

# Environmental Management in European Union: Survey of ISO 14001 Certified Estonian Companies

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The growing importance of sustainable development and influence of Corporate Social Responsibility (CSR) on the performance of companies have forced companies to care more than ever about the environmental impact of their activities. Wide range of environmental legislations has been enforced by the European Union during recent years in order to ensure sustainable development of European cities. As a result, various initiatives have taken place to boost companies' interest to take control over the environmental performance. An environmental management area has developed strongly in recent decades and various systems and tools have been introduced to effectively manage sustainable environmental development of companies. More and more organizations both in Estonia and worldwide are initiating the ISO14001 certification process, which specifies requirements for environmental management systems, in order to develop and implement environmental policy and objectives. The main purpose of the present research was to identify the main factors of initiating the ISO certification process by Estonian companies and to get their opinion regarding the future of the ISO 14001 certification in Estonia. To achieve the aim of the research, the authors have set the following research tasks: to provide a wide overview of the scientific literature covering the main relevant studies in the selected research area; to research the implementation of standards in European Union and Estonia; to conduct a survey in the form of questionnaire among ISO 14001 certified enterprises; to reveal respondent's opinion about the current situation and future development of ISO 14001 certification in Estonia. The main methods applied in this article include analytical method and quantitative research method. Authors conducted a survey among ISO 14001 certified Estonian companies in September–October 2015 and collected 115 replies. The findings of the present research clearly demonstrate that Estonian companies are actively involved into the environmental management process; therefore, they initiated the ISO 14001 certification procedure and are willing to renew the certificate upon expiration. They also confirm that Estonian stakeholders are aware of the environmental management initiatives and their opinions are valued by companies and inspire them to show better performance in the field of environmental sustainability. The companies are also caring about their reputation and compliance with environmental laws and legislation, and believe that ISO 14001 certification will assist in this matter. However, it should be pointed out that surveyed companies do not identify a direct link between the ISO 14001 certification and reductions of certain costs and expenses. Therefore, there should be more workshops and training organized in order to explain how the sustainability helps to boost the effectiveness of the company by reducing various expenses and increasing profits.

**KEYWORDS:** CSR, certification process, environmental management initiative, environmental management system, ISO 14001.

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## Abstract



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## Introduction

The growing importance of sustainable development and influence of Corporate Social Responsibility (CSR) on the performance of companies have forced companies to care more than ever about the environmental impact of their activities. Constant growing pressure and concern of stakeholders made companies to demonstrate their environmental responsibility (Robinson & Clegg, 1998; González–Benito & González–Benito, 2005), which in turn led to increased popularity and reliance of CSR reporting (Tschopp, 2005). In many cases environmental management is considered by investors an inevitable part of good corporate governance (Chan & Welford, 2005) and regarded by companies as an effective mean to boost market reputation and build long–term relationship with stakeholders (Lin&Liu, 2011). The motives of implementation of environmental management system (EMS) became a matter of high interest and attracted attention of numerous researchers (Melnyk et al., 2003; King et al., 2005). Most studies reveal a positive impact of environmental management on environmental performance (Martin–Pena et.al., 2014; Newbold, 2006) and the economic performance of the companies (Ann et al., 2006) also outlining the positive influence on “market success and stakeholder satisfaction” (Pereira–Moliner et al., 2005).

Wide range of environmental legislations has been enforced by the European Union during recent years in order to ensure sustainable development of European cities and address environmental and climate challenges in the most efficient way (European..., 2016). As a result, various initiatives have taken place to boost companies’ interest to take control over the environmental performance. An environmental management area has developed strongly in recent decades and various systems and tools have been introduced to effectively manage sustainable environmental development of companies. Among the most vital and important tools author would like to outline The EU Eco–Management and Audit Scheme (EMAS) and ISO 14001 standard. Both instruments were developed in order to improve environmental performance of companies and are suitable for every type of organizations worldwide. However, according to Wätzold et al. (2001) participation in EMAS has remained “sluggish” and seems not as popular as ISO 14001. These instruments have emerged as important tools of environmental policy (Potoski & Prakash 2013). Nowadays their implementation still remains voluntary, and in authors option can be regarded as a valuable and powerful addition to the governmental and EU regulations, which is also confirmed by the studies of Singh & Perry (2000).

The international standards on environmental management are designed to provide organizations with the elements of an effective environmental management system that can be integrated with other management systems. ISO 14001 standard specifies requirements for environmental management systems, in order to develop and implement environmental policy and objectives. Attention must be paid to the fact that legal requirements and information about significant environmental aspects are taken into consideration. ISO 14001 is also the world’s most recognized framework for environmental management systems (ISO Standards, 2016) and is “the world’s most successful EMS standard” (Baumbach et al.,2013).Table 1 represents statistics of ISO 14001 certified companies.

Data of table 1 clearly demonstrates that Italy; Czech Republic, Sweden and UK have taken leading positions, while in regard to the number of issued certificates per millions of inhabitants as of the year 2014 Estonia is also among top five leading countries.

More and more organizations both in Estonia and worldwide are initiating the ISO14001 certification process, it should be noted that as of March 9, 2016 there are 532 companies in Estonia, 5 companies were already certified according to newest version of the standard ISO 14001:2015). The first certificate was issued in Estonia in 1999 and the process is in a strong uptrend since then, as of December 2015 there were 531 certified companies in Estonia, which is illustrated by figure 1.

State	Total number of issued certificates	Position in a list of EU countries	Number of issued certificates per million. of inhabitants	Position in a list of EU countries
Austria	1 172	17	138	19
Belgium	1 216	16	109	23
Bulgaria	1 761	13	243	10
Croatia	951	18	224	13
Cyprus	55	27	64	27
Czech Republic	5 831	7	555	1
Denmark	895	20	159	16
Estonia	492	23	374	5
Finland	1 512	14	277	8
France	8 306	5	126	22
Germany	7 708	6	95	24
Greece	909	19	83	25
Hungary	2 231	10	226	12
Ireland	666	22	145	17
Italy	27 178	1	447	3
Latvia	334	25	167	15
Lithuania	707	21	240	11
Luxemburg	70	26	127	20
Malta	30	28	71	26
Netherlands	2 411	9	143	18
Poland	2 213	11	57	28
Portugal	1 321	15	127	21
Romania	9 302	4	466	2
Slovakia	1 806	12	333	6
Slovenia	425	24	206	14
Spain	13 869	3	298	7
Sweden	3 990	8	414	4
United Kingdom	16 685	2	259	9

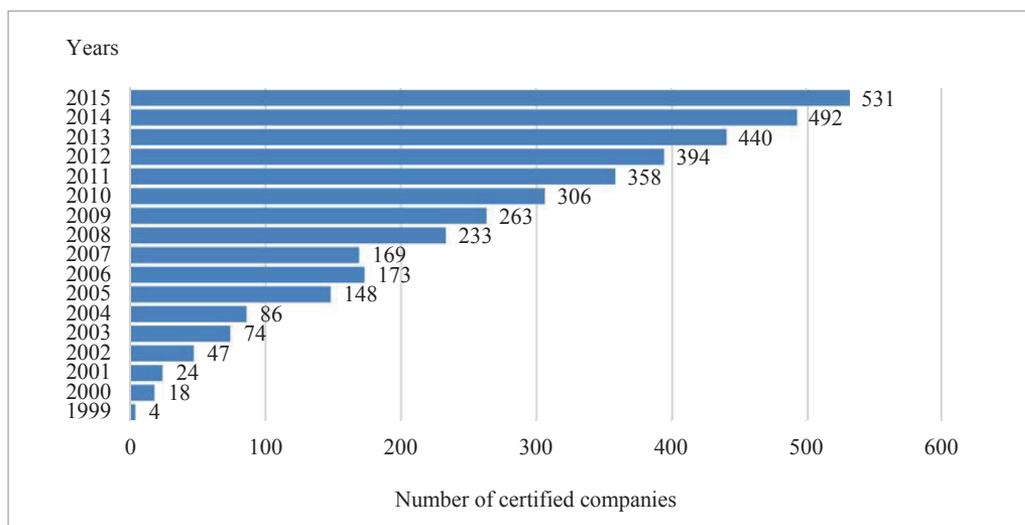
**Table 1**

ISO 14001 certified companies in the European Union as of the year 2014

Source: Authors' based on ISO Survey 2014

Figure 1

ISO 14001 certified  
companies in Estonia  
during years 1999–2015  
(Authors')



Numerous studies have been carried out to reveal the impact of the ISO 14001 certification on the performance of the companies and to find out the main benefits and obstacles associated with the certification process. Lawrence, et al. (2002) outlined that the tools and techniques applied in various environmental management systems should support the goals of the everyday business activity of the company. Halkos & Evangelinos, (2002) investigated the determinants of Environmental Management Systems Standards (EMSS) implementation in case of Greek industry. Their findings suggest that in case of Greek industry, stakeholders' pressure on the environmental performance of companies will not always results in high implementation of EMSS (Halkos & Evangelinos, 2002). Graafland & Smid (2015) stated that in case the usage of environmental management tools as a strategic target would result in increase of the environmental impact of SMEs.

Various benefits are associated with obtaining ISO 14001 certificate. Findings of Yang & Yao (2012) suggest that the ISO 14001 certification has a positive impact on a profitability of the companies. González-Benito & González-Benito (2010) discovered that companies decide to become ISO 14001 certified due to ethical and competitive motivations. Takahashi & Nakamura (2010) discovered that companies facing more risk in their everyday business activity are more prone to ISO certification and regard it as an insurance scheme.

The aim of the present research was to identify the main factors of initiating the ISO certification process by Estonian companies and to get their opinion regarding the future of the ISO 14001 certification in Estonia. To achieve the aim of the research, the author set following research tasks: to provide a wide overview of the scientific literature covering the main relevant studies in the selected research area; to research the implementation of standards in European Union and Estonia; to conduct a survey in the form of questionnaire among ISO 14001 certified enterprises; to reveal respondent's opinion about the current situation and future development of ISO 14001 certification in Estonia. The main methods applied in this article include analytical method: the study of the relevant scientific literature and prior research in the selected area and quantitative research method in the form of statistical analysis of the results of the survey by the development of the Likert scale for expressing respondents' opinion on several statements in the distributed questionnaire.

The survey was conducted among ISO 14001 certified Estonian companies in September–October 2015. According to the official data as of September 24, 2015 there were 523 ISO 14001 certified companies in Estonia. The questionnaire was sent via email to 442 companies and in total 115 replies were collected. Table 2 illustrates the selected sample of the surveyed companies in regard to the main business activity.

Current research to some extent replicates the “Analysis of the Environmental Systems implemented in Estonia” (Eestis..., 2008) carried out in 2008 by the Stockholm Environment Institute Tallinn Centre and the Ministry of the Environment of Estonia as authors have also asked several similar questions, however the questions and suggested multiple-choice answers were updated and modified in line with the latest developments in this area. The questionnaire consisted of 21 questions, which can be divided in 3 groups: yes/no questions, multiple-choice questions and statements ranked 1–5 according to the Likert scale (1 – strongly disagree, 4 – totally agree, 5 – do not know how to answer the question). In calculating the weighted-average of the replies, the answer “5 – do not know” was not taken into consideration.

Business area	% of companies
Construction	35
Electronics	7
Metal production	6
Recycling	6
Production of construction materials	3
Energy production and distribution	3
Transport	3
Furniture	3
Printing	3
Chemical production	2
Water supply	2
Plastic production	2
Transport, delivery, warehousing of oil products	1
Textile production	1
Other business area	23

Source: Authors'.

The present section summarized and presented the results, which in authors opinion are most important and worth attention.

In the table 3 there are listed the respondents' rankings of the benefits associated with the certification. It should be noted that the most important benefits turned out to be guarantee of compliance with laws and legislations, improvement of reputation and improvement of the management system (scores 3.34; 3.30 and 3.30 respectively), while saving money was the argument that gained least agreement (2.47).

## Methodology

**Table 2**

Core business of the selected companies

## Results

**Table 3**

Benefits associated with the successful certification and obtained certificate

Associated benefits	Ranking in accordance to the Likert scale 1–5					Weighted-average of the ranking 1–4
	1 – strongly disagree	2 – disagree	3 – agree	4 – strongly agree	5 – do not know	
Saving money (reduction of expenses)	11 (10%)	31 (27%)	26 (22%)	11 (10%)	36 (31%)	2.47
Improvement of reputation among stakeholders	1 (1%)	2 (2%)	71 (62%)	37 (32%)	4 (3%)	3.30
Improvement of the management system	2 (2%)	8 (7%)	54 (47%)	45 (39%)	6 (5%)	3.30
Staff motivation	7 (6%)	3 1 (27%)	42 (37%)	8 (7%)	27 (24%)	2.58
Competitive advantages	0 (0%)	11 (10%)	49 (43%)	37 (31%)	18 (16%)	3.27
Improvement of the supply chain management	3 (3%)	29 (25%)	32 (28%)	16 (14%)	35 (30%)	2.76
Guarantee of compliance with valid laws and legislations	2 (2%)	4 (4%)	57 (50%)	45 (39%)	7 (6%)	3.34

Source: Authors'.

It should also be noted that 31% of the respondents had difficulties to associate the benefits of the certification with the cost–reduction process and 30% – with the ones related to the improvements of the supply chain.

Table 4 represents the respondents' opinion on the reasons of obtaining the certificate.

Table 4 clearly indicates that the strongest reason for certifications were as follows: desire to guarantee compliance with laws and legislation (3.50), the demand from stakeholders (3.43) and improvement of the reputation of the company (3.41). The least popular reason turned out to be policy of the mother company (2.13) and desire to reduce certain expenses (2.76).

In regard to the future renewal of the certificate nearly all companies (114) unanimously stated that they would definitely proceed with the re–certification process. Only one company stated that it would not renew the certificate due to lack of interest from the company side.

The authors also asked the companies to indicate whether they are holding some other certificates and revealed that 87% of the respondents are ISO 9001 certified, 40 companies are holding OHSAS 18001 certificate and 3 are EMAS–registered. Several companies also claimed to hold ISO/TS16949, ISO 14065, ISO 17025, ISO 13485 certificates as well as FSC and/or PEFC – Forest (Stewardship Council; Programme for the Endorsement of Forest Certification schemes) certificates.

It should also be noted that 72% of respondents are planning to continuously develop the environmental management system.

Authors also asked companies whether they were preparing and publishing environmental report and 46% (53 responded companies) of the surveyed companies replied positively, it is also important that 46 companies of the ones preparing the report are staying in business for more than 10 years. In authors opinion that may be explained by the fact that environmental report is regarded by the companies as the valuable tool to ensure sustainable development in long–term perspective.

Reasons to obtain the certificate	Ranking in accordance to the Likert scale 1–5					Weighted-average of the ranking 1–4
	1 – strongly disagree	2 – disagree	3 – agree	4 – strongly agree	5 – do not know	
Policy of the mother-company	51 (44%)	5 (4%)	22 (19%)	21 (19%)	16 (14%)	2.13
Desire to reduce certain expenses	7 (6%)	31 (27%)	45 (39%)	18 (16%)	14 (12%)	2.76
Desire to improve reputation of the company	1 (1%)	3 (3%)	57 (49%)	51 (44%)	3 (3%)	3.41
Desire to improve safety and health conditions at work	2 (2%)	5 (4%)	46 (40%)	49 (43%)	13 (11%)	3.39
Desire to guarantee compliance with certain laws and legislations	2 (2%)	2 (2%)	43 (37%)	60 (52%)	8 (7%)	3,50
Desire to take under control and reduce the environmental impact of the company business activity	2 (2%)	13 (11%)	41 (36%)	51 (44%)	8 (7%)	3,32
Demand from the stakeholders (suppliers, clients, investors, employees, trade-unions etc.)	2 (2%)	15 (13%)	27 (24%)	66 (57%)	5 (4%)	3,43
Current trend in the world	8 (7%)	23 (20%)	40 (35%)	21 (18%)	23 (20%)	2,80

Source: Authors'.

The findings of the present research have various implications. First, they clearly demonstrate that Estonian companies are actively involved into the environmental management process; therefore, they initiated the ISO 14001 certification procedure and are willing to renew the certificate upon expiration. Secondly, Estonian stakeholders are aware of the environmental management initiatives and their opinions are valued by companies and inspire them to show better performance in the field of environmental sustainability. The companies are also caring about their reputation and compliance with environmental laws and legislation, and believe that ISO 14001 certification will assist in this matter. In general, it should be concluded that ISO 14001 certificate is quite popular in Estonia, regarded by companies as a valuable tool to increase transparency and among the stakeholders. Second, and the very important, they show that for companies there is no direct link between the ISO 14001 certification and reductions of certain costs and expenses. Therefore, there should be more workshops and training organized in order to explain how the sustainability helps to boost the effectiveness of the company by reducing various expenses and increasing profits.

Authors are aware of the limitations of the present survey: the sample of the selected companies is quite narrow; however, in future authors consider it useful and interesting to conduct the survey among non-certified companies to reveal their opinion, obstacles and benefits of non-holding the certificate.

**Table 4**

The evaluation of the reasons of certification

## Conclusions

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