native	Both languages	Only English	Only native	Both languages	Only English	Only native
Micro	1.81	3.11	1.70	2.33	3.47	1.80	2.03	3.26	1.74
Small	1.88	3.63	1.50	1.94	3.31	2.06	1.92	3.42	1.85
Medium	1.50	3.00	2.75	1.67	3.00	2.47	1.60	3.00	2.57
Large	1.57	3.14	2.43	1.00	2.00	3.00	1.50	3.00	2.50
Unknown	1.90	2.86	2.00	1.56	3.57	1.93	1.76	3.14	1.97
Total	1.78	3.08	1.97	1.86	3.31	2.08	1.82	3.19	2.02

Table 37: Preferred language option, per questionnaire and role (averages)

Averages	Heatpumps			Boilers			All products		
Major role	Both languages	Only English	Only native	Both languages	Only English	Only native	Both languages	Only English	Only native
Manufacturer	1.67	2.93	2.36	2.12	3.09	2.18	1.98	3.04	2.23
Importer to EU	1.11	3.56	2.13	1.75	3.00	2.38	1.41	3.29	2.25
Retailer B2C	1.70	3.17	1.85	1.13	3.75	2.00	1.54	3.35	1.89
Retailer B2B	1.73	3.27	2.27	1.85	3.31	2.23	1.79	3.29	2.25
Distributor	1.63	3.14	2.25	1.78	3.11	2.11	1.71	3.13	2.18
Author. repr.	1.75	3.08	2.33	1.00	3.25	2.67	1.60	3.13	2.40
Not known	1.95	2.55	2.00	1.44	3.53	2.06	1.72	3.12	2.03
Total	1.69	3.09	2.12	1.77	3.26	2.18	1.73	3.17	2.15

3.2 Preferred means of receiving information

Question 3. What are your preferred options when receiving information about ecodesign and energy labelling regulations (please, select one choice per row)?

Enterprises was asked to estimate the following subquestions:

- Subquestion 3.1 Possibility to ask questions directly on email or by phone.
- Subquestion 3.2 Information on webpages.
- Subquestion 3.3 Direct emails sent to you.
- Subquestion 3.4 Guidance documents.
- Subquestion 3.5 Fact sheets.
- Subquestion 3.6 Seminars.
- Subquestion 3.7 Online seminars.
- Subquestion 3.8 Newsletter.
- Subquestion 3.9 Articles in professional magazines.
- Subquestion 3.10 Visits to your company.

- Subquestion 3.11 News send as RSS feed.
- Subquestion 3.12 Social media (e.g. Facebook, Twitter, Instagram, etc.).

Respondent selected between the following options: highly preferred, preferred, less preferred, not preferred, no need for this.

In Table 38 the preferred options when receiving information are presented for all products as number of answers, and in Table 39 as distribution. Tables 40–42 present the data for heat pumps and boilers as number of answers, as distribution and as average values. The smaller the average value is the more preferred the option is, e.g. average value 2 means that option is “preferred”, while average value 3 means it is “less preferred”.

The conclusion is that enterprises prefer receiving information according to options 3.1–3.4, i.e. helpdesk type service from MSAs, webpages, direct emails and guidance documents. Also newsletter and articles in professional magazines were preferred. The least popular options are 3.10–3.12, i.e. visiting the companies, RSS feed and social media. Also seminars were deemed to be less preferred option. On free comments (question 3.13.) one respondent asked “what is RSS-feed”, which may indicate that not all of the respondents know “modern” tools for delivering information.

It should be noted that answers to these options are independent of country of location, size of the company and the major roles of the company.

Recommendations

Forget the social media, at least it should not be the major mean of delivering information.

As the most favoured option, MSAs should also arrange helpdesks where enterprises could ask questions by phone or by email. E.g. on your webpages there could be a contact form for asking the questions.

Instead of social media, concentrate on good webpages that are easy to use and the information is not written as legal texts (see also chapter 5.4.1). Webpages are also “natural” repository of guidance documents.

Articles in professional magazines could be one way of delivering information, but also marketing channel for webpages and other services provided by the MSAs.

Table 38: Preferred information, per option, all products (number of answers)

All products							
	Highly pref.	Preferred	Less pref.	Not pref.	No need	Empty	Average
Q3.1	55	64	13	0	1	46	1.71
Q3.2	57	58	17	1	1	45	1.74
Q3.3	50	51	26	8	1	43	1.96
Q3.4	39	75	16	1	2	46	1.89
Q3.5	30	59	34	4	6	46	2.23
Q3.6	14	41	54	21	4	45	2.70
Q3.7	12	36	44	30	11	46	2.94
Q3.8	23	64	33	9	2	48	2.26
Q3.9	16	59	37	15	5	47	2.50
Q3.10	7	33	54	33	7	45	3.00
Q3.11	1	14	54	36	26	48	3.55
Q3.12	4	13	38	41	35	48	3.69

Table 39: Preferred information, per option, all products (distribution, %)

All products						
	Highly pref.	Preferred	Less pref.	Not pref.	No need	Total
Q3.1	41.4	48.1	9.8	0.0	0.8	100.0
Q3.2	42.5	43.3	12.7	0.7	0.7	100.0
Q3.3	36.8	37.5	19.1	5.9	0.7	100.0
Q3.4	29.3	56.4	12.0	0.8	1.5	100.0
Q3.5	22.6	44.4	25.6	3.0	4.5	100.0
Q3.6	10.4	30.6	40.3	15.7	3.0	100.0
Q3.7	9.0	27.1	33.1	22.6	8.3	100.0
Q3.8	17.6	48.9	25.2	6.9	1.5	100.0
Q3.9	12.1	44.7	28.0	11.4	3.8	100.0
Q3.10	5.2	24.6	40.3	24.6	5.2	100.0
Q3.11	0.8	10.7	41.2	27.5	19.8	100.0
Q3.12	3.1	9.9	29.0	31.3	26.7	100.0

Table 40: Preferred information, per option, heat pumps (number of answers)

Heatpumps							
	Highly pref.	Preferred	Less pref.	Not pref.	No need	Empty	Average
Q3.1	28	35	8	0	0	37	1.72
Q3.2	28	31	12	0	1	36	1.82
Q3.3	27	24	17	5	1	34	2.04
Q3.4	20	38	11	1	1	37	1.94
Q3.5	15	35	16	3	3	36	2.22
Q3.6	11	20	26	12	3	36	2.67
Q3.7	7	21	22	15	5	38	2.86
Q3.8	9	34	17	6	2	40	2.38
Q3.9	10	28	23	7	2	38	2.47
Q3.10	3	17	31	17	4	36	3.03
Q3.11	1	6	27	23	12	39	3.57
Q3.12	3	6	20	26	14	39	3.61

Table 41: Preferred information, per option, heat pumps (distribution, %)

Heatpumps						
	Highly pref.	Preferred	Less pref.	Not pref.	No need	Total
Q3.1	39.4	49.3	11.3	0.0	0.0	100.0
Q3.2	38.9	43.1	16.7	0.0	1.4	100.0
Q3.3	36.5	32.4	23.0	6.8	1.4	100.0
Q3.4	28.2	53.5	15.5	1.4	1.4	100.0
Q3.5	20.8	48.6	22.2	4.2	4.2	100.0
Q3.6	15.3	27.8	36.1	16.7	4.2	100.0
Q3.7	10.0	30.0	31.4	21.4	7.1	100.0
Q3.8	13.2	50.0	25.0	8.8	2.9	100.0
Q3.9	14.3	40.0	32.9	10.0	2.9	100.0
Q3.10	4.2	23.6	43.1	23.6	5.6	100.0
Q3.11	1.4	8.7	39.1	33.3	17.4	100.0
Q3.12	4.3	8.7	29.0	37.7	20.3	100.0

Table 42: Preferred information, per option, boilers (number of answers)

Boilers							
	Highly pref.	Preferred	Less pref.	Not pref.	No need	Empty	Average
Q3.1	27	29	5	0	1	9	1.69
Q3.2	29	27	5	1	0	9	1.65
Q3.3	23	27	9	3	0	9	1.87
Q3.4	19	37	5	0	1	9	1.82
Q3.5	15	24	18	1	3	10	2.23
Q3.6	3	21	28	9	1	9	2.74
Q3.7	5	15	22	15	6	8	3.03
Q3.8	14	30	16	3	0	8	2.13
Q3.9	6	31	14	8	3	9	2.53
Q3.10	4	16	23	16	3	9	2.97
Q3.11	0	8	27	13	14	9	3.53
Q3.12	1	7	18	15	21	9	3.77

Table 43: Preferred information, per option, boilers (distribution, %)

Boilers						
	Highly pref.	Preferred	Less pref.	Not pref.	No need	Total
Q3.1	43.5	46.8	8.1	0.0	1.6	100.0
Q3.2	46.8	43.5	8.1	1.6	0.0	100.0
Q3.3	37.1	43.5	14.5	4.8	0.0	100.0
Q3.4	30.6	59.7	8.1	0.0	1.6	100.0
Q3.5	24.6	39.3	29.5	1.6	4.9	100.0
Q3.6	4.8	33.9	45.2	14.5	1.6	100.0
Q3.7	7.9	23.8	34.9	23.8	9.5	100.0
Q3.8	22.2	47.6	25.4	4.8	0.0	100.0
Q3.9	9.7	50.0	22.6	12.9	4.8	100.0
Q3.10	6.5	25.8	37.1	25.8	4.8	100.0
Q3.11	0.0	12.9	43.5	21.0	22.6	100.0
Q3.12	1.6	11.3	29.0	24.2	33.9	100.0

3.3 Importance of certain areas of information

Question 4. How important do you consider the following areas of information regarding to ecodesign and energy labelling regulations (please, select one choice per row)?

Enterprises was asked to estimate the following subquestions:

- Subquestion 4.1 which products are under preparatory processes (Lots) is.
- Subquestion 4.2 which products are already under regulations (published in EU OJL) is.
- Subquestion 4.3 what kind of requirements will soon enter into force (regulation already in force, but not requirements) is.
- Subquestion 4.4 what kind of requirements are already in force (regulation and requirements already in force) is.
- Subquestion 4.5 how to present product data in printed sales and marketing material is.
- Subquestion 4.6 how to present product data on internet is.
- Subquestion 4.7 what might happen during the review of regulations is.
- Subquestion 4.8 what are the market surveillance procedures is.

Respondent selected between the following options: very important, important, less important, not important, no need for this.

In Table 44 the preferred options when receiving information are presented for all products as number of answers, and in Table 45 as distribution. Tables 46–49 present the data for heat pumps and boilers as number of answers, as distribution and as average values. The smaller the average value is the more important the option is, e.g. average value 2 means that option is “important”, while average value 3 means it is “less important”.

Average values presented in Tables 44, 46 and 48 reveal that all types of information is welcomed by the enterprises. There are minor differences, but because all average value are about 2 or smaller, then all of those options have to be considered as important in minimum.

If we are considering only the smallest average values, then information about what kind of requirements will soon enter into force or are already in force are the most important. “Boilers” respondents stated that also which products are under Lot process as important, and how to

present product data in internet as less important. Review of the regulation and market surveillance procedures was seen the least important.

It should be noted that answers to these options are independent of country of location and the major roles of the company. However, the size of the company do have an effect on results as larger companies rank all options more important than micro and small companies.

Some of the respondents gave also written comments (question 4.9.). It is important that all information is in short, condensed and understandable form. The requirements itself are not as important, but more important aspect is which products are regulated. Other important aspect is how product testing should be done in different cases, especially when there is no testing standard available.

One very interesting written comment was that “SME enterprises need information and guidance how to best help the customer to make an informed and justifiable decision”.

Recommendations

All information is welcome, especially if it is in short, condensed and understandable form (see also chapter 4.2 Recommendations).

It could be a good idea of arranging consumer – customer – end-user dedicated ecodesign and energy labelling awareness campaign in Scandinavia, since some responses have stated that customers do not know even that what respondents know already.

Table 44: Importance of information, all products (number of answers)

All products							
	Very import.	Important	Less import.	Not important	No need	Empty	Average
Q4.1	58	57	18	1	4	41	1.81
Q4.2	57	64	11	2	3	42	1.76
Q4.3	76	52	7	1	1	42	1.53
Q4.4	65	59	11	1	1	42	1.64
Q4.5	38	73	24	1	1	42	1.93
Q4.6	37	69	26	3	1	43	1.99
Q4.7	33	67	34	2	1	42	2.06
Q4.8	27	66	37	4	2	43	2.18

Table 45: Importance of information, all products (average, %)

All products						
	Very import.	Important	Less import.	Not important	No need	Total
Q4.1	42.0	41.3	13.0	0.7	2.9	100.0
Q4.2	41.6	46.7	8.0	1.5	2.2	100.0
Q4.3	55.5	38.0	5.1	0.7	0.7	100.0
Q4.4	47.4	43.1	8.0	0.7	0.7	100.0
Q4.5	27.7	53.3	17.5	0.7	0.7	100.0
Q4.6	27.2	50.7	19.1	2.2	0.7	100.0
Q4.7	24.1	48.9	24.8	1.5	0.7	100.0
Q4.8	19.9	48.5	27.2	2.9	1.5	100.0

Table 46: Importance of information, heat pumps (number of answers)

Heatpumps							
	Very import.	Important	Less import.	Not important	No need	Empty	Average
Q4.1	26	32	11	1	4	34	1.99
Q4.2	31	35	4	1	3	34	1.78
Q4.3	38	32	2	1	1	34	1.58
Q4.4	35	35	2	1	1	34	1.62
Q4.5	20	38	15	0	1	34	1.97
Q4.6	17	41	14	1	1	34	2.03
Q4.7	15	34	23	1	1	34	2.18
Q4.8	13	34	24	2	1	34	2.24

Table 47: Importance of information, heat pumps (average, %)

Heatpumps						
	Very import.	Important	Less import.	Not important	No need	Total
Q4.1	35.1	43.2	14.9	1.4	5.4	100.0
Q4.2	41.9	47.3	5.4	1.4	4.1	100.0
Q4.3	51.4	43.2	2.7	1.4	1.4	100.0
Q4.4	47.3	47.3	2.7	1.4	1.4	100.0
Q4.5	27.0	51.4	20.3	0.0	1.4	100.0
Q4.6	23.0	55.4	18.9	1.4	1.4	100.0
Q4.7	20.3	45.9	31.1	1.4	1.4	100.0
Q4.8	17.6	45.9	32.4	2.7	1.4	100.0

Table 48: Importance of information, boilers (number of answers)

Boilers							
	Very import.	Important	Less import.	Not important	No need	Empty	Average
Q4.1	32	25	7	0	0	7	1.61
Q4.2	26	29	7	1	0	8	1.73
Q4.3	38	20	5	0	0	8	1.48
Q4.4	30	24	9	0	0	8	1.67
Q4.5	18	35	9	1	0	8	1.89
Q4.6	20	28	12	2	0	9	1.94
Q4.7	18	33	11	1	0	8	1.92
Q4.8	14	32	13	2	1	9	2.10

Table 49: Importance of information, boilers (average, %)

Boilers						
	Very import.	Important	Less import.	Not important	No need	Total
Q4.1	50.0	39.1	10.9	0.0	0.0	100.0
Q4.2	41.3	46.0	11.1	1.6	0.0	100.0
Q4.3	60.3	31.7	7.9	0.0	0.0	100.0
Q4.4	47.6	38.1	14.3	0.0	0.0	100.0
Q4.5	28.6	55.6	14.3	1.6	0.0	100.0
Q4.6	32.3	45.2	19.4	3.2	0.0	100.0
Q4.7	28.6	52.4	17.5	1.6	0.0	100.0
Q4.8	22.6	51.6	21.0	3.2	1.6	100.0

3.4 Importance of certain areas of support

Question 5. How important do you consider the following areas of support regarding to ecodesign and energy labelling regulations (please, select on choice per row)?

Enterprises was asked to estimate the following subquestions:

- Subquestion 5.1 interpreting what products are in/out of scope is.
- Subquestion 5.2 conformity assessment of our products is.
- Subquestion 5.3 how to compile technical documentation is.
- Subquestion 5.4 testing procedures (how to and where to test) is.
- Subquestion 5.5 calculation methods is.
- Subquestion 5.6 CE marking procedure is.
- Subquestion 5.7 energy labelling procedure is.

Respondent selected between the following options: very important, important, less important, not important, no need for this.

In Table 50 the preferred options when receiving information are presented for all products as number of answers, and in Table 51 as distribution. Tables 52–55 present the data for heat pumps and boilers as number of answers, as distribution and as average values. The smaller the average value is the more important the option is, e.g. average value 2 means that option is “important”, while average value 3 means it is “less important”.

Average values presented in Tables 50, 52 and 54 reveal that all types of support is welcomed by the enterprises. There are minor differences, but because all average value are about 2 or smaller, then all of those options have to be considered as important in minimum.

If we are considering only the smallest average values, then support for interpreting what products are in/out of scope, energy labelling pro-

cedure and the testing procedures are the most important. And vice versa support for compiling the technical documentation and CE marking procedures are the least important.

It should be noted that answers to these options are independent of country of location, size of the company and the major roles of the company.

Some respondents gave written comments (question 5.8.). The most critical comments were some kind of disbelief in CE marking. CE marking seems to be less important today because any manufacturer can mark his product as CE, and there is no surveillance for fake CE markings. Related to these comments, some retailers stated that “as a retailer we expect these points to be sorted out at production level.”

Other critical comments were asking for even and equal playing field over the whole EU. New ecodesign and energy labelling legislation will set additional burden to enterprises. At the same it is claimed that “some of the European testing laboratories are corrupted and some member states do not give a shit about ecodesign and energy labelling.”

Recommendations

All support is welcome, especially if it is in short, condensed and understandable form (see also chapter 4.2 Recommendations).

Table 50: Importance of support, all products (number of answers)

All products							
	Very import.	Important	Less import.	Not important	No need	Empty	Average
Q5.1	58	61	14	3	2	41	1.77
Q5.2	43	65	24	4	1	42	1.94
Q5.3	28	77	26	5	1	42	2.08
Q5.4	50	61	22	2	1	43	1.85
Q5.5	47	62	22	4	1	43	1.90
Q5.6	38	63	26	6	3	43	2.07
Q5.7	46	73	14	3	1	42	1.83

Table 51: Importance of support, all products (distribution, %)

All products						
	Very import.	Important	Less import.	Not important	No need	Total
Q5.1	42.0	44.2	10.1	2.2	1.4	100.0
Q5.2	31.4	47.4	17.5	2.9	0.7	100.0
Q5.3	20.4	56.2	19.0	3.6	0.7	100.0
Q5.4	36.8	44.9	16.2	1.5	0.7	100.0
Q5.5	34.6	45.6	16.2	2.9	0.7	100.0
Q5.6	27.9	46.3	19.1	4.4	2.2	100.0
Q5.7	33.6	53.3	10.2	2.2	0.7	100.0

Table 52: Importance of support, heat pumps (number of answers)

Heatpumps							
	Very import.	Important	Less import.	Not important	No need	Empty	Average
Q5.1	28	35	8	2	1	34	1.82
Q5.2	20	39	12	3	0	34	1.97
Q5.3	13	44	15	2	0	34	2.08
Q5.4	30	30	13	1	0	34	1.80
Q5.5	24	35	14	1	0	34	1.89
Q5.6	19	36	13	4	1	35	2.07
Q5.7	25	38	8	3	0	34	1.85

Table 53: Importance of support, heat pumps (distribution, %)

Heatpumps						
	Very import.	Important	Less import.	Not important	No need	Total
Q5.1	37.8	47.3	10.8	2.7	1.4	100.0
Q5.2	27.0	52.7	16.2	4.1	0.0	100.0
Q5.3	17.6	59.5	20.3	2.7	0.0	100.0
Q5.4	40.5	40.5	17.6	1.4	0.0	100.0
Q5.5	32.4	47.3	18.9	1.4	0.0	100.0
Q5.6	26.0	49.3	17.8	5.5	1.4	100.0
Q5.7	33.8	51.4	10.8	4.1	0.0	100.0

Table 54: Importance of support, boilers (number of answers)

Boilers							
	Very import.	Important	Less import.	Not important	No need	Empty	Average
Q5.1	30	26	6	1	1	7	1.70
Q5.2	23	26	12	1	1	8	1.90
Q5.3	15	33	11	3	1	8	2.08
Q5.4	20	31	9	1	1	9	1.90
Q5.5	23	27	8	3	1	9	1.90
Q5.6	19	27	13	2	2	8	2.06
Q5.7	21	35	6	0	1	8	1.81

Table 55: Importance of support, boilers (distribution, %)

Boilers						
	Very import.	Important	Less import.	Not important	No need	Total
Q5.1	46.9	40.6	9.4	1.6	1.6	100.0
Q5.2	36.5	41.3	19.0	1.6	1.6	100.0
Q5.3	23.8	52.4	17.5	4.8	1.6	100.0
Q5.4	32.3	50.0	14.5	1.6	1.6	100.0
Q5.5	37.1	43.5	12.9	4.8	1.6	100.0
Q5.6	30.2	42.9	20.6	3.2	3.2	100.0
Q5.7	33.3	55.6	9.5	0.0	1.6	100.0

4. Knowledge about ecodesign and energy labelling

This part of the survey was defined to find out what responding companies know about ecodesign and energy labelling, and how they feel it. It is more about “big picture” than details of knowledge and feelings. This should help MSAs to find out groups that need assistance first, and if there is differences between companies or product groups.

The following questions were asked:

- Warm-up question: Have you ever heard about ecodesign and energy labelling directives? (Question 1).
- Knowledge about ecodesign and how companies feel it (Questions 6–10).
- Knowledge about energy labelling and how companies feel it (Questions 11–15).

4.1 Warm-up question

Question 1. Have you ever heard about ecodesign and energy labelling directives?

Result of this warm-up questions reveal that there is still work to do as 20% of all 179 respondents answered “No, we haven’t ever heard about ecodesign and energy labelling directives.” Based on the answers awareness within heat pump business needs to be improved, and it is independent of the size of the company.

Countrywise Norwegian enterprises has gap on knowledge about ecodesign and energy labelling, but surprisingly also Finnish heat pump enterprises need support. When considering major roles of the companies, retailers and importers to EU need also support.

Recommendations

Awareness campaign should be directed to heat pump sector, especially in Norway and in Finland. Campaign should be targeting all other roles except manufacturers, independent of their size.

Table 56: Warm-up question, per questionnaire (number of answers and distribution, %)

	Answers			Answers distribution, %		
	Heatpumps	Boilers	All products	Heatpumps	Boilers	All products
Yes	78	65	143	72.2	91.5	79.9
No	30	6	36	27.8	8.5	20.1
Total	108	71	179	100	100	100

Table 57: Warm-up question, per questionnaire and country (number of answers)

Country	Heatpumps		Boilers		All Products	
	Yes	No	Yes	No	Yes	No
Denmark	6	0	4	0	10	0
Finland	24	4	22	0	46	4
Iceland	1	0	0	1	1	1
Norway	31	24	20	4	51	28
Sweden	12	1	17	1	29	2
Unknown	4	1	2	0	6	1
All answers	78	30	65	6	143	36

Table 58: Warm-up question, per questionnaire and country (distribution, %)

Country	Heatpumps		Boilers		All Products	
	Yes	No	Yes	No	Yes	No
Denmark	100.0	0.0	100.0	0.0	100.0	0.0
Finland	85.7	14.3	100.0	0.0	92.0	8.0
Iceland	100.0	0.0	0.0	100.0	50.0	50.0
Norway	56.4	43.6	83.3	16.7	64.6	35.4
Sweden	92.3	7.7	94.4	5.6	93.5	6.5
Unknown	80.0	20.0	100.0	0.0	85.7	14.3
All answers	72.2	27.8	91.5	8.5	79.9	20.1

Table 59: Warm-up question, per questionnaire and size (number of answers)

Size	Heatpumps		Boilers		All Products	
	Yes	No	Yes	No	Yes	No
Micro	16	6	13	2	29	8
Small	7	3	15	1	22	4
Medium	10	0	15	0	25	0
Large	6	1	1	0	7	1
Known sizes	39	10	44	3	83	13
Unknown	39	20	21	3	60	23
All answers	78	30	65	6	143	36

Table 60: Warm-up question, per questionnaire and size (distribution, %)

Size	Heatpumps		Boilers		All Products	
	Yes	No	Yes	No	Yes	No
Micro	72.7	27.3	86.7	13.3	78.4	21.6
Small	70.0	30.0	93.8	6.3	84.6	15.4
Medium	100.0	0.0	100.0	0.0	100.0	0.0
Large	85.7	14.3	100.0	0.0	87.5	12.5
Known sizes	79.6	20.4	93.6	6.4	86.5	13.5
Unknown	66.1	33.9	87.5	12.5	72.3	27.7
All answers	72.2	27.8	91.5	8.5	79.9	20.1

Table 61: Warm-up question, per questionnaire and major roles (number of answers)

Major role	Heatpumps		Boilers		All Products	
	Yes	No	Yes	No	Yes	No
Manufacturer	15	0	33	0	48	0
Importer to EU	8	1	6	2	14	3
Retailer B2C	14	8	7	1	21	9
Retailer B2B	8	3	13	0	21	3
Distributor	9	0	8	1	17	1
Author. Repr.	11	1	4	0	15	1
All known	65	13	71	4	136	17

Table 62: Warm-up question, per questionnaire and major roles (distribution, %)

Major role	Heatpumps		Boilers		All Products	
	Yes	No	Yes	No	Yes	No
Manufacturer	100.0	0.0	100.0	0.0	100.0	0.0
Importer to EU	88.9	11.1	75.0	25.0	82.4	17.6
Retailer B2C	63.6	36.4	87.5	12.5	70.0	30.0
Retailer B2B	72.7	27.3	100.0	0.0	87.5	12.5
Distributor	100.0	0.0	88.9	11.1	94.4	5.6
Author. Repr.	91.7	8.3	100.0	0.0	93.8	6.3
All known	83.3	16.7	94.7	5.3	88.9	11.1

4.2 Ecodesign directive related questions

Enterprises was asked to estimate the following questions:

- Question 6. How good would you say your overall knowledge about ecodesign legislation is?
- Question 7. How well would you say you know the ecodesign requirements on products you are producing or selling?
- Question 8.1 What do you think about the ecodesign requirements on products you are producing or selling?
- Question 9.1 What do you think about the ecodesign requirements overall?

Respondent selected between the following options: very good/well, good/well, moderate, bad / poorly, very bad / not at all.

In Table 63 the knowledge and feelings about ecodesign legislation and requirements are presented for all products as number of answers, and in Table 64 as distribution. Tables 65–67 present the average values per question for country of location, size of the company and the major roles of the company. The smaller the average value the better knowledge and more positive attitude towards requirements. E.g. average value 2 means that requirements are known “well”, while average value 4 means it is “poorly”.

Average values presented in Tables 63 and 65–67 reveal that all enterprises think that their knowledge about ecodesign legislation and requirements is moderate or weaker (questions 6 and 7). At the same time they think about ecodesign requirements are good or at least moderate (questions 8.1 and 9.1). It is also interesting to observe that heat pump business is much more favourable towards requirements than boilers business (see question 8.1 and 9.1 averages in Table 63).

In the Table 65 (country of location) it is seen that Finnish enterprises are more negative on ecodesign than e.g. Danish. Norwegian and Swedish are between those two countries. In a similar manner there is a large gap between micro and large companies. Micro companies claim that they do not know about ecodesign and have more negative attitude, while large companies seem to be more positive and have better knowledge.

Recommendations

Based on these observations, awareness campaign should be targeting small and micro enterprises, and preferably all other roles except manufacturers.

Table 63: Knowledge about ecodesign, per questionnaire and questions (number of answers)

Answers	Heatpumps				Boilers				All products			
	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1
Very good	1	3	7	14	2	4	3	5	3	7	10	19
Good	10	23	28	23	17	20	14	23	27	43	42	46
Moderate	33	29	33	29	26	26	29	22	59	55	62	51
Bad	23	14	3	5	16	12	12	7	39	26	15	12
Very bad	4	2	0	0	2	1	5	6	6	3	5	6
Empty	37	37	37	37	8	8	8	8	45	45	45	45
Average	3.27	2.85	2.45	2.35	2.98	2.78	3.03	2.78	3.13	2.81	2.72	2.55

Table 64: Knowledge about ecodesign, per questionnaire and questions (distribution, %)

Averages	Heatpumps				Boilers				All products			
	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1
Very good	1.4	4.2	9.9	19.7	3.2	6.3	4.8	7.9	2.2	5.2	7.5	14.2
Good	14.1	32.4	39.4	32.4	27.0	31.7	22.2	36.5	20.1	32.1	31.3	34.3
Moderate	46.5	40.8	46.5	40.8	41.3	41.3	46.0	34.9	44.0	41.0	46.3	38.1
Bad	32.4	19.7	4.2	7.0	25.4	19.0	19.0	11.1	29.1	19.4	11.2	9.0
Very bad	5.6	2.8	0.0	0.0	3.2	1.6	7.9	9.5	4.5	2.2	3.7	4.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 65: Knowledge about ecodesign, per country and questions (average)

Averages	Heatpumps				Boilers				All products			
	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1
Denmark	2.83	2.17	2.33	2.33	2.25	1.75	2.25	2.25	2.60	2.00	2.30	2.30
Finland	3.41	3.12	2.71	2.82	3.05	2.95	3.42	3.32	3.22	3.03	3.08	3.08
Iceland	3.00	2.00	2.00	1.00	3.00	3.00	2.00	2.00	3.00	2.50	2.00	1.50
Norway	3.39	3.00	2.42	2.42	3.05	2.65	3.00	2.50	3.28	2.88	2.62	2.45
Sweden	2.88	2.25	2.38	1.38	2.94	2.94	2.89	2.67	2.92	2.73	2.73	2.27
Unknown	2.00	2.00	1.00	1.00	4.00	3.00	3.00	3.00	3.00	2.50	2.00	2.00
All answers	3.27	2.85	2.45	2.35	2.98	2.78	3.03	2.78	3.13	2.81	2.72	2.55

Table 66: Knowledge about ecodesign, per size and questions (average)

Averages	Heatpumps				Boilers				All products			
	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1
Micro	3.82	3.23	2.50	2.45	3.33	3.20	3.13	2.93	3.62	3.22	2.76	2.65
Small	3.40	3.00	2.60	2.20	2.81	2.56	2.88	2.56	3.04	2.73	2.77	2.42
Medium	3.20	2.80	2.50	2.60	3.00	2.73	3.13	2.80	3.08	2.76	2.88	2.72
Large	2.43	2.14	2.14	1.86	3.00	2.00	3.00	3.00	2.50	2.13	2.25	2.00
Unknown	2.95	2.64	2.41	2.36	2.81	2.69	3.00	2.81	2.89	2.66	2.66	2.55
All answers	3.27	2.85	2.45	2.35	2.98	2.78	3.03	2.78	3.13	2.81	2.72	2.55

Table 67: Knowledge about ecodesign, per role and questions (average)

Averages	Heatpumps				Boilers				All products			
	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1	Q6	Q7	Q8.1	Q9.1
Manufacturer	3.13	2.73	2.67	2.33	2.88	2.55	3.03	2.79	2.96	2.60	2.92	2.65
Importer to EU	3.33	2.56	2.22	2.33	2.88	2.88	3.13	3.50	3.12	2.71	2.65	2.88
Retailer B2C	3.64	3.23	2.50	2.55	3.88	3.50	3.50	3.00	3.70	3.30	2.77	2.67
Retailer B2B	3.36	2.91	2.45	2.55	3.31	3.15	3.23	3.08	3.33	3.04	2.88	2.83
Distributor	3.44	2.67	2.56	1.89	3.00	2.78	3.11	3.33	3.22	2.72	2.83	2.61
Auth. Repr.	3.58	3.00	2.50	2.18	3.25	2.75	2.50	2.75	3.50	2.93	2.50	2.33
Not known	2.95	2.64	2.41	2.36	2.81	2.69	3.00	2.81	2.89	2.66	2.66	2.55
All answers	3.33	2.85	2.48	2.35	3.04	2.80	3.09	2.97	3.19	2.83	2.77	2.65

4.2.1 Responsibilities under ecodesign directive

Q10. Under ecodesign directive, who do you think is responsible of (please, select all applicable choices per row):

In order to test some basic knowledge about obligations under ecodesign legislation, enterprises were asked who is responsible of:

- Question 10.1 carrying out the conformity assessment (article 8 of ecodesign directive: manufacturer or authorised representative. Only *two* respondents had this question right).
- Question 10.2 marking the product with CE mark (article 5: manufacturer or authorised representative. Only *one* respondent had this question right).
- Question 10.3 compiling the EC declaration of conformity (article 5: manufacturer or authorised representative. *None* of the respondents had this question right).
- Question 10.4 compiling the technical documentation (Annex IV and V of ecodesign directive: manufacturer. *59* respondents had this question right).
- Question 10.5 keep and make available the EC declaration of conformity (article 8: manufacturer or authorised representative, and article 4: importer to EU. *None* of the respondents had this question right).
- Question 10.6 keep and make available the technical documentation (article 8: manufacturer or authorised representative, and article 4: importer to EU. *None* of the respondents had this question right).

In total 133 enterprises gave their answers to these questions. In Table 68 shows how enterprises think about who is responsible under ecodesign legislation for all products as number of answers, and in Table 69 as distributions. Table cells marked with “*” are correct answers of different obligations (see questions above), and the other cells are wrong answers.

All Tables 68–73 reveal that responsibilities are not clear at all. Almost all enterprises seem to think that importers to EU, retailers and distributors have more obligations than they actually have. Also, obligations of the authorised representative is not known. Percentage of “I’m not sure” answers is low (less than 10% per question) which could indicate that respondents think they know obligations better than they actually do.

It should be noted that answers to these questions are independent of country of location, size of the company and the major roles of the company.

Recommendations

As a part of awareness campaign an information table presenting different roles with its responsibilities should be delivered to all enterprises with multiple delivery options (email, articles in magazines, webpage, etc.).

Table 68: Knowledge about ecodesign, all products, per questions (number of answers)

All products						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Empty
Q10.1	101*	46	14	10*	17	46
Q10.2	125*	34	5	1*	7	45
Q10.3	91*	49	13	3*	16	46
Q10.4	99*	46	31	5	10	46
Q10.5	97*	55*	39	10*	18	46
Q10.6	97*	51*	47	14*	10	46

Table 69: Knowledge about ecodesign, all products, per questions (distribution, %)

All products						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Total
Q10.1	53.7*	24.5	7.4	5.3*	9.0	100.0
Q10.2	72.7*	19.8	2.9	0.6*	4.1	100.0
Q10.3	52.9*	28.5	7.6	1.7*	9.3	100.0
Q10.4	51.8*	24.1	16.2	2.6	5.2	100.0
Q10.5	44.3*	25.1*	17.8	4.6*	8.2	100.0
Q10.6	44.3*	23.3*	21.5	6.4*	4.6	100.0

Table 70: Knowledge about ecodesign, heat pumps, per questions (number of answers)

Heatpumps						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Empty
Q10.1	49*	26	9	5*	9	38
Q10.2	65*	17	3	1*	3	37
Q10.3	44*	28	8	2*	5	38
Q10.4	47*	27	20	3	3	38
Q10.5	48*	31*	22	8*	8	38
Q10.6	46*	28*	27	7*	4	38

Table 71: Knowledge about ecodesign, heat pumps, per questions (distribution, %)

Heatpumps						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Total
Q10.1	50.0*	26.5	9.2	5.1*	9.2	100.0
Q10.2	73.0*	19.1	3.4	1.1*	3.4	100.0
Q10.3	50.6*	32.2	9.2	2.3*	5.7	100.0
Q10.4	47.0*	27.0	20.0	3.0	3.0	100.0
Q10.5	41.0*	26.5*	18.8	6.8*	6.8	100.0
Q10.6	41.1*	25.0*	24.1	6.3*	3.6	100.0

Table 72: Knowledge about ecodesign, boilers, per questions (number of answers)

Boilers						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Empty
Q10.1	52*	20	5	5*	8	8
Q10.2	60*	17	2	0*	4	8
Q10.3	47*	21	5	1*	11	8
Q10.4	52*	19	11	2	7	8
Q10.5	49*	24*	17	2*	10	8
Q10.6	51*	23*	20	7*	6	8

Table 73: Knowledge about ecodesign, boilers, per questions (distribution, %)

Boilers						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Total
Q10.1	57.8*	22.2	5.6	5.6*	8.9	100.0
Q10.2	72.3*	20.5	2.4	0.0*	4.8	100.0
Q10.3	55.3*	24.7	5.9	1.2*	12.9	100.0
Q10.4	57.1*	20.9	12.1	2.2	7.7	100.0
Q10.5	48.0*	23.5*	16.7	2.0*	9.8	100.0
Q10.6	47.7*	21.5*	18.7	6.5*	5.6	100.0

4.3 Energy labelling directive related questions

Enterprises was asked to estimate the following questions:

- Question 11. How good would you say your overall knowledge about energy labelling legislation is?
- Question 12. How well would you say you know the energy labelling requirements on products you are producing or selling?
- Question 13.1 What do you think about the energy labelling requirements on products you are producing or selling?
- Question 14.1 What do you think about the energy labelling requirements overall?

Respondent selected between the following options: very good/well, good/well, moderate, bad / poorly, very bad / not at all.

In Table 74 the knowledge and feelings about energy labelling legislation and requirements are presented for all products as number of answers, and in Table 75 as distribution. Tables 76–78 present the average values per question for country of location, size of the company and the major roles of the company. The smaller the average value the better knowledge and more positive attitude towards requirements. E.g. aver-

average value 2 means that requirements are known “well”, while average value 4 means it is “poorly”.

Average values presented in Tables 74 and 76–78 reveal that all enterprises think that their knowledge about energy labelling legislation and requirements is moderate or weaker (questions 11 and 12). At the same time they think about energy labelling requirements are good or at least moderate (questions 13.1 and 14.1), hence these results are similar to respective questions about ecodesign. But different to ecodesign questions, there is not that strong difference in attitudes between heat pump business and boiler business.

In the Table 76 (country of location) it is seen that Finnish enterprises, especially those who are in boiler business, are more negative on energy labelling than e.g. Danish. Norwegian and Swedish are between those two countries. In a similar manner there is a large gap between micro and large companies. Swedish heat pump enterprises are very positive towards energy labelling (question 14.1).

Micro companies claim that they do not know about energy labelling and have more negative attitude, while large companies seem to be more positive and have better knowledge. Between different major roles there are not that significant differences in attitude or knowledge as was observed in ecodesign.

Recommendations

Like in ecodesign, based on these observations, awareness campaign should be targeting small and micro enterprises, and preferably all other roles except manufacturers.

Table 74: Knowledge about energy labelling, per questionnaire and questions (number of answers)

Answers	Heatpumps				Boilers				All products			
	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1
Very good	0	0	10	12	0	1	5	2	0	1	15	14
Good	15	29	27	27	11	23	12	21	26	52	39	48
Moderate	37	23	23	23	27	21	29	27	64	44	52	50
Bad	12	13	5	3	19	11	9	5	31	24	14	8
Very bad	3	2	2	2	0	1	2	2	3	3	4	4
Empty	41	41	41	41	14	14	14	14	55	55	55	55
Average	3.04	2.82	2.43	2.34	3.14	2.79	2.84	2.72	3.09	2.81	2.62	2.52

Table 75: Knowledge about energy labelling, per questionnaire and questions (distribution, %)

Averages	Heatpumps				Boilers				All products			
	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1
Very good	0.0	0.0	14.9	17.9	0.0	1.8	8.8	3.5	0.0	0.8	12.1	11.3
Good	22.4	43.3	40.3	40.3	19.3	40.4	21.1	36.8	21.0	41.9	31.5	38.7
Moderate	55.2	34.3	34.3	34.3	47.4	36.8	50.9	47.4	51.6	35.5	41.9	40.3
Bad	17.9	19.4	7.5	4.5	33.3	19.3	15.8	8.8	25.0	19.4	11.3	6.5
Very bad	4.5	3.0	3.0	3.0	0.0	1.8	3.5	3.5	2.4	2.4	3.2	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 76: Knowledge about energy labelling, per country and questions (average)

Averages	Heatpumps				Boilers				All products			
	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1
Denmark	2.80	2.80	2.40	2.60	2.50	1.75	1.75	2.50	2.67	2.33	2.11	2.56
Finland	3.24	3.06	2.76	2.53	3.22	3.11	3.11	3.00	3.23	3.09	2.94	2.77
Iceland	2.00	2.00	1.00	1.00	4.00	3.00	3.00	3.00	3.00	2.50	2.00	2.00
Norway	3.11	2.83	2.46	2.51	3.17	2.67	2.85	2.50	3.13	2.77	2.60	2.51
Sweden	2.75	2.50	2.00	1.38	3.13	2.87	2.77	2.67	3.00	2.74	2.48	2.22
Unknown	2.00	2.00	1.00	1.00	3.00	2.00	3.00	3.00	2.50	2.00	2.00	2.00
All answers	3.04	2.82	2.43	2.34	3.14	2.79	2.84	2.72	3.09	2.81	2.62	2.52

Table 77: Knowledge about energy labelling, per size and questions (average)

Averages	Heatpumps				Boilers				All products			
	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1
Size												
Micro	3.36	3.14	2.64	2.45	3.27	2.93	2.60	2.67	3.32	3.05	2.62	2.54
Small	3.30	3.20	2.50	2.50	3.19	2.75	2.94	2.56	3.23	2.92	2.77	2.54
Medium	3.00	2.70	2.50	2.00	3.07	2.80	3.07	3.13	3.04	2.76	2.84	2.61
Large	2.57	2.14	2.14	2.50	3.00	2.00	3.00	3.00	2.63	2.13	2.25	2.60
Unknown	2.72	2.56	2.22	2.33	3.00	2.70	2.70	2.40	2.82	2.61	2.39	2.36
All answers	3.04	2.82	2.43	2.34	3.14	2.79	2.84	2.72	3.09	2.81	2.62	2.52

Table 78: Knowledge about energy labelling, per major role and questions (average)

Averages	Heatpumps				Boilers				All products			
Roles	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1	Q11	Q12	Q13.1	Q14.1
Manu- facturer	2.93	2.87	2.73	2.20	3.09	2.73	2.88	2.79	3.04	2.77	2.83	2.60
Importer to EU	3.11	2.89	2.33	2.22	3.25	2.89	3.00	3.38	3.18	2.89	2.65	2.76
Retailer B2C	3.41	2.91	2.64	2.50	3.25	2.89	2.63	2.75	3.37	2.90	2.63	2.57
Retailer B2B	3.55	3.18	2.64	2.36	3.15	2.85	3.00	2.85	3.33	3.00	2.83	2.63
Distri- butor	3.33	2.67	2.22	2.11	3.00	2.80	3.00	3.22	3.17	2.74	2.61	2.67
Auth. Repr.	3.27	2.92	2.33	1.91	3.25	2.50	2.00	2.50	3.27	2.81	2.25	2.07
Not known	2.72	2.56	2.22	2.33	3.00	2.70	2.70	3.00	2.82	2.61	2.39	2.45
All answers	3.17	2.84	2.47	2.27	3.12	2.77	2.84	2.90	3.14	2.81	2.64	2.56

4.3.1 Responsibilities under energy labelling directive

Q15. Under energy labelling directive, who do you think is responsible of (please, select all applicable choices per row):

In order to test some basic knowledge about obligations under ecodesign legislation, enterprises were asked who is responsible of:

- Question 15.1 supplying the energy label (article 5a in energy labelling directive: manufacturer, importer to EU, authorised representative. *None* of the respondents had this question completely right).
- Question 15.2 supplying the product fiche (article 5a: manufacturer, importer to EU, authorised representative. *None* of the respondents had this question right).
- Question 15.3 producing the technical documentation (article 5b: manufacturer, importer to EU, authorised representative. *None* of the respondents had this question right).
- Question 15.4 keeping the technical documentation available (article 5c: manufacturer, importer to EU, authorised representative. Only *one* of the respondents had this question right).
- Question 15.5 providing the energy label to dealers (article 5d: manufacturer, importer to EU, authorised representative. *Two* of the respondents had this question right).
- Question 15.6 providing the product information to dealers (article 5d: manufacturer, importer to EU, authorised representative. *Two* of the respondents had this question right).
- Question 15.7 displaying label in a visible and legible manner (article 6a: retailer or distributor. *19* of the respondents had this question right).
- Question 15.8 making the product fiche available in the product brochure (article 6a: retailer or distributor. *14* of the respondents had this question right).
- Question 15.9 when the product is displayed, attaching the energy label visible (article 6b: retailer or distributor. *30* of the respondents had this question right).

In total 124 enterprises gave their answers to this question. In Table 79 shows how enterprises think about who is responsible under energy labelling legislation for all products as number of answers, and in Table 80 as distributions. . Table cells marked with “*” are correct answers of

different obligations (see questions above), and the other cells are wrong answers.

Tables 79–84 reveal that responsibilities are not clear at all. Almost all enterprises seem to think that manufacturers, importers to EU and retailers and distributors have more obligations than they actually have. Also, obligations of the authorised representative is not known. Percentage of “I’m not sure” answers is low (less than 10% per question) which could indicate that respondents think they know obligations better than they actually do.

It should be noted that answers to these questions are independent of country of location, size of the company and the major roles of the company.

Recommendations

The same situation as in ecodesign (see chapter 5.2.1): As a part of awareness campaign an information table presenting different roles with its responsibilities should be delivered to all enterprises with multiple delivery options (email, articles in magazines, webpage, etc.).

Table 79: Knowledge about energy labelling, all products, per questions (number of answers)

All products						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I’m not sure	Empty
Q15.1	98*	39*	17	6*	12	55
Q15.2	94*	41*	23	8*	11	55
Q15.3	105*	37*	10	2*	7	55
Q15.4	94*	59*	34	8*	7	55
Q15.5	88*	71*	15	5*	9	55
Q15.6	82*	74*	13	5*	5	55
Q15.7	77	51	48*	14	9	55
Q15.8	76	59	43*	10	14	55
Q15.9	62	38	65*	31	10	55

Table 80: Knowledge about energy labelling, all products, per questions (distribution, %)

All products						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I’m not sure	Total
Q15.1	57.0*	22.7*	9.9	3.5*	7.0	100.0
Q15.2	53.1*	23.2*	13.0	4.5*	6.2	100.0
Q15.3	65.2*	23.0*	6.2	1.2*	4.3	100.0
Q15.4	46.5*	29.2*	16.8	4.0*	3.5	100.0
Q15.5	46.8*	37.8*	8.0	2.7*	4.8	100.0
Q15.6	45.8*	41.3*	7.3	2.8*	2.8	100.0
Q15.7	38.7	25.6	24.1*	7.0	4.5	100.0
Q15.8	37.6	29.2	21.3*	5.0	6.9	100.0
Q15.9	30.1	18.4	31.6*	15.0	4.9	100.0

Table 81: Knowledge about energy labelling, heat pumps, per questions (number of answers)

Heatpumps						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Empty
Q15.1	54*	18*	9	3*	3	41
Q15.2	50*	23*	14	3*	4	41
Q15.3	54*	24*	9	2*	3	41
Q15.4	46*	37*	21	5*	3	41
Q15.5	42*	41*	12	3*	4	41
Q15.6	37*	46*	10	3*	0	41
Q15.7	39	33	26*	7	3	41
Q15.8	35	34	26*	5	6	41
Q15.9	30	19	38*	16	4	41

Table 82: Knowledge about energy labelling, heat pumps, per questions (distribution, %)

Heatpumps						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Total
Q15.1	62.1*	20.7*	10.3	3.4*	3.4	100.0
Q15.2	53.2*	24.5*	14.9	3.2*	4.3	100.0
Q15.3	58.7*	26.1*	9.8	2.2*	3.3	100.0
Q15.4	41.1*	33.0*	18.8	4.5*	2.7	100.0
Q15.5	41.2*	40.2*	11.8	2.9*	3.9	100.0
Q15.6	38.5*	47.9*	10.4	3.1*	0.0	100.0
Q15.7	36.1	30.6	24.1*	6.5	2.8	100.0
Q15.8	33.0	32.1	24.5*	4.7	5.7	100.0
Q15.9	28.0	17.8	35.5*	15.0	3.7	100.0

Table 83: Knowledge about energy labelling, boilers, per questions (number of answers)

Boilers						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Empty
Q15.1	44*	21*	8	3*	9	14
Q15.2	44*	18*	9	5*	7	14
Q15.3	51*	13*	1	0*	4	14
Q15.4	48*	22*	13	3*	4	14
Q15.5	46*	30*	3	2*	5	14
Q15.6	45*	28*	3	2*	5	14
Q15.7	38	18	22*	7	6	14
Q15.8	41	25	17*	5	8	14
Q15.9	32	19	27*	15	6	14

Table 84: Knowledge about energy labelling, boilers, per questions (distribution, %)

Boilers						
	Manufacturer	Importer	Retail+distrib.	Auth.repres.	I'm not sure	Total
Q15.1	51.8*	24.7*	9.4	3.5*	10.6	100.0
Q15.2	53.0*	21.7*	10.8	6.0*	8.4	100.0
Q15.3	73.9*	18.8*	1.4	0.0*	5.8	100.0
Q15.4	53.3*	24.4*	14.4	3.3*	4.4	100.0
Q15.5	53.5*	34.9*	3.5	2.3*	5.8	100.0
Q15.6	54.2*	33.7*	3.6	2.4*	6.0	100.0
Q15.7	41.8	19.8	24.2*	7.7	6.6	100.0
Q15.8	42.7	26.0	17.7*	5.2	8.3	100.0
Q15.9	32.3	19.2	27.3*	15.2	6.1	100.0

4.4 Written comments on ecodesign and energy labelling

In total 40 written comments were given about ecodesign requirements on products (question 8.2.), ecodesign requirements overall (question 9.2.) and responsibilities under ecodesign directive (question 10.7.). Also 29 written comments were given about energy labelling requirements on products (question 13.2.), energy labelling requirements overall (question 14.2.) and responsibilities under energy labelling directive (question 15.10.).

4.4.1 *Ecodesign and energy labelling requirements and procedures*

First of all, there were twelve comments on ecodesign and nine on energy labelling where respondents said that they don't know or understand the requirements on their products.

MSAs were criticised that their information is too complicated and close to legal texts. Help for interpreting requirements was asked and "Text is too much blaa blaa blaa. It has to be concrete text that summarizes what it is all about and what requirements mean."

Ecodesign requirements were criticised to be too theoretical and working only on paper, when the demands within EU countries are too different to be covered by one and only one definition of ecodesign requirements and energy label definitions. There is no link between real life conditions and ecodesign requirements, and geographical differences of EU have been considered very weakly. As stated by a manufacturer-retailer "Our end-users have found requirements and testing too difficult, impossible, to understand."

Energy labelling requirements were criticised that they are not according to real life values. The real energy use and environmental impact is way outside the energy label for the real life conditions in most cases. Some energy labelling regulations have divided classes too wide in terms of efficiency requirements whereas others are too narrow. Also, energy labelling should not be used to compare the different products with each other.

"Very often labelling is far from reality and misleading to the public."

"Labelling is designed in such a way that the products are not available in the energy class A, hence consumers don't have the option of selecting A products. This makes no sense compared the energy labelling of other electrical products."

Smaller enterprises stated that ecodesign and energy labelling procedures cause too heavy burden for them, especially when small manufacturer has number of different product groups while production volume is still low. "This will finally kill all small companies in Scandinavia."

Some respondents stated that they can not comment on how viable ecodesign requirements are. This is because of there is no harmonised measuring methods available but regulations already give limit values e.g. for energy efficiency and emissions. Also, practical training was asked for example how an energy efficiency should be determined for a certain product.

4.4.2 *System level approach*

System level approach was favoured instead of concentrating just to small parts of it. Some of the respondents find it unclear how ecodesign requirements should be applied to coupling of products with other products and to package solutions.

Different products could be sold as a concept or package. A good concept which is built on products with lower energy label class will beat a bad quality concept where individual products have higher energy label class. This is why some of the ecodesign requirements and energy labels on a single product have been found uninteresting. This system approach was linked also to certification of installers, which was seen one way to improve energy efficiency of installed system.

As an example Scandinavian hot water accumulator tanks should not have been a priority product group, especially when only heat losses will be regulated. Instead it would be more important to consider whole hot water system from generation to delivery.

4.4.3 *Comparison of products with different primary energy sources*

Different forms of energy should not be compared with each other as it has been done in ecodesign process. Manufacturers are reluctant to compare different products (e.g. clean burning woodstoves vs. heat pumps), as the customer may get the wrong impression only looking at a energy labels without understanding the reasoning behind them, hence some of the requirements does not make sense for the customers.

Setting different level of requirements for different energy sources is not supported by the respondents. Primary energy factor (PEF) must be

removed, otherwise there is no sense of comparing different products with the same function.

Emission levels favour fossil fuels instead of renewable energy. This was seen absurd and contradictory to EU's energy targets (e.g. 20-20-20).

4.4.4 Politics

Some of the respondents seem to think that some politics have been involved in the ecodesign process. Especially enterprises in boiler business have stated that ecodesign requirements (on boilers) are "results of lobbying of gas mafia" and "gas mafia is guiding EU's energy policy very strongly".

Number of respondents see requirements to be "unnecessary, complicated and too much adjusted for German and middle European systems. We know already that certain countries and enterprises will cheat anyway which makes this more than unpleasant. Number of smart Scandinavian solutions will be kicked out of market because of small volumes."

5. Certification installers

This part of the survey was defined to find out what is the opinion of responding companies about certification of installers, especially compulsory vs. voluntary certification. This should give an idea what the responded companies think about certification, and is there any differences between groups. It is more about “big picture” than details of certification procedure. This should help MSAs to decide where to go within certification.

5.1 Availability and use of certified installers

The following questions were asked:

Question 16. Availability and use of certified installers (please, select YES/NO per row).

- Question 16.1. Do you know any companies offering certified installers?
- Question 16.2. Do you hire or promote customers to use certified installers?
- Question 16.3. Do your customers ask for certified heat pumps installers when they buy your product?

The main pattern in all Tables 85–92 is that enterprises are aware of other companies offering certified installers, and respondents do promote using such installers. However, customer do not ask for certified installers when they buy a product. Enterprises in heat pump business offer and promote using of certified installers more often than in boiler business. This might be because of refrigerant legislation in force, e.g. F-gas regulation (EU regulations 842/2006 and 517/2014).

This offering and promoting of certified installers is bound also to certain roles in supply chain, see Tables 91–92. Enterprises having contact with end-users will offer and promote more often certified installer than e.g. importers to EU since importers may not have any end-users as their customer.

It is interesting to observe that Nordic countries are split to two groups: Sweden and Finland form one group with lower share of yes answers, while Denmark with Norway have much higher share of yes answers (see Tables 87–88).

Recommendations

It should be checked how uniform or widely dispersed requirements for certification of different installers there are in Nordic countries. There might be historical, cultural, etc. differences, e.g. what is required from electrical installers, HVAC / VVS installers, etc.

Awareness campaign directed to end-users, customers and consumers about who is allowed to do and what kind of installations.

Table 85: Certification of installers, per questionnaire and questions (number of answers)

	Heatpumps			Boilers			All products		
	Yes	No	Empty	Yes	No	Empty	Yes	No	Empty
Q16.1.	58	9	41	33	24	14	91	33	55
Q16.2.	53	13	42	37	20	14	90	33	56
Q16.3.	31	34	43	21	35	15	52	69	58

Table 86: Certification of installers, per questionnaire and questions (distribution, %)

	Heatpumps			Boilers			All products		
	Yes	No	Total	Yes	No	Total	Yes	No	Total
Q16.1.	86.6	13.4	100.0	57.9	42.1	100.0	73.4	26.6	100.0
Q16.2.	80.3	19.7	100.0	64.9	35.1	100.0	73.2	26.8	100.0
Q16.3.	47.7	52.3	100.0	37.5	62.5	100.0	43.0	57.0	100.0

Table 87: Certification of installers, per country and questions (number of YES answers)

YES answers	Heatpumps			Boilers			Total		
	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3
Country									
Denmark	5	5	4	4	3	4	9	8	8
Finland	12	11	6	8	9	5	20	20	11
Iceland	1	1	1		1		1	2	1
Norway	33	27	15	14	14	10	47	41	25
Sweden	6	8	4	6	9	2	12	17	6
Unknown	1	1	1	1	1		2	2	1
Total	58	53	31	33	37	21	91	90	52

Table 88: Certification of installers, per country and questions (distribution, % of YES)

YES, %	Heatpumps			Boilers			Total		
Country	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3
Denmark	100.0	100.0	80.0	100.0	75.0	100.0	100.0	88.9	88.9
Finland	70.6	68.8	37.5	44.4	50.0	27.8	57.1	58.8	32.4
Iceland	100.0	100.0	100.0	0.0	100.0	0.0	50.0	100.0	50.0
Norway	94.3	77.1	42.9	77.8	77.8	55.6	88.7	77.4	47.2
Sweden	75.0	100.0	57.1	40.0	60.0	14.3	52.2	73.9	28.6
Unknown	100.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	50.0

Table 89: Certification of installers, per size and questions (number of YES answers)

YES	Heatpumps			Boilers			Total		
Size	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3
Micro	20	17	11	8	10	4	28	27	15
Small	8	8	4	9	9	5	17	17	9
Medium	10	8	4	8	10	6	18	18	10
Large	5	6	3				5	6	3
Unknown	15	14	9	8	8	6	23	22	15
Total	58	53	31	33	37	21	91	90	52

Table 90: Certification of installers, per size and questions (distribution, % of YES)

YES	Heatpumps			Boilers			Total		
Size	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3
Micro	90.9	77.3	50.0	53.3	66.7	26.7	75.7	73.0	40.5
Small	80.0	80.0	40.0	56.3	56.3	33.3	65.4	65.4	36.0
Medium	100.0	88.9	44.4	53.3	66.7	40.0	72.0	75.0	41.7
Large	71.4	85.7	50.0	0.0	0.0	0.0	62.5	75.0	42.9
Unknown	83.3	77.8	50.0	80.0	80.0	60.0	82.1	78.6	53.6

Table 91: Certification of installers, per roles and questions (number of YES answers)

YES Roles	Heatpumps			Boilers			Total		
	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3
Manufacturer	14	11	7	17	18	11	31	29	18
Importer to EU	7	6	2	3	6	1	10	12	3
Retailer B2C	21	19	13	6	6	3	27	25	16
Retailer B2B	8	8	5	7	9	5	15	17	10
Distributor	8	8	5	4	7	3	12	15	8
Auth. Repr.	10	10	5	1	2	1	11	12	6
Not known	16	14	9	7	9	16	23	23	25

Table 92: Certification of installers, per roles and questions (distribution, % of YES)

YES Roles	Heatpumps			Boilers			Total		
	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3	Q16.1	Q16.2	Q16.3
Manufacturer	93.3	78.6	53.8	51.5	54.5	34.4	64.6	61.7	40.0
Importer to EU	77.8	66.7	22.2	37.5	75.0	12.5	58.8	70.6	17.6
Retailer B2C	95.5	86.4	59.1	75.0	75.0	37.5	90.0	83.3	53.3
Retailer B2B	72.7	72.7	45.5	53.8	69.2	38.5	62.5	70.8	41.7
Distributor	88.9	88.9	55.6	44.4	77.8	33.3	66.7	83.3	44.4
Auth. Repr.	83.3	83.3	41.7	25.0	50.0	25.0	68.8	75.0	37.5
Not known	84.2	77.8	50.0	70.0	81.8	80.0	79.3	79.3	65.8

5.2 Certification of installer means...

Enterprises were asked to provide their opinions to the following statements:

Question 17. Certification of installer means (please, select one choice per row):

- Question 17.1. better quality of work.
- Question 17.2. better energy efficiency of product.
- Question 17.3. proper installation of product.
- Question 17.4. that installed product is safe to use.
- Question 17.5. proof of competence.

Respondent selected between the following options: true, partly true, partly wrong, wrong, I don't know.

In Tables 93–98 show opinion of respondent companies what certification of installers mean (Tables 93, 95 and 97 as number of answers, and Tables 94, 96 and 98 as distributions). Meaning of average values in tables below: the smaller the average value the more true is the statement.

There are only minor differences between heat pump and boiler businesses, as the share of true and partly true answers are at least two

thirds of all answers. It should be noted that answers to these questions are in majority independent of country of location, size of the company and the major roles of the company. In this sense all respondents seem to think relatively positive about certification of installer.

Recommendations

Awareness campaign directed to end-users, customers and consumers about who is allowed to do and what kind of installations, and promoting the use of certified installers.

Table 93: Certification of installers, all products, per questions (number of answers)

	True	Partly true	Partly wrong	Wrong	I don't know	Empty	Average
Q17.1.	53	55	5	3	8	55	1.64
Q17.2.	30	50	12	21	11	55	2.21
Q17.3.	67	44	5	2	6	55	1.51
Q17.4.	57	41	15	5	6	55	1.73
Q17.5.	61	48	9	1	6	54	1.58

Table 94: Certification of installers, all products, per questions (distribution, %)

	True	Partly true	Partly wrong	Wrong	I don't know	Total
Q17.1.	42.7	44.4	4.0	2.4	6.5	100.0
Q17.2.	24.2	40.3	9.7	16.9	8.9	100.0
Q17.3.	54.0	35.5	4.0	1.6	4.8	100.0
Q17.4.	46.0	33.1	12.1	4.0	4.8	100.0
Q17.5.	48.8	38.4	7.2	0.8	4.8	100.0

Table 95: Certification of installers, heat pumps, per questions (number of answers)

	True	Partly true	Partly wrong	Wrong	I don't know	Empty	Average
Q17.1.	29	31	5	0	2	41	1.63
Q17.2.	19	27	7	8	6	41	2.07
Q17.3.	31	30	4	0	2	41	1.58
Q17.4.	26	24	13	1	3	41	1.83
Q17.5.	36	26	4	0	1	41	1.52

Table 96: Certification of installers, heat pumps, per questions (distribution, %)

	True	Partly true	Partly wrong	Wrong	I don't know	Total
Q17.1.	43.3	46.3	7.5	0.0	3.0	100.0
Q17.2.	28.4	40.3	10.4	11.9	9.0	100.0
Q17.3.	46.3	44.8	6.0	0.0	3.0	100.0
Q17.4.	38.8	35.8	19.4	1.5	4.5	100.0
Q17.5.	53.7	38.8	6.0	0.0	1.5	100.0

Table 97: Certification of installers, boilers, per questions (number of answers)

	True	Partly true	Partly wrong	Wrong	I don't know	Empty	Average
Q17.1.	24	24	0	3	6	14	1.65
Q17.2.	11	23	5	13	5	14	2.38
Q17.3.	36	14	1	2	4	14	1.42
Q17.4.	31	17	2	4	3	14	1.61
Q17.5.	25	22	5	1	5	13	1.66

Table 98: Certification of installers, boilers, per questions (distribution, %)

	True	Partly true	Partly wrong	Wrong	I don't know	Total
Q17.1.	42.1	42.1	0.0	5.3	10.5	100.0
Q17.2.	19.3	40.4	8.8	22.8	8.8	100.0
Q17.3.	63.2	24.6	1.8	3.5	7.0	100.0
Q17.4.	54.4	29.8	3.5	7.0	5.3	100.0
Q17.5.	43.1	37.9	8.6	1.7	8.6	100.0

5.3 Preferred option on certification of installers

Enterprises were asked to provide their opinions to the certification of installers, especially whether it should be compulsory or voluntary.

Question 18.1 What is your preferred option on certification of installers (please, select one choice)?

- Certification of installers should be compulsory.
- Certification of installers should be voluntary.
- Installers don't need any certification.

Meaning of average values in tables below: the average value 1 means that all respondents are in favour of compulsory certification, and average value 2 that all respondents are in favour of voluntary certification.

Also in this question major difference is between enterprises in heat pump business and in boiler business. Enterprises in heat pump business the majority favours compulsory certification of installers. Boiler business is divided to half between compulsory vs. voluntary certification.

It is interesting to observe that Nordic countries are split to two groups (see Table 101). Sweden and Finland form one group as they are slightly more in favour of voluntary certification (average > 1.5). Denmark with Norway are more in favour of compulsory certification (average < 1.5). It is worth noticing that this question is independent of size of the company or the major roles of the company. Both of these factors have similar pattern in responses.

Recommendations

At the moment we are not able recommend common Nordic certification system for installers, even it would be ideal solution for all stakeholders. Before any recommendations, it should be checked how uniform or widely dispersed requirements for certification of different installers there are in Nordic countries.

Table 99: Certification of installers, per questionnaire and option (number of answers)

Answers	Heatpumps	Boilers	All products
Compulsory	51	25	76
Voluntary	11	26	37
No need	5	6	11
All known	67	57	124
Empty	41	14	55
All answers	108	71	179

Table 100: Certification of installers, per questionnaire and option (distribution, %)

%	Heatpumps	Boilers	All products
Compulsory	76.1	43.9	61.3
Voluntary	16.4	45.6	29.8
No need	7.5	10.5	8.9
Total	100	100	100

Table 101: Certification of installers, per country (average)

Country	Heatpumps	Boilers	All products
Denmark	1.20	1.75	1.44
Finland	1.53	1.83	1.69
Iceland	1.00	2.00	1.50
Norway	1.23	1.39	1.28
Sweden	1.38	1.73	1.61
Unknown	1.00	2.00	1.50
All answers	1.31	1.67	1.48

Table 102: Certification of installers, per size (average)

Size	Heatpumps	Boilers	All products
Micro	1.18	1.53	1.32
Small	1.30	1.69	1.54
Medium	1.30	1.73	1.56
Large	1.57	2.00	1.63
Unknown	1.39	1.70	1.50
All answers	1.31	1.67	1.48

Table 103: Certification of installers, per role (average)

Role	Heatpumps	Boilers	All products
Manufacturer	1.27	1.70	1.56
Importer to EU	1.33	1.88	1.59
Retailer B2C	1.14	1.38	1.20
Retailer B2B	1.36	1.77	1.58
Distributor	1.44	1.89	1.67
Auth. Repres.	1.50	1.75	1.56
Not known	1.37	1.75	1.52
All answers	1.32	1.72	1.51

5.4 Written comments on certification of installers

In total 16 respondents gave written comments about certification of installers (question 18.2.). Comments were similar in both questionnaires (“Boilers” vs. “Heat pumps”).

Heat pump business is in favour of certification of installers because it is already required by the F-gas regulation. However, there were comments underlining that level of required certification should be in accordance with complexity of a product or a system and the refrigerant charge used (as it is in F-gas regulation).

Boiler business also see that complex products or systems should be installed preferably by the certified installers, while with simple products it was not seen that necessary.

Common comments on both questionnaire were that

- homeowners should not be allowed to install any products or systems by themselves
- if certification is seen important, then only few days course should not be accepted as a proof of competence. This is especially important on complex products and systems.
- certification of installers must be properly controlled by the authorities. For example publicly available database of certified and fake installers should be on MSAs’ webpage.
- there are already working procedures that could be used, e.g. F-gas installers, electric installers (some countries), etc.
- “Do not make this too complicated and bureaucratic!”

6. Written comments and interviews

In the internet survey respondents gave written comments and recommendation to specific subject, but there was also open question to give any free comments about ecodesign and energy labelling, or about market surveillance authorities or their procedures (question 39 in “heat pumps” 41 in “boilers”). There were altogether 164 written comments and recommendations given.

Based on the written answers and comments to internet survey questionnaires, the following topics was raised during interviews.

Topics

1. Some respondents have said that “CE marking seems to be less important as any manufacturer can mark his product as CE compliant and there is no surveillance for fake CE marking.” So, impression is that there is lack of market surveillance in Nordic countries, especially on how CE marking has been used in products. Do you think/feel that CE marking should be much stronger, or is CE marking useless/not needed in your country? What should national authorities do to improve situation?
2. Also some respondents have said that “It would be great if member states could be pushed in enforcing more regulations on ecodesign and energy labelling, and have more active consumers protection similar to some of the other EU country’s.” Do you think this is the situation in your country? Or what are the major problems in your country: not enough resources in enforcement of EU regulations, nobody cares about enforcement or consumer protection, no punishment if you give wrong information about your product, or something else?
3. Could you give examples what are the most urgent and important tasks for market surveillance and legislation enforcement in your country in general?

4. Could you give examples what are the most urgent and important tasks for market surveillance and legislation enforcement in your country when considering CE marking, ecodesign and energy labelling?
5. Something else that you think is important in your business where national authorities could help you?

The following chapter is summary of written comments and interviews. Answers and additional information given by the interviewees just confirmed what was already observed in the internet survey.

6.1 CE marking

All interviewees stated that CE marking is not useless and they support it. However, it is rather weak, and its benefits to customers are somewhat vague and ambiguous. Strength of CE marking is as good or weak as the market surveillance and sanctions of its misuse are.

The major problem for serious manufacturers and importers is not Nordic countries, but several other Member states. We were told two separate examples about falsified CE marking of products: one man company (heat pump importer) bought heat pumps from China without any documentation and just put CE mark sticker on product. Other case was where a Baltic construction product manufacturer informed a Finnish retailer that "We don't give shit about CE mark, we'll mark products with that mark you'll need." Both of the above situations market surveillance have very limited chance to catch wrong-doers.

6.2 Product related information

There is need for stronger enforcement on quality of information and that correct information is given to customers. There shall be clear rules what will happen if an enterprise gives wrong information.

As a simple and an important first step of market surveillance interviewees saw is to review sellers' marketing material and see if they are claiming correct information. Other documentation should also be inspected, like declaration of conformity etc., because those documents will indicate non-conformance of products.

6.3 Market surveillance

“The more expensive it is to obey the rules, the more it is to be gained by cheating.”

Non-conforming product should not be available after the entry into force of requirements. However, they still are which will cause distortion on market because of the cheaper price.

According to interviewees there is not enough resources for market surveillance, which was deemed to be a problem caused by politicians. A good working market surveillance system was seen as the solution, but it should not lead to additional bureaucracy on law-abiding enterprises.

It was suggested that market surveillance in Nordic countries would co-operate and actively utilize media in order to promote success of market surveillance campaigns. In modern social media filled world better visibility in media would make it “look like bigger than actually is”.

Interviewees stated that it is the most important to have really active market surveillance and the authorities must have tools to do something to a company which is not following the legislation. Penalties should be strong enough to be effective deterrent. “Fines must be high, not just pennies”.

Interviewees also raised the question about effectiveness of market surveillance of non-conforming products. This is question was specially linked to market surveillance of energy labelling and CE marking of product safety directives (i.e. “low voltage”, “machinery”, “gas appliances”, etc.). Interviewees pointed out the product safety is considered more important than e.g. energy label because of the possible drastic hazards (death, serious injury, etc.).

More active random testing of products was also asked for, especially on cheaper products of a product group. Related to this market surveillance it was proposed that as proactive surveillance there should more training of manufacturers, importers and retailers available arranged by the authorities. (There was given some examples of CE marked but suspected non-conforming products on the market. E.g. CE marked “China made” heat pumps and room heaters in Sweden and Iceland.).

6.4 Role of Customs

When importing appliances to EU (or Iceland and Norway), the role of customs could be stronger. For example, if you’ll plan to import a new heat pump type, you’ll need to send customs a copy of the CE documents and energy label for that product in order to import it. It was suggested

that there should be a registry of imported products, where to register a new product just once. Registry should preferably be Pan-European, similar to that Australia (MEPS registry) or California has.

6.5 Regulative process

Interviewees urged the authorities to be stronger in the discussions with the rest of the Europe. There is a big difference in what type of technology is best for the climate in Nordic countries compared to for instance Southern or Middle Europe. E.g. in Nordic there is more need for heating because of colder climate, different infrastructure for gas, availability of clean electricity and so on. The Nordic authorities must work towards regulations that make sense for the Nordic environment and hence Nordic consumers.

6.6 Installers

Surveillance of installers' qualifications and competences should be increased and improved towards more proactive surveillance in all Nordic countries. Now surveillance is in practice only reactive, i.e. when something has already gone wrong, or someone has reported about non-licensed installer. (Examples were given of non-licensed installation work in Finland, Iceland and Norway).

Information about qualifications needed for a specific installation work must be easily available for all actors in supply chain, but especially for retailers, consumers and other end-users. There must be given e.g. what kind of heat pump, boiler or heater installations a plumber, electrician or refrigerant installer is allowed to do, and what qualifications are required.

There was one interesting proposal which might increase consumer and end-user awareness about the use of certified installers. Namely, if insurance companies would be involved with this, e.g. when heat pump or boiler is installed by a certified installer, then home insurance will cover it, but otherwise no.

6.6.1 *Certification of installers*

Heat pump business is in favour of certification of installers because it is already required by the F-gas regulation. However, there were comments underlining that level of required certification should be in accordance with complexity of a product or a system and the refrigerant charge used (as it is in F-gas regulation).

Boiler business also see that complex products or systems should be installed preferably by the certified installers, while with simple products it was not seen that necessary.

Common comments on both questionnaire were that:

- homeowners should not be allowed to install any products or systems by themselves
- if certification is seen important, then only few days course should not be accepted as a proof of competence. This is especially important on complex products and systems.
- certification of installers must be properly controlled by the authorities. For example publicly available database of certified and fake installers should be on MSAs' webpage.
- there are already working procedures that could be used, e.g. F-gas installers, electric installers (some countries), etc.
- "Do not make this too complicated and bureaucratic!"

6.7 Help from authorities

There should be possibility to ask any interpretation concerning products from the market surveillance authorities, whether product is in/out of scope of certain directive etc. Authorities should also give understandable explanations for requirements. E.g. if ecodesign regulation states that "from 17 January 2017 product X shall comply with the specific ecodesign requirements set out in Annex YY". So, what this means in practise for a distributors or a retailer who has 50 units in stock, is he allowed to sell them anyway even those units do not fulfil requirements?

Support from authorities should be available already in product development and design phase. With this kind of support enterprises would be able to develop products in conformity of different legislation "first time right" without any additional testing and development phases. One important part of design and testing phase is what different stand-

ards should be used. MSAs were asked to collect a list of applicable standards per product group.

It would be very useful information if authorities could explain to end-users and customers how ecodesign and energy labelling process works and what does it mean in the whole supply chain (from manufacture to end-user). This would be useful especially in projects when there are several different products involved e.g. in building up a system.

6.8 About Member state authorities

There were several comments that ecodesign and energy labelling have to be made more visible and well known more to the consumers and end-users. All the consumers and majority of professional end-users are unaware of which products are under the ecodesign and/or energy labelling regulations. This awareness campaign should be carried out by the MSAs.

“It is important that authorities take a ‘road show’ to help and inform industry about ecodesign. It is wrong that only we manufacturers should explain to the industry and to the consumers about the ecodesign.”

Independent of the country of location micro enterprises were really worried about their future. They were asking for any kind of support from authorities, e.g. how to calculate or estimate what does a certain requirement mean for their products. These micro enterprises have very limited resources and have very little knowledge about legislation.

There were also comments that authorities must push harder in enforcing regulations and CE marking and be more active on consumer protection.

Also, MSAs’ must make themselves better known: “Market surveillance authority, what do you mean?”

6.9 Ecodesign and energy labelling

6.9.1 *Ecodesign and energy labelling in general*

In general respondents were somewhat negative to ecodesign and energy labelling. This is because of additional burden and costs caused by ecodesign and energy labelling regulations. Regulations are also very complex to understand. The whole ecodesign and energy labelling system does not work as it should over the whole EU.

There were also respondents that are positive to the energy labelling of products but they also think that the norms, legislation and other in-

formation is the difficulty to understand and hard to find. However, it was seen that Pan-European ecodesign and energy labelling regulations are better than national or local legislations.

Testing and labelling procedures are, in principle, inappropriate, very expensive and out of reach of small businesses, and in practice not possible to carry out by themselves.

Especially boiler and space heater regulations wanted to be coupled with EPBD in order to adjust and lower the energy consumption in buildings. Life cycle cost of product was seen as important factor in energy saving driver.

6.9.2 *Ecodesign and energy labelling requirements and procedures*

First of all, there were twelve comments on ecodesign and nine on energy labelling where respondents said that they don't know or understand the requirements on their products.

MSAs were criticised that their information is too complicated and close to legal texts. Help for interpreting requirements was asked and "Text is too much blaa blaa blaa. It has to be concrete text that summarizes what it is all about and what requirements mean."

Ecodesign requirements were criticised to be too theoretical and working only on paper, when the demands within EU countries are too different to be covered by one and only one definition of ecodesign requirements and energy label definitions. There is no link between real life conditions and ecodesign requirements, and geographical differences of EU have been considered very weakly. As stated by a manufacturer-retailer "Our end-users have found requirements and testing too difficult, impossible, to understand."

Energy labelling requirements were criticised that they are not according to real life values. The real energy use and environmental impact is way outside the energy label for the real life conditions in most cases. Some energy labelling regulations have divided classes too wide in terms of efficiency requirements whereas others are too narrow. Also, energy labelling should not be used to compare the different products with each other.

"Very often labelling is far from reality and misleading to the public".

"Labelling is designed in such a way that the products are not available in the energy class A, hence consumers don't have the option of selecting A products. This makes no sense compared the energy labelling of other electrical products."

Smaller enterprises stated that ecodesign and energy labelling procedures cause too heavy burden for them, especially when small manufacturer has number of different product groups while production volume is still low. "This will finally kill all small companies in Scandinavia."

Some respondents stated that they can not comment on how viable ecodesign requirements are. This is because of there is no harmonised measuring methods available but regulations already give limit values e.g. for energy efficiency and emissions. Also, practical training was asked for example how an energy efficiency should be determined for a certain product.

6.9.3 *System level approach*

System level approach was favoured instead of concentrating just to small parts of it. Some of the respondents find it unclear how ecodesign requirements should be applied to coupling of products with other products and to package solutions.

Different products could be sold as a concept or package. A good concept which is built on products with lower energy label class will beat a bad quality concept where individual products have higher energy label class. This is why some of the ecodesign requirements and energy labels on a single product have been found uninteresting. This system approach was linked also to certification of installers, which was seen one way to improve energy efficiency of installed system.

As an example Scandinavian hot water accumulator tanks should not have been a priority product group, especially when only heat losses will be regulated. Instead it would be more important to consider whole hot water system from generation to delivery.

6.9.4 *Comparison of products with different primary energy sources*

Different forms of energy should not be compared with each other as it has been done in ecodesign process. Manufacturers are reluctant to compare different products (e.g. clean burning woodstoves vs. heat pumps), as the customer may get the wrong impression only looking at a energy labels without understanding the reasoning behind them, hence some of the requirements does not make sense for the customers.

Setting different level of requirements for different energy sources is not supported by the respondents. Primary energy factor (PEF) must be

removed, other wise there is no sense of comparing different products with the same function.

Emission levels favour fossil fuels instead of renewable energy. This was seen absurd and contradictory to EU's energy targets (e.g. 20-20-20).

6.9.5 *Politics*

Some of the respondents seem to think that some politics have been involved in the ecodesign process. Especially enterprises in boiler business have stated that ecodesign requirements (on boilers) are "results of lobbying of gas mafia" and "gas mafia is guiding EU's energy policy very strongly".

Number of respondents see requirements to be "unnecessary, complicated and too much adjusted for German and middle European systems. We know already that certain countries and enterprises will cheat anyway which makes this more than unpleasant. Number of smart Scandinavian solutions will be kicked out of market because of small volumes."

7. Conclusions and recommendations

7.1 Conclusions

Result of the warm-up question revealed that there is still work to do as 20% of all 179 respondents answered “no, we haven’t ever heard about ecodesign and energy labelling directives.” Based responses from the enterprises all information and support is welcome.

Next steps would include also an awareness campaign directed to end-users, customers and consumers. There could information about CE marking, energy labelling and e.g. promoting the use of certified installers. Based responses from the enterprises it seems that end-users have very limited knowledge about ecodesign and CE marking.

7.2 Number of answers and response rate

Invitation to internet survey was sent by email in total to 1,450 enterprises, and 179 responses was received. This gives 12.3% response rate to internet survey. Response rate varied between countries (see Table 1). Questionnaire “Heat pumps” was answered by 108 enterprises, and “Boilers” by 71 enterprises. These 179 enterprises responded at least one question. However, 95 enterprises (53%) answered all the questions throughout the questionnaires (49 on “Heat pumps” and 46 on “Boilers”).

Recommendation: In order to increase response rate invitations should be sent to personal email address like boris.becker@company.com. Contact lists provided for the survey had numerous general email addresses like info@company.com. It is unlikely that someone would respond to invitations send to a general email address.

7.3 Size of the company

The differences between turnover and personnel distributions should be observed. Micro and small enterprises cover 65% of all responses. As turnover micro enterprises cover 38%, but as personnel there are 51% micro enterprises. This difference is explained by the major roles of companies. Retailers and distributors have higher turnover per person than manufacturers have.

Recommendation: It would be better only to consider turnover as classifying factor, when all major roles are present in a survey.

7.4 Preferred language when receiving information

The conclusion is that enterprises prefer information delivered in their native language or both in native language with English. “Only English” is less preferred option.

Danish and Finnish enterprises prefer both languages (native with English). Icelandic, Norwegian and Swedish enterprises prefer “both languages” and “only native language” equally.

Micro and small enterprises need information on native language, while medium and large enterprises prefer both languages option.

Heat pump importers to EU and boiler retailers (B2C) have highest preference on information in both languages and lowest preference only in English. Boiler authorised representatives are unanimous on both language option.

Recommendation

- All information is needed in all Nordic languages and in English.
- Because of the different size and roles of the enterprises there will always be different needs on language to be used when receiving information.
- For micro and small enterprises English only is not a viable option.
- It is recommended that in order to avoid extra work MSAs would compile together a common English version of a document, advisory, leaflet, etc., and then every MSA would translate it to their native language.

7.5 Preferred means of receiving information

The conclusion is that enterprises prefer receiving information according to options 3.1–3.4, i.e. helpdesk type service from MSAs, webpages, direct emails and guidance documents. Also newsletter and articles in professional magazines were preferred.

The least popular options are 3.10–3.12, i.e. visiting the companies, RSS feed and social media. Also seminars were deemed to be less preferred option.

On free comments (question 3.13.) one respondent asked “what is RSS-feed”, which may indicate that not all of the respondents know “modern” tools for delivering information.

It should be noted that answers to these options are independent of country of location, size of the company and the major roles of the company.

Recommendations

Forget the social media, at least it should not be major mean of delivering information.

As the most favoured option, MSAs should also arrange helpdesks where enterprises could ask questions by phone or by email. E.g. on your webpages there could be a contact form for asking the questions.

Instead of social media, concentrate on good webpages that are easy to use and the information is not written as legal texts (see also chapter 5.4.1). Webpages are also “natural” repository of guidance documents.

Articles in professional magazines could be one way of delivering information, but also marketing channel for webpages and other services provided by the MSAs.

7.6 Importance of certain areas of information

All types of information is welcomed by the enterprises.

Information about what kind of requirements will soon enter into force or are already in force are the most important. Review of the regulation and market surveillance procedures are the least important. However, variation is not statistically significant between those informations.

It should be noted that importance of information options are independent of country of location and the major roles of the company. However, the size of the company do have an effect on results as larger companies rank all option more important than micro and small companies.

It is important that all information is in short, condensed and understandable form. The requirements itself are not as important, but more important aspect is which products are regulated. Other important aspect is how product testing should be done in different cases, especially when there is no testing standard available.

One very interesting written comment was that “SME enterprises need information and guidance how to best help the customer to make an informed and justifiable decision.”

Recommendations

All information is welcome, especially if it is in short, condensed and understandable form.

It could be a good idea of arranging consumer – customer – end-user dedicated ecodesign and energy labelling awareness campaign in Scandinavia, since some responses have stated that customers do not know even that what respondents know already.

7.7 Importance of certain areas of support

Support for interpreting what products are in/out of scope, energy labelling procedure and the testing procedures are the most important. And vice versa support for compiling the technical documentation and CE marking procedures are the least important. However, variation is not statistically significant between those informations.

It should be noted that answers to these options are independent of country of location, size of the company and the major roles of the company.

Some respondents gave written comments. The most critical comments were some kind of disbelief in CE marking. CE marking seems to be less important today because any manufacturer can mark his product as CE, and there is no surveillance for fake CE markings. Related to these comments, some retailers stated that “as a retailer we expect these points to be sorted out at production level”.

Other critical comments were asking for even and equal playing field over the whole EU. New ecodesign and energy labelling legislation will set additional burden to enterprises. At the same it is claimed that “some of the European testing laboratories are corrupted and some member states do not give a shit about ecodesign and energy labelling.”

Recommendations

All support is welcome, especially if it is in short, condensed and understandable form.

7.8 Have you ever heard about ecodesign or energy labelling?

Result of this warm-up questions reveal that there is still work to do as 20% of all 179 respondents answered “no, we haven’t ever heard about ecodesign and energy labelling directives.” Based on the answers awareness within heat pump business needs to be improved, and it is independent of the size of the company.

Countrywise Norwegian enterprises has gap on knowledge about ecodesign and energy labelling. Also Finnish heat pump enterprises need support.

When considering major roles of the companies, retailers and importers to EU need also support.

Recommendations

Awareness campaign should be directed to heat pump sector, especially in Norway and in Finland.

Campaign should be targeting all other roles except manufacturers, independent of their size.

7.9 Ecodesign related questions

All enterprises think that their knowledge about ecodesign legislation and requirements is moderate or weaker. At the same time they think about ecodesign requirements are good or at least moderate.

It is also interesting to observe that heat pump business is much more favourable towards requirements than boilers business. Finnish enterprises are more negative on ecodesign than e.g. Danish. Norwegian and Swedish are between those two countries.

In a similar manner there is a large gap between micro and large companies. Micro companies claim that they do not know about ecodesign and have more negative attitude, while large companies seem to be more positive and have better knowledge.

Recommendations

Based on these observations, awareness campaign should be targeting small and micro enterprises, and preferably all other roles except manufacturers.

7.9.1 Responsibilities under ecodesign directive

All answers reveal that responsibilities are not clear at all. Almost all enterprises seem to think that importers to EU and retailers and distributors have more obligations than they actually have. Also, obligations of the authorised representative is not known. Percentage of “I’m not sure” answers is low (less than 10% per question) which could indicate that respondents think they know obligations better than they actually do.

It should be noted that answers to these questions are independent of country of location, size of the company and the major roles of the company.

Recommendations

As a part of awareness campaign an information table presenting different roles with its responsibilities should be delivered to all enterprises with multiple delivery options (email, articles in magazines, webpage, etc.).

7.10 Energy labelling related questions

All enterprises think that their knowledge about energy labelling legislation and requirements is moderate or weaker. At the same time they think about energy labelling requirements are good or at least moderate, hence these results are similar to respective questions about ecodesign. But different to ecodesign questions, there is not that strong difference in attitudes between heat pump business and boiler business.

Again, Finnish enterprises, especially those who are in boiler business, are more negative on energy labelling than e.g. Danish. Norwegian and Swedish are between those two countries.

In a similar manner there is a large gap between micro and large companies. Swedish heat pump enterprises are very positive towards energy labelling.

Micro companies claim that they do not know about energy labelling and have more negative attitude, while large companies seem to be more positive and have better knowledge.

Between different major roles there are not that significant differences in attitude or knowledge as was observed in ecodesign.

Recommendations

Like in ecodesign, based on these observations, awareness campaign should be targeting small and micro enterprises, and preferably all other roles except manufacturers.

7.10.1 Responsibilities under energy labelling directive

All answers reveal that responsibilities are not clear at all. Almost all enterprises seem to think that manufacturers, importers to EU and retailers and distributors have more obligations than they actually have. Also, obligations of the authorised representative is not known. Percentage of “I’m not sure” answers is low (less than 10% per question) which could indicate that respondents think they know obligations better than they actually do.

It should be noted that answers to these questions are independent of country of location, size of the company and the major roles of the company.

Recommendations

The same situation as in ecodesign: As a part of awareness campaign an information table presenting different roles with its responsibilities should be delivered to all enterprises with multiple delivery options (email, articles in magazines, webpage, etc.).

7.11 Certification of installers

7.11.1 Availability and use of certified installers

The main pattern is that enterprises are aware of other companies offering certified installers, and respondents do promote using such installers. However, customer do not ask for certified installers when they buy a product.

Enterprises in heat pump business offer and promote using of certified installers more often than in boiler business. This might be because of refrigerant legislation in force, e.g. F-gas regulation (EU regulations 842/2006 and 517/2014).

This offering and promoting of certified installers is bound also to certain roles in supply chain. Enterprises having contact with end-users will offer and promote more often certified installer than e.g. importers to EU since importers may not have any end-users as their customer.

It is interesting to observe that Nordic countries are split to two groups: Sweden and Finland with lower share of yes answers, while Denmark with Norway much higher share of yes answers.

Recommendations

It should be checked how uniform or widely dispersed requirements for certification of different installers there are in Nordic countries. There might be historical, cultural, etc. differences, e.g. what is required from electrical installers, HVAC / VVS installers, etc.

Awareness campaign directed to end-users, customers and consumers about who can do and what kind of installations.

7.11.2 Certification of installers means...

There are only minor differences between heat pump and boiler businesses, as the share of true and partly true answers are at least two thirds of all answers. In this sense all respondents seem to think relatively positive about certification of installer.

It should be noted that answers to these questions are in majority independent of country of location, size of the company and the major roles of the company.

Recommendations

Awareness campaign directed to end-users, customers and consumers about who is allowed to do and what kind of installations, and promoting the use of certified installers.

7.11.3 Preferred option on certification of installers

Also in this question major difference is between enterprises in heat pump business and in boiler business. Enterprises in heat pump business the majority favours compulsory certification of installers. Boiler business is divided to half between compulsory vs. voluntary certification.

It is interesting to observe that Nordic countries are split to two groups.

Sweden and Finland form one group as they are slightly more in favour of voluntary certification.

Denmark and Norway are more in favour of compulsory certification.

It is worth noticing that this question is independent of size of the company or the major roles of the company.

Recommendations

At the moment we are not able recommend common Nordic certification system for installers, even it would be ideal solution for all stakeholders. Before any recommendations, it should be checked how uniform or widely dispersed requirements for certification of different installers there are in Nordic countries.

Sammanfattning

Syftet med detta projekt Nordsyn 3c "Survey SME: s" var att göra en undersökning och utredning av vad små och medelstora företag (SMF) inom de nordiska länderna känner till om ekodesign och energimärkning idag, vilket material de behöver för att vara bättre förberedda och bättre kunna informera konsumenter och vad de önskar från marknadskontrollmyndigheterna (MSAs). Undersökningen syftar till att samla in viktig information till MSAs på hur man bäst arbetar med förebyggande marknadskontroll och hur man bäst designar informationsmaterial, hur det ska distribueras och vad som behöver förtydligas ytterligare.

Undersökningen riktade sig till företag i följande branscher: värmepumpar, luftkonditionering, kylning, vatten- eller vätskekylare, pannor, lokala rumsvärmare, varmvattenberedare och ackumulatortankar. Företagen var tillverkare, importörer till EU, återförsäljare som säljer till konsumenter (business-to-consumer, B2C), återförsäljare som säljer till företag (business-to-business, B2B), distributörer, och auktoriserade representanter i dessa företag.

Resultaten av undersökningen visar att svaren är förvånansvärt lika i Norden, i olika branscher, olika företagsstorlek och i olika roller.

Önskat språk på information om ekodesign och energimärkning är antingen modersmål eller modersmål och engelska. Information endast på engelska föredras inte. Detta kan nyttjas vid fortsatt arbete med marknadskontroll och inom Nordsyn.

Vad gäller hur informationen ska spridas så var besök på företag, nyheter via RSS-flöde och sociala medier (t.ex. Facebook, Twitter, Instagram, etc.) de minst önskade alternativ. Däremot var de mest önskade sätten att få information; möjlighet att ställa frågor direkt på e-post eller telefon ("helpdesk"), information på hemsidor, direkta e-postmeddelanden som skickas till företagen, samt riktlinjer och andra hjälpande dokument. All support och all information välkomnas av de tillfrågade. Detta bekräftas av de svar som gavs på nuvarande kunskap om direktiven om ekodesign och energimärkning.

Svaren på frågorna kring certifierade installatörer varierade. Det fanns inget entydigt svar, men cirka 90% av alla svarande stödde antingen obligatorisk eller frivillig certifiering av installatörer. Värme-

pumpföretag är mer positiva till obligatorisk certifiering medan i pannbranschen föredrar hälften obligatorisk och hälften frivillig certifiering.

De svarande gav många skriftliga synpunkter och förslag.

Denna rapport är en del av de nordiska statsministrarnas grön växt-initiativ under Nordiska ministerrådet. Se mer på www.norden.org/greengrowth

norden

Nordic Council of Ministers

Ved Stranden 18
DK-1061 Copenhagen K
www.norden.org

Survey SMEs

The project Survey SMEs includes a survey on what heat pump, boiler and air conditioning industry in the Nordic countries know about ecodesign and energy labelling legislation and what information they request. The report shows that the knowledge is not great and gives good implications on what and how information is preferred. The project is part of Nordsyn under the Nordic Prime Ministers' overall green growth initiative: "The Nordic Region – leading in green growth" – read more at www.norden.org/greengrowth.

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