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INTERNATIONALISATION OF FINNISH ENVIRONMENTAL TECHNOLOGY TO POLAND

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1 INTRODUCTION

1.1 The Finnish environmental technology sector

Finnish environmental know-how could be exported more efficiently. Finland is a world leader in environmental matters, technological innovations and competitiveness but the environmental exports are growing slower than the world markets (Finnish environmental know-how...2005). The environmental issues should be seen as an opportunity, not a burden, since environmental threats and challenges can be turned into successful products. Especially in the past few years, the environmental technology markets have been developing more rapidly than markets in general. Finland should utilise this positive trend and pay attention to more efficient internationalisation processes.

The value of the world environmental technology market is estimated to be more than EUR 550 billion. The EU's share of these markets is slightly over a third but the market is constantly under rapid developments. The growth is evidently based on innovations and high-technology, and the value of the environment industry is estimated to reach EUR 750 billion by 2010. The share of environmental technology of the Finnish GDP in 2003 was roughly 2.7 %. This is equal e.g. to the share of environmental technology of the GDP in the USA. (Noponen 2005).

Since the end of the 1990's, the turnover of environmental technology has increased in Finland by 15 % and the total turnover in 2003 amounted to around EUR 2.1 billion. The Finnish environmental technology sector is international as the share of exports is nearly 70 % and with activities of the Finnish firms abroad the turnover of environmental technology totals close to EUR 3.4 billion. With these foreign operations included, the Finnish environmental technology sector is nowadays similar in size to the manufacture of iron and steel in Finland. (Saarnilehto & Salminen 2005).

Altogether according to the results of the environmental statistics there are nearly 300 environmental technology firms active in Finland. Nonetheless, it has to be kept in mind that to categorise these companies is challenging and 25 % of the largest environmental companies form 80 % of the total turnover. The majority of the end-clients are other businesses and many have customers also in the public sector. (ibid). Finland has innovative environmental know-how but more efficient networking and stronger market-based export efforts are needed in order to strengthen the industry.

The largest market areas for the Finnish environmental technology are the USA, Japan and Western Europe. The share of Eastern Europe from Finnish environmental

exports is merely 14 % which might be somewhat surprising. The following figure illustrates the Finnish exports of environmental technology by regions.

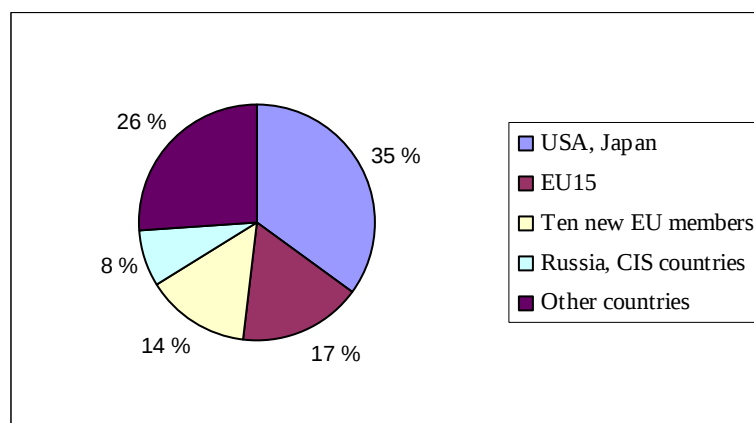


Figure 1 The Finnish exports of environmental technology by target markets in 2003 (adapted from Saarnilehto & Salminen 2005, 5)

Slightly over a half of the Finnish environmental technology exports are directed to the USA, Japan and EU15 member countries which are also the regions where the main competitors come from. The need for environmental investments is enormous in the Eastern Europe but the growth of these markets has been restricted by a lack of financing and undeveloped legislation (Keltanen & Salminen 1993). Nevertheless, when it comes to the future expectations of the environmental markets, business in the new EU countries is most clearly expected to grow. Of the Finnish environmental companies which participated in the Environmental Statistics survey, 95 % expects exports to grow to the new EU member countries and 93 % expects growth in setting up foreign subsidiaries in the region. (Saarnilehto & Salminen 2005).

Environmental protection might not be as high on the political agenda as it was in the early years of the transition but governments remain committed to improving environmental conditions. For those active in environmental protection in Central and Eastern Europe securing the necessary financing is one of the major issues. The countries generally have six sources of funds available, these being: 1) state, regional and municipal budgets; 2) extra-budgetary funds e.g. state environmental protection funds; 3) environmental investments of both state and privately owned commercial enterprises; 4) domestic and foreign commercial credit; 5) foreign environmental investments and 6) foreign assistance programs. (Kaźmierczyk 1997). Altogether, the role of the EU in financing and encouraging environmental investments in Central and Eastern Europe has been substantial.

As the growth expectations towards the new EU countries are high, it seems relevant to research what are the opportunities in these countries for the Finnish environmental

businesses. Demand for environmental technologies in five of the new EU member countries is summarised in the following table.

Table 1 Demand for environmental technologies in the Czech Republic, Hungary, Poland, Slovakia and Slovenia (adapted from Kaźmierczyk 1997, 23)

	<i>Czech Republic</i>	<i>Hungary</i>	<i>Poland</i>	<i>Slovakia</i>	<i>Slovenia</i>
<i>Air</i>	moderate	moderate	moderate	moderate	moderate
<i>Water and wastewater</i>	moderate	moderate	high	high	moderate
<i>Waste</i>	moderate	high	high	high	high
<i>Energy</i>	moderate	high	high	moderate	moderate
<i>Noise, vibration and OHS¹</i>	low	moderate	moderate	low	low

According to the above table, demand for environmental technologies is high most often in Poland where the demand has been estimated high in the water and wastewater, waste and energy sectors. This gives an indication that Poland might be a good target country for companies exporting environmental technologies. In addition, as the environmental sector has been mentioned by Lehtinen (2002) to offer business opportunities in Poland for Finnish companies specialised in environmental know-how, Poland was chosen a target country for this study.

1.2 Previous research on internationalisation of environmental technology

The internationalisation of technology intensive companies has been previously researched and environmental business in Finland has been examined as a potential sector. Environmental technology has received a lot of attention lately as it is believed that the sector possesses remarkable opportunities for growth. In addition, environmental technology is nowadays an attractive target for capital investments (Ympäristötekniikka täyttää jo...2003). *Exporting environment* -seminar organised in October 2005 by the Finnish Environment Institute (SYKE) and the Finnish National Fund for Research and Development (Sitra), brought together the experts on the field. The general opinion is that one of Finland's strengths is good communication and co-operation between authorities, businesses and various interest groups. Nevertheless, the Finnish model should be exported more efficiently and internationalisation of Finnish

¹ Occupational health and safety technologies.

environmental technology needs to be assisted. (Finnish environmental know-how...2005).

A short look is taken in Appendix 1 at the previous researches related to the topic of this thesis. Environmental technology is a theme of current interest and some of its specific features have been examined when exploring the internationalisation potential of the sector (see e.g. Keltanen & Salminen 1993; Salminen & Mettälä 1993; Säynevirta & Ylä-Anttila 1994). It is acknowledged that the international environmental market is growing rapidly but Finland needs a long-term programme in order to build a strong competitive environmental sector. Maximum utilisation of existing resources, increasing exports and developing networks are needed in order to enable international growth of small Finnish companies.

In addition to discovering what the Finnish environmental companies need to do if wanting to engage in international activities, the previous researches mainly point out the strengths and weaknesses of the environmental sector (Silvennoinen, Apilo & Vaara 2002). Recommendations have been made and earlier observations instruct what should be the priorities when exporting environmental know-how. Haverila (1995) has examined the role of marketing when launching new high-technology products into the international markets. Nevertheless, there seems to be a need for further exploring real life cases so that the implementation of given recommendations could be followed and learned from.

The environmental technology market of Poland has been examined along with other Central and Eastern European countries (Kaźmierczyk 1997) and Poland as a market area for Finnish businesses has in some cases been examined (see e.g. Kalmi 2002; Lehtinen 2002). Nevertheless, so far there has not come up any studies connecting Finnish environmental technology exclusively to Poland. Therefore, it seems reasonable to concentrate on this market area and try to find out what are the internationalisation opportunities in Poland for Finnish environmental technology.

1.3 The objective of the study

Previous research recommends that the key factors for successful sale in Poland for environmental technology firms are: in-country representative office and dependable technical service (Kaźmierczyk 1997). This suggests that presence in the country is of utmost importance and market entry strategies should take this observation into account. Given these results and the fact that different market entry modes have been widely researched, the aim of this study is not to study what are the most successful entry modes in internationalisation to the Polish environmental technology market. On the contrary, the aim of this research is to take a closer look at what really is needed in

order to access the local clients. When it comes to environmental projects the public sector is often an important end customer (Keltanen & Salminen 1993; Kaźmierczyk 1997). This brings forward public procurement and therefore the public sector is a possible target group for the Finnish environmental technology.

The main objective of this study is to examine *the internationalisation of Finnish environmental technology to Poland*. The study aims to answer to the following sub questions:

- § How to market environmental technology?
- § How to enter environmental public projects in Poland?

A discussion with the executive director of the Environmental Programme of the Finnish National Fund for Research and Development (Sitra) was helpful for the background study of the research topic. Sitra launched an Environment Programme in 2005 and the aim of the programme is to develop environmental technology know-how into a significant growth area in internationalisation. The goal for environmental technology companies is to increase the exports of environmental technology by exploiting the growth potential in international markets and Finland's leading position in environmental protection. The conversation which was carried out in Sitra headquarters in Helsinki assured that to explore the international environmental market is of current interest and Poland as a specific case is a relevant choice.

1.4 Defining environmental technology

"The market for environmental technology is created by the need for environmental protection."

– Keltanen & Salminen 1993, 4

To define environmental technology is not an easy task as the branch of industry does not have a single combining factor. Activities which restore, maintain, or improve the condition of the environment form environmental protection and help to define environmental technologies. *Environmental technology seeks to offer products and services to decrease the burden on the environment*. Traditionally environmental technologies are divided into four sectors: 1) protection of air, 2) protection of water, 3) protection of soil and 4) waste management. Nevertheless, also noise prevention, oil spill control, radiation safety as well as health and safety issues at work can be included in environmental technology. (Keltanen & Salminen 1993).

One way to describe the diversity of environmental technology market is to combine the different sectors contributing to the market structure. Depending on which element of the environment is being protected, who is the customer and which kind of technology is used, there are several market areas which together form the environmental markets. The following figure illustrates the diverseness of the environmental market.

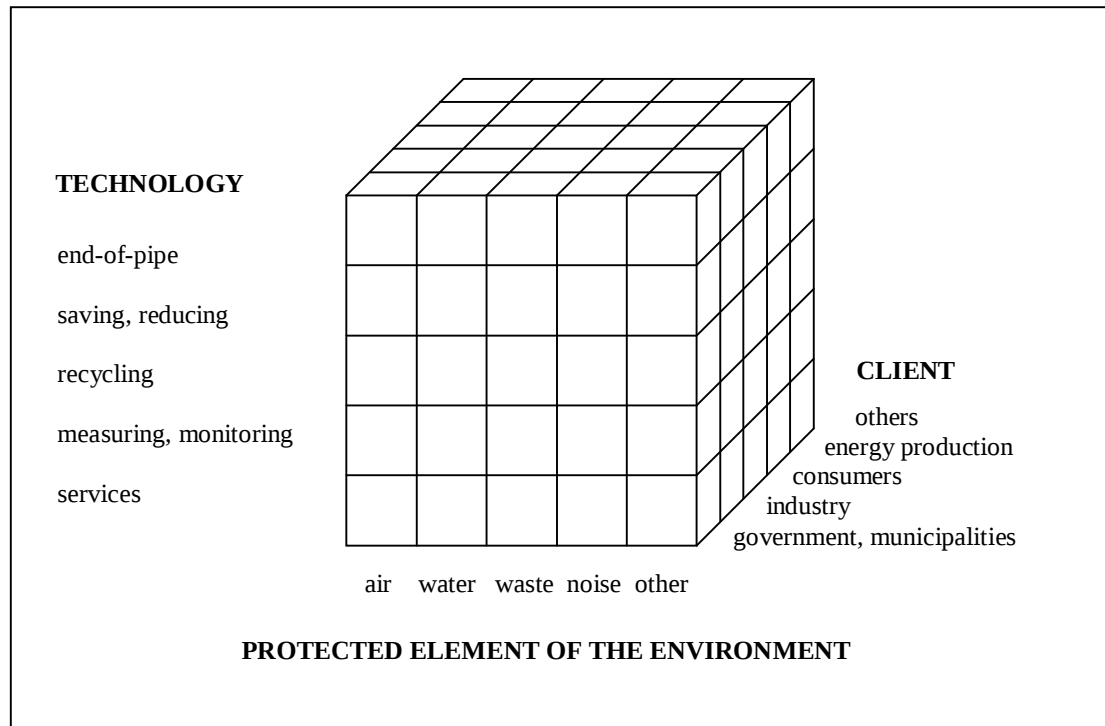


Figure 2 Structure of the environmental market (adapted from Salminen & Mettälä 1993, 3)

The environmental market consists of various product and service groups where environmental technology can be understood in many ways. End-of-pipe technology aims to reduce the environmental hazards directly whereas on the other end of the spectrum environmental technology can concentrate on preventing the burden on the environment by developing recycling and monitoring services. Because the various sectors of the environment constantly interact, an overall approach to the environment helps to comprehend the technologies needed (Keltanen & Salminen 1993).

The driving forces behind environmental technology investments are regulation, climate change and energy costs (Finnish environmental know-how...2005). In addition, the enlargement of the EU and the gradual opening of global markets contribute to the positive growth rate of the environmental technology markets (Noponen 2005). The market for environmental technology is typically formed through following four stages:

1. Rise of environmental problems
2. Acknowledgement of environmental issues
3. Development of legislation, control and sanctions
4. Establishment of financial support for needed investments

In addition, the demand for environmental technologies is influenced by general attitudes and overall economic conditions. (Salminen & Mettälä 1993).

Despite the fact that environmental markets are evidently growing and expectations are high, succeeding in the field is not easy. Political and economic factors have a strong influence on the environmental technology sector and these unforeseeable changes make predicting the demand more difficult. Success in environmental business requires constant defining of the market, understanding of the changing needs of the customers and developing of own strengths in order to remain competitive. (ibid).

2 POLAND AS A TARGET MARKET FOR FINNISH ENVIRONMENTAL BUSINESS

2.1 Business environment

Typical arguments which recommend Poland as a target market worthy of consideration are the Central European location and the large market potential offered by the population of nearly 40 million people. For Finnish businesses the Baltic dimension may also be an attractive feature and naturally the EU membership of the country has encouraged investments to Poland. The business environment of Poland is fairly well developed and stable and the so far Finnish experiences from operating in the country provide practical advice for future internationalisation projects to Poland.

When it comes to internationalisation the importance of proper planning and carefulness in making strategic decisions can not be excessively emphasised. A failed internationalisation step might take up to 3–5 years to reverse and thus the business concept should always be based on own core strengths and it is of utmost importance to consider critical success factors of the market in advance as carefully as possible. (Lehtinen 2002). The business environment of Poland is further considered particularly from a Finnish perspective in order to better understand the circumstances in the country.

The business environment where a company is operating is never fully stable. Changes can occur on many levels creating challenges to the management on a daily basis. In the European business environment, changes take place at three levels: 1) the national level, 2) the European level and 3) the international level. At the national level actions of the policy makers are increasingly constrained by the European integration and the internationalisation of the markets. Integration is as well a major contributor to the changes at the European level as the previously fragmented markets have been integrated into a single unit. At the international level challenge arises from the freer global trade which stimulates greater international interdependence. (Johnson & Turner 2000).

According to Nicolau (2005), the analysis of the business environment is a critical element in companies' decision-making process, as success will come only if the threats and opportunities in the environment are matched with appropriate strategies. The external factors of the business environment can be divided into two groups. The *immediate* or *operational environment* includes factors which tend to have a more direct effect on the day-to-day operations of a firm. For most companies this means suppliers, competitors, labour markets, financial institutions and customers. However, it may also

include trading organisations, trade unions and possibly parent companies. The second group in contrast comprises the macro environmental factors and is called *general* or *contextual environment*. Political, economic, socio-cultural, technological, legal and ethical influences fit into this group and affect a wide variety of businesses. These influences can originate not only from local and national sources but also from international and supranational developments. (Worthington & Britton 2003).

The Central Chamber of Commerce of Finland has conducted surveys to determine the perspective of Finnish companies towards the enlargement of the European Union. In 2001 and 2002 the readiness of the Estonian, Latvian, Lithuanian and Polish markets for the EU membership was assessed. The latest survey published in June 2005 reported how the markets of these countries have developed during the first year of the EU membership. The survey represents the viewpoints of top Finnish business executives from companies active in the Baltic and Polish markets. In overall business environment assessment, on a scale from 4 to 10, Poland received 6.9. Every country received a better score than in the surveys conducted in 2001 and 2002 but Poland got the lowest mark among the four countries rated as Estonia received 7.6 and both Latvia and Lithuania 7.0 for the functionality of the overall business environment. Nevertheless, the significance of the Polish market was estimated to increase the most over the following five years and this seems to advocate the fact that Poland can be regarded an attractive target market for the Finnish businesses. (Suomalaisyritysten näkemyksiä... 2005).

In Poland the top three factors which have had a positive influence on the development of business according to the respondents of the Chamber of Commerce survey were: 1) joining the EU, 2) actions of authorities to reduce the bureaucracy and 3) improvement in commercial and corporate culture. As many as one fourth viewed the EU membership as the most significant step forward for the Polish market. As for the main problems detected to affect foreign companies' activities in Poland, most problems are still found in connection with the trade practices and corporate culture in spite of remarkable improvements. The price level, financing issues and bureaucracy were the other most commonly named problems hindering the activities in Polish commerce. (ibid).

Corruption is an extremely difficult area in which to gain reliable information but it can not be denied that corruption has been a problematic issue in Poland. The legacy of communism is a burden as communist systems used corruption for consolidating power and built economic systems which relied heavily on corruption (Monitoring the EU accession... 2002). In addition to the burden of history, vulnerability to corruption has been great during the transition period as structural changes create abundant opportunities for corruption. The extent to which corruption can be minimised is related to efficiency, transparency and accountability of the organisations of the state and

evidently successful transition also requires successful human transformation. (Corruption in Poland... 1999).

Poland has succeeded in transformation into a working market economy and the achievements have enabled that as of 1 May 2004 Poland has been a full member of the European Union. Corruption was one of the European Union's major concerns in candidate countries and pressure was put on the applicants to realise how serious obstacle corruption can be. (Monitoring the EU accession... 2002). Poland is nowadays a full member of the European Union but it does not mean that the problem of corruption has been entirely overcome. Corruption has become a significant political issue and it is no longer easy to deny the importance of fighting it.

Transparency International is a non-governmental organisation established in 1993 and devoted to combating corruption. The organisation is known for the annually published Global Corruption Report which includes the Corruption Perceptions Index and the Bribe Payers Index. In order to get an indication on how big a problem corruption is seen in Poland the Corruption Perceptions Index (CPI) can be considered as it measures the degree to which corruption is perceived to exist among a country's public officials and politicians. The CPI focuses on corruption in the public sector and countries are ranked on a range from 10 (clean) to 0 (highly corrupted). A score of 5.0 is the level which is considered to form the borderline distinguishing countries that do and do not have serious corruption problems. (Corruption surveys and indices). The following table brings together Poland's rankings from the past few years.

Table 2 Poland's Corruption Perceptions Index 2001–2005 (Corruption surveys and indices)

	2001	2002	2003	2004	2005
CPI	4.1	4.0	3.6	3.5	3.4
Ranking²	44. (91)	45. (102)	64. (133)	67. (146)	70. (159)

When exploring the CPI as an evidence of corruption, it has to be kept in mind that the index brings forward the perceptions and not necessarily the ultimate truth of current corruption. One should remain critical when assessing the index as inaccuracies may occur and the results are not fully comparable over time. What explains the major fall of Poland in overall ranking is simply that every year more countries have been included in the report. Nevertheless, even if the index is only trend-setting, the tendency is not very encouraging as the actual CPI index figure has been weakening continuously and

² Number in bracket tells how many countries have been ranked that year.

Poland has clearly the lowest Corruption Perception Index out of all the current EU members.

The full Corruption Perceptions Index 2005 ranking enables international comparison of corruption and can be seen in Appendix 2. The EU member countries are highlighted in order to easily review the conditions within the Union. At present there are six member countries which have an index lower than 5.0 and thus it can be presumed that in these countries corruption remains a serious problem. The EU countries under the borderline distinguishing the most severely corrupted nations are: Lithuania, the Czech Republic, Greece, Slovakia, Latvia and Poland. Altogether, most of the European countries and the other highly industrialised countries are usually considered the least corrupted whereas the poor developing countries have been unsurprisingly discovered the most corrupted. However, the low CPI of Poland is prominent and the latest ranking brings forward that the EU membership has not improved Poland's reputation as one of the most corrupted countries in Europe. It remains to be seen what will be the tendency in the following years but at present corruption remains an issue which unquestionably influences the business environment of Poland.

2.2 The Polish environmental sector

The key regulatory and enforcement authorities responsible for environmental protection in Poland are the Ministry of Environment, other ministries with environment related duties, regional environmental offices in provinces and the municipal authorities. Most of the environmental permitting is administered at the regional level in provinces whereas physical planning and construction permits are issued at the local level in the municipalities. The demand for environmental technologies has been identified high in many sectors but the geographic distribution of the major environmental problems in Poland is uneven. Major end-users of environmental technology are municipalities and industrial plants. (Kaźmierczyk 1997).

Environmental expenditures in Poland have increased from 0.5 % of the GDP in 1985 to 1.1 % in 1995. Worth noticing is the fact that the increase in environmental expenditures was recorded at a time of drastic reduction in the rate of investment in other branches of the economy. (ibid). However, total municipal environmental investments in Poland have decreased after the 1990's when much of the most essential infrastructure was constructed. In 1996 municipal environmental expenditures accounted for 57 % of the total local investments compared to 19 % in 2001. (Improving management of public environmental... 2003). Nevertheless, as nearly 20 % of local investments are still environmental, there are many opportunities for

environmental technology companies in Poland. Even though much of the most crucial investments in public sector have already been made, the facilities must be continuously maintained and periodically modernised. In Appendix 3 can be seen some examples of the environmental effects of local investments.

As a comprehensive reform of Poland's environmental facilities has been taking place, the EU and internationally financed projects have had a crucial role. Around half of the annual EU grants from structural funds have been used to environmental protection whereas the rest has been spent on transportation projects. Nevertheless, even though projects may be internationally financed, the final contracts are awarded locally and therefore it is advisable to build up local partnerships in order to acquire a closer understanding of the local needs and consequently succeed in tendering. (Lehtinen 2002).

According to a survey by the regional environmental centre for Central and Eastern Europe, the key strengths of foreign environmental technology products are high product quality along with reliability and durability of the product. However, value for money is rarely indicated as strength of foreign technologies compared with domestic products and high price has been discovered the most significant barrier to purchasing foreign environmental technologies in Poland. As a result of high prices, only the most critical components might be purchased from a foreign supplier. Other clearly identified barriers to buying environmental technologies from abroad are lack of information on foreign suppliers and difficulties in access to authorised technical services for foreign-manufactured products. In addition to strengths and weaknesses of foreign environmental technologies, the survey on the environmental technology market in Poland reveals that purchasing decisions are made on a case-by-case basis applying best-technology and best-practice approaches. Furthermore, the majority prefers to buy foreign technologies from local representative office rather than directly from the manufacturer abroad. (Kaźmierczyk 1997).

Based on the survey on the environmental technology market in Poland, the following should be considered by exporting firms looking to improve their local market share. Firstly, increased local presence should be of importance to the company exporting environmental technology as this is vital in order to better explore the market, take advantage of existing project opportunities and offer reliable technical services. The most cost-effective method to enter the local market is recommended to be a strategic partnership with a local company as this provides assistance in following the basic procedures of the procurement processes and overcoming possible cultural (e.g. language) barriers. As high price is the main obstacle to purchasing foreign environmental technologies, preparing an attractive and competitive financing package can increase the overall competitiveness of an offer. Possible options include low-interest credit lines or partial refinancing of foreign deliveries and home country

government assistance as well as export promotion programs are of significance. In addition to increased local presence and competitive financing package, end-user identification and focusing on particular growth sectors where environmental technologies are most needed should be priorities for potential exporters.

For Finnish businesses it has been advised to try to concentrate on specific niche markets as the small companies rarely are able to compete with large multinationals. Relatively small R&D investments compared to those made in global competition, flexible small scale production and direct marketing are the basic competitive elements. Furthermore, when operating in a niche area the entry barriers are in most cases too high for companies competing with cheap labour and low-production costs as the level of technology needed for the product and process development is too high. (Luostarinen 1994). Environmental sector has been seen as a niche market in Poland where Finnish environmental technology companies might be successful and according to Lehtinen (2002): *"Poland will have a large and long lasting market for its environmental requirements"*.

2.3 Finnish companies in Poland

Most Finnish companies have market-seeking reasons as the motive for internationalisation to Poland and resource-seeking Finnish FDI to Poland is rather rare. The interest towards Poland as a possible market area rose soon after the transition to a market economy started at the beginning of the 1990's although some Finnish firms started export or sales operations in Poland already during the 1970's or 1980's. Early entrants were mainly relatively large Finnish companies but smaller firms have later followed and expectations are rather positive when it comes to future operations. (Kalmi 2002).

Poland remains a relatively insignificant foreign trade partner for Finland and vice versa. The share of Poland of the Finnish exports in 2005 was 2.0 % whereas Polish imports counted for 1.3 %. However, of the new EU members Poland is the second most important trading partner after Estonia, accounting for about 20 % of Finland's trade with the ten new EU members³. (Kaitila, Lindström & Balcerowicz 2005). Finland

³ Members of the EU25 and the accession years

1951 – Belgium, France, Germany, Italy, Luxembourg, Netherlands

1973 – Denmark, Ireland, United Kingdom

1981 – Greece

1986 – Portugal, Spain

1995 – Austria, Finland, Sweden

2004 – Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia

has a long tradition of buying coal from Poland whereas Poland has bought mainly wood, pulp and paper products from Finland, as well as machinery. In Appendix 4 can be found more information on the trade flows between Finland and the new EU members whereas the following figure illustrates exclusively the export and import flows between Finland and Poland during recent years.

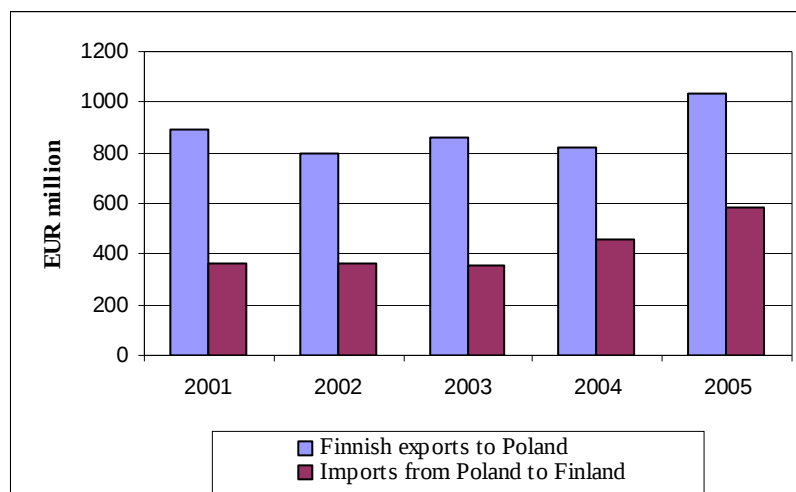


Figure 3 Trade between Finland and Poland in 2001–2005 (Tullihallitus)

Finland's trade balance with Poland has continuously showed a surplus during the 21st century. In 2005 the value of exports was EUR 1032 million and the value of Polish imports EUR 587 million. Poland is the largest new EU member and geographically not very far but it has been suspected that the possibilities of the Polish market have not been fully utilised by Finnish companies. However, the value of exports has grown steadily and if compared to the beginning of the 1990's when the trade balance with Poland was in deficit, the value of Finnish exports to Poland has been multiplied. As can be seen from the previous figure Finnish exports to Poland have remained rather steady but in 2005 the exports increased by 26 %. The imports from Poland have during the same period increased by 27 %.

According to the Bank of Finland the value of the Finnish foreign direct investment (FDI) to Poland was EUR 437 million by the end of year 2004. This is 0.7 % of all Finnish FDI abroad. Finland was on the 18th place in 2004 when it comes to all FDI to Poland whereas most of the investments to Poland have clearly been made from France, the Netherlands, the USA and Germany. In absolute terms Poland has been very successful in attracting direct investments from various countries but if examined in proportion to the population or the GDP, more investments have been made to the Czech Republic and Hungary. (Kaitila et al. 2005).

In total there are over 200 Finnish investors in Poland and in addition more than 300 Finnish companies are actively exporting to Poland (Kuismin 2004). Many of the large

Finnish companies are already active on the Polish market but several SMEs have hesitated in enlarging their activities to Poland. Fears of bureaucracy and corruption have been major concerns and possibly perceptions of unstable business environment have previously held back Finnish investments to Poland. However, Finnish firms operating in Poland represent many different industries and although some have withdrawn many have found their place in the market.

Surprisingly few Finnish companies from the environmental sector have expanded operations to Poland as there seems to be less than twenty active Finnish companies currently in Poland on the environmental sector. However, there is an emerging environmental cluster in Finland according to a study focusing on the present structure of the Finnish environmental cluster and improvement of its functioning particularly from the business perspective (Silvennoinen et al. 2002). The cluster is defined in the study in accord with Porter as an operationally well-organised branch which has been formed inside a nation and which succeeds in international competition. Networking takes place between the Finnish environmental cluster and the neighbouring areas but not so much within the environmental sector itself and there might be room for improvements if wanting to more efficiently benefit from the prevailing circumstances.

The majority of the respondents, in the Central Chamber of Commerce of Finland survey on the Finnish business perspective of the Baltic and Polish markets, are attempting to benefit from the growing significance of the Polish and the Baltic markets by increasing exports to these countries. More than 70 % name increasing exports as the corporate strategy to react to the growth of the market significance. In the Polish market according to the conducted survey, Finnish companies are also forming alliances with local companies (20 %), increasing subcontracting (18 %) and establishing subsidiaries (11 %).

It seems like many Finnish companies have been experimenting in the neighbouring countries before moving to Poland. However, Poland as a market area is fairly different compared to the small Baltic States. The Polish market is very competitive and Kalmi (2002) suspects that the best future exists for firms that are able to find specific niche markets. To enter the Polish market might be risky but the promise of higher returns encourages Finnish companies to consider Poland as a possible target market.

3 RESEARCH DESIGN

3.1 The research methodology

There are several ways to approach a research and a particular research orientation prescribes the relationship between methods, data, theories and values of the researcher. This study is carried out as a qualitative exploratory research and in the following chapters the methodological choices are further clarified. Qualitative exploratory research approach has been chosen because the aim is to learn what is specific in internationalisation of environmental technology to Poland and an intensive case study gives an opportunity to understand holistic characteristics of real-life events such as organisational and managerial processes or international relations (Yin 2003). Quantitative research approach was not an option as there would have been several difficulties in acquiring enough data as there are not that many experienced Finnish environmental technology companies in Poland that could have been included in the study.

Case study was found the most appropriate research method as in business studies the method is particularly useful when the concepts and variables are difficult to quantify (Ghauri & Grønhaug 2002). Single cases are not as strong a base for generalising as other research designs but people can learn much that is general from single cases (Stake 1995). The aim in this research is not to make wide generalisations but intensive concentration on the experiences of a single case company can teach a lot about the themes of the study. The case company has been selected carefully, as described in the following chapter, in order to derive as much benefit as possible from the collected data.

3.2 Case selection

The first criterion in the case selection should be to maximise what we can learn (ibid). As in this study the main interest is to examine the internationalisation of Finnish environmental technology to Poland, the obvious criterion in selecting the case was that the company has experience in operating in the country. A list of companies active in Poland on the environmental sector was received from the Finpro's office in Poland. It is recognised here that the list is most likely not a comprehensive sample of all the Finnish environmental technology companies with operations in Poland. Nevertheless, this information was the best available and serves as a base in the case selection.

As previous research shows that there is a lot of environmental know-how in Finland in the water and wastewater sector and that this sector is high in financial value when it comes to foreign operations (Saarnilehto & Salminen 2005; Keltanen & Salminen 1993) it was decided to concentrate on a company specialising in this type of technology. The choice of water and wastewater sector is further justified by the fact that demand in Poland in this sector has been estimated high⁴ (Kaźmierczyk 1997). In addition, the sector evidently belongs to environmental technology as opposed to some other fields which are not so clearly defined. To concentrate on a specific knowledge area where some success has already been achieved is justified as the aim of the study is to learn through a case how to proceed in international environmental projects. In order to maximise what we can learn it is presumed here that experienced companies are the best examples.

Often a case is chosen simply because it allows access. In this study contacts were not made on a random basis as it was thought thoroughly beforehand which parameters of the population we are interested in and sample case has been chosen on this basis. Consequently, purposive sampling was used which allows to choose a case because it illustrates a feature or process in which we are interested in. (Silverman 2000). The issues that guided the sampling of the case companies in this research were that the case company must have experience in operating in Poland and the business should specialise in the water and waste water sector in order to most likely find experienced environmental technology companies.

Based on the received Finpro list there are 20 Finnish environmental companies which have actions in the Polish market. After receiving the names of the companies, more information was gathered from the Internet. The field of expertise, location, year of commencing the foreign activities and contact details were gathered to excel sheet in order to see which companies might be good candidates for the research. Background data of the companies was not easy to find in every case but quite good understanding was built up and the information was used when selecting the companies which were to be contacted. Of the 20 companies, five were contacted via email or telephone in hope of finding a case company for the study.

Three answers were received within few days of contacting the chosen companies and all of these responses were positive. Two companies never replied although it was asked that in case of not being interested in the study this would be informed. However three positive answers out of five can be considered a relatively good starting point and the case company for the research was chosen from these alternatives. Since one of the companies does not have functions in Finland anymore and another was just starting

⁴ Demand for environmental technology in water and wastewater sector in Poland is described in detail in Appendix 5.

market research and did not yet have actual experience from Poland, it was easy to decide to concentrate on the firm which evidently had experience in internationalising Finnish environmental know-how to Poland.

3.3 Data collection and analysis

In this study the data was firstly collected through in-person interviews as this approach provides an opportunity for respondents and researchers to make sure that understanding of the problem is achieved. The executive director of the case company was approached by email and later on phone it was confirmed that interviews could be carried out within the company. It was agreed that the export manager and marketing manager were the most compatible in Finland to comment questions concerning the topic of the study as focus was on internationalisation and more specifically on marketing and entering environmental projects in Poland. The selection is further justified by the fact that the interviewees are evidently experienced. The export manager has worked in environmental business since the beginning of the 1980's and has experience from several environmental technology companies. From project exporting the interviewee has long experience and since 1997 he has worked as the export manager of the case company. The second interviewee, the marketing manager, has also long history from the environmental sector. Since 1982 he has worked in few different environmental technology companies and is nowadays responsible for the case company's marketing and certain export areas.

During the research theme interviews were used. As a back up some semi-structured questions were prepared in order to effectively carry out the interviews. Moreover, the background interview with the executive director of Sitra's Environmental Programme was conducted as a separate open interview. The frame of the interview was based upon the sub questions of the study so that one group of questions concentrated on the marketing approach and second part more specifically on entering environmental projects. The interviews were carefully formulated in order to collect the most relevant data and the frame of the interview can be found in Appendix 6.

The frame of the interview was sent to the interviewees before the appointments in order for them to become acquainted with the themes of the research. The interviews were tape-recorded with the consent of the participants as this allows returning to the data in its original form as often as needed. Both management level interviews were conducted in Finnish although the research is completed in English. The choice of language was natural as Finnish was the mother tongue of both interviewees and the researcher and thus use of English could have made the interview situation

uncomfortable for the participants. The analysis of the data and translations made are fully on the researcher's responsibility.

The case company's export office is located in Helsinki whereas all the other functions within Finland are found in Ilmajoki. In order to gather as high quality data as possible the interviews were carefully planned and as long as the locations were within Finland, it was decided that in-person meetings were to be arranged rather than contact merely via telephone. The first interview with the export manager in Helsinki lasted for an hour and a half and was conducted in the case company's export office. The second interview with the marketing manager was carried out five days later in Ilmajoki in the interviewee's office and lasted for an hour. It was noticed during the second discussion that some answers were overlapping with the first interview and it seemed like further interviews with the personnel in Finland would not be relevant to the research as the aim was to specifically concentrate on the Polish market and the persons with this knowledge had already participated in the study. In order to better understand the specifics of the target market in question, it was agreed that the representative of the case company in Poland might be the one whose comments could be useful for final clarifications.

Due to lack of resources, in-person meeting could not be arranged but as the Polish representative was very cooperative it was decided that questionnaire by email would be sufficient for the concluding remarks. The representative was given two weeks time to answer to the semi-structured questionnaire which was based on the same interview frame that had been used in the in-person interviews. However, there were some differences because the already conducted interviews guided to emphasise the questions which most needed a local Polish point of view. It is acknowledged that email may not be the most sufficient method for data collection but in this case it proved a successful supplementary source.

With qualitative methods the analysis is often difficult because to some extent the data collection and analysis are done simultaneously. In this research it was logical to utilise organisation by themes as the preliminary themes were outlined in the frame of the interview and in the analysis it is of great importance to see how these themes emerge from the data. The data which had been tape-recorded was carefully transcribed immediately after the interviews took place. The good quality of the tapes made the transcription rather easy and field notes further structured the data organising. Due to technical difficulties short period of the first interview was not recorded but as this was quickly discovered no essential data was lost. The information received from the Polish representative was in written form to begin with as it was received via email. Well organised preparations enabled the data analysis to proceed smoothly. The data from three sources (export manager, marketing manager and the Polish representative) was combined and organised to correspond the themes of the study. Furthermore, in the

conclusions secondary data is used since Poland as a target market for Finnish environmental technology was considered at the beginning based on former researches and current statistical information.

3.4 Evaluation of the study

There are several ways to evaluate a qualitative study and the evaluation of this study is based on the criteria defined by Lincoln and Guba (1985) because the conventional terms: internal validity, external validity, reliability and objectivity are replaced with terms that will guide the trustworthiness examination of qualitative studies. The terms used by Lincoln and Guba are: credibility, transferability, dependability and confirmability.

Multiple techniques can be used for examining the *credibility* of the study. The credibility of this research was increased by acquainting oneself carefully to the theoretical background and previous researches before proceeding to the empirical data collection. Other means taken during the research process which should enhance to credibility are that the interviews were recorded with the consent of the interviewees and the participants were given an opportunity to review the research findings. These measures should certify that the data is correctly understood and that no misinterpretations are made. The in-person interviews were conducted in Finnish since this was the mother tongue of the participants. However, with the Polish representative English was used and thus the interviewee could not use her mother tongue and possibly could not express her opinions to the fullest. Nonetheless, the participants were motivated and invested time to the research. Some limitations must be admitted as the inexperience in conducting exploratory case studies might decrease the credibility of the study. However, careful preparation should prove that full commitment was made to the research. The researcher takes full responsibility of the translations made during the data analysis but the report has been carefully checked in order to avoid interpretation errors. Triangulation refers to the combination of methodologies in the research of the same phenomenon (Ghauri & Grønhaug 2002). Triangulation takes four different modes: sources, methods, investigators and theories. In this study most triangulation took place when using multiple data sources. The case concentrated on one company but empirical data was collected both from Finnish and Polish sources. To some extent also triangulation of methods took place because in addition to in-person interviews and questionnaire by email, secondary data was used when becoming acquainted with the topic of the thesis.

The purpose of *transferability* is to provide proper description of the methodological choices and case selection in order to enable possible transfer. In this study the

transferability was improved with the research design chapter. Special attention was paid to describing the case selection in detail and during the selection process the choices were based on the set research problem. Research findings were compared with prior knowledge so that the conclusions could be linked with previous researches when beneficial. Due to the peculiarities of environmental technology as a business sector and the fact that the research specifically examined internationalisation to Poland, the empirical findings can not be generalised to other business areas or other target markets. However, hopefully within the environmental sector the case can be an example of how to market environmental technology and how to enter environmental public projects specifically in Poland.

Dependability of the study can be decreased by describing the circumstances which prevailed during the research as accurately as possible. There can not be credibility without dependability. It should be possible to repeat the study because all the processes have been openly defined. The data collection process, the decisions made and the circumstances during the interviews have been thoroughly described and explained. Leading questions were avoided during the data collection but inexperience might have led to some leading questions although when planning the frame of the interview such questions were avoided. However, it was discovered that during an in-person interview it is tempting to make confirming remarks and therefore it was very important to stick to the interview frame. With the questionnaire sent to the Polish representative no such problems were discovered since the questions could not be changed once delivered. However, a different challenge arose as in this case it was extremely important that the questions were relevant and clearly formulated in order to avoid misunderstandings.

Technique for establishing *confirmability* is the confirmability audit. Raw data, data reduction, data reconstruction and process notes create the audit trail which helps to repeat the analysis. In this study particularly the data collection and analysis chapter aims to increase the confirmability. Furthermore, the case company was willing to participate in the study publicly and therefore it can be certified that the research is based on genuine foundation. Although most of the citations are translations from Finnish to English, they should enhance the confirmability as it can be seen on what the conclusions are based on. A major limitation of the study is that the results were not commented by all participants. In addition, weak performance in finding major deviances and competing theories during the conclusions phase might weaken the confirmability of the research.

4 RESEARCH FINDINGS

4.1 Description of the case company

The case company, Pomiltek International Ltd., is a professional in water purification technologies and develops water treatment equipment for the purification of raw, industrial and waste water. The company was established in 1985 and its methods are employed in over 20 countries in municipal water purification facilities as well as in various process industries. Headquarters is situated in Ilmajoki, Finland and the yearly turnover is around EUR 7.5 million. There are representatives in several countries⁵ abroad as half of production is exported.

Operations in Poland set about at the beginning of the 1990's when cooperation with the first representative started. Contracts were sought after and first project in Poland was the waste water treatment plant in Czarnków which took nearly two years to construct. After good start the business in Poland did not accelerate and other projects were not acquired mainly as a consequence of strategic Polish personnel leaving the representation. New representative was found around mid 1990's and through them treatment plants were offered in Southern Poland. Four projects were implemented before an end was put to the second representation agreement. The representative was embezzling money from the projects and after the financial losses were discovered, there was once again a need for new representative. After these major difficulties Pomiltek returned to the first representative. However, the new start was not successful but one of the local employees decided to establish a separate company, Eko-Service and since the beginning of 2000 Eko-Service has been the representative of the case company in Poland. The current representative is exclusively representing Pomiltek and cooperation has been successful.

The strategy of acquiring customers has changed in Poland compared to the first years of operations. Implementing complete treatment plants is no longer the main aim as nowadays partial projects and specific parts are offered into the market through local design offices. The change in strategy has been a consequence of the fast development of the Polish contractors, design engineers and industry in general. Therefore, a local partner is today of utmost importance if one wants to enter the Polish environmental technology market. At present there are continuously deliveries to Poland and the

⁵ Representation in the following markets: Belgium, Burkina Faso, China, Egypt, Estonia, Ghana, Italy, Korea, Lithuania, Morocco, Poland, Romania, Russia, Saudi Arabia, Senegal, Taiwan, Tanzania.

Austria, Germany and Switzerland are covered by the same representative.

number of local customers is considerable. However, the production has remained exclusively in Finland. At current there are no plans to commence manufacturing abroad and in international operations the role of the foreign representatives is remarkable.

4.2 Marketing environmental technology

All in all, during the interviews it became evident that entering the Polish market is considered very difficult because competition in the environmental sector is fierce. Finding a trustworthy local representative is a critical step in commencing operations in Poland since operating in the Polish market without a local partner is seen somewhat impossible. The case company has in practice experienced the difficulties that arise when local representative is not respecting the cooperation agreement. Acquiring new customers and maintaining relationships with the satisfied clients is mainly the responsibility of the local representative and thus it is of utmost importance that the representative is fully committed to the company and its products.

"Biggest mistake is to cooperate with a representative who works for several different companies. Furthermore, not that many persons are necessarily needed for effective results as the processes might in this connection prove excessively bureaucratic. At most the representative could have one supporting product in repertoire but at the moment our representative is working exclusively for us and we have been very satisfied with the results."

The representation of the case company in Poland consists of one person who is responsible for sales and marketing and another who is taking care of technical support and maintenance. Financial measures are one way to commit the representative and working on commission has proved practical. The representative is paid a commission after a product is sold and money is received from the customer. More sales simply stand for higher revenues and this commits the representative to close the deals and be continuously active in acquiring new clients.

The marketing of environmental technology is completely different when targeting the public sector as differences between public and private customers are remarkable. The case company has customers from both sectors as communal projects are a significant segment but also private industrial plants are often targeted because in the industrial sector the demand is fairly high. The technology offered by the company targets particularly the small and medium sized industrial plants.

When marketing environmental technology to the private sector it is most important to convince the customer that the sold technology will bring measurable financial benefits.

"The logic of private businessmen is very simple: profitable investment is good investment. In this sector no one is thinking about environmental protection."

In marketing environmental technology to the private sector, the challenge arises from the fact that the marketer must convince the buyer to invest in something that he does not necessarily find relevant. In public sector the regulations, bidding processes and official procedures are more specific and this influences the marketing measures taken. Municipalities are a large customer segment but communal projects are not accessed directly. The main strategy is not to offer turn key projects but rather to sell essential parts to the local contractors. Good connections to the known designers of waste water treatment plants are crucial when the end-user comes from the public sector. In selling environmental technology to the public sector it is important to make the customer sure that the technology will enable the plant to work better than the one in the neighbour city as mayors may use environmental arguments in pre-electoral campaigns.

"Waste water treatment is an important issue in the political game of Polish cities."

The political aspect especially in the municipal sector may complicate the business more than expected since the electoral periods cause discontinuity to the business environment.

Eko-Service, the case company's representative in Poland, is mainly responsible for marketing in the country. At the beginning of the representation relationship, personnel from Finland were more involved with the marketing planning but nowadays the representative is mainly taking care of the marketing measures. Personal selling as well as direct marketing are the most important methods in reaching the customers and marketing includes constant communication with the designer offices and contractors. Furthermore, in private sector marketing targets particularly the industrial factories which have relatively high waste water utilisation costs as these might be interested in environmental technology investments. If economic analysis proves that the investment is worthwhile financially, the owners are usually willing to invest immediately. Therefore, finding factories with massive waste water utilisation costs is one of the main tasks of marketing along with supporting the customer in documentation

preparation. Moreover, organising contacts to some financial organisations can secure the investment decision.

Participation in exhibitions and environmental conferences is a way to become recognised in the market. Very little international advertising has been practised although it is acknowledged that the company name should be known internationally if one wishes to actively export abroad. To become internationally known demands consistent marketing efforts and the two most important marketing channels are the environmental exhibitions and international press. Articles and advertisements in the branch journals should not be forgotten as a method to reach the customers if increasing international sales is the goal. Furthermore, one has to stay up to date with the media development in order to make the most of the available marketing channels.

"Today the most important marketing channel is the Internet."

Good quality homepages on the Internet are vital as important information is there easily accessible. For instance the reference lists which should be well organised and up to date can be published on the Internet as especially in Poland it is particularly important to introduce matching references to the new clients.

"No former customers = no new customers."

In case a really new and modern technology is offered and the client can not yet see it in Poland, it is necessary to invite the potential customer somewhere where he can personally check it. Consequently, in convincing the potential customer's decision makers, reference which corresponds to the need is perhaps the most influential single measure which helps to close the deal. Customer needs to know that the technology that he is purchasing is a good investment and thus it is important to show in practise how the technology functions. In Poland it is impossible to find clients for a prototype and therefore some owners of new technologies have self-financed the first plant in order to access the market.

In accessing the Polish environmental market the company's Finnish origin was at the beginning of great importance as one reason to market access was the ecoconversion⁶. Nevertheless, in marketing today the Finnish origin of the manufacturer is not used as a trump. In marketing message the customers are informed of high quality and know-how, good materials, effective service, good prices and technical details. The

⁶ Ecoconversion was created to address the reduction of Poland's bilateral state loan for the reduction of pollution load. Finland offered Poland a solution whereby environmental investments made by Poland using Finnish environmental know-how and technology would be deducted from the amount of its loan.

Finnish origin is naturally informed to the clients but in marketing it is not a major component.

"Today in Poland it is not of great importance if the company comes from Finland. It is not even necessarily a positive factor although it is not a major disadvantage either. You may be warmly welcomed and they will smile at you but Finnish origin does not guarantee you the deal."

Consequently, arguments which bring forward that the technology comes from Finland are not used as customers are more interested in technical details. In the European environmental markets Finnish companies may be mostly in the front line but larger foreign competitors have an advantage in research and development. Therefore, the importance of new innovations is remarkable and it is a challenge to market and carry through new ideas into production.

In acquiring new customers the first ten minutes of the meeting are the most crucial. If you are a genius engineer but can not sell your product you are guaranteed to fail. It is good to try to foresee the questions and doubts the potential client may have and one should try to understand that new customers may not know what they have to ask but yet they expect correct answers.

"If the first impression you make is positive and the customer starts to trust you – you are the winner."

The first contact generates the foundation for the relationship and in developing profitable long-term customer relationships it is most important to satisfy the current users. Even if relationships are based on projects, satisfied customers are an important marketing channel and the relationships should be taken care of as pleased customers most likely are interested in future cooperation with the same supplier.

"1 satisfied client = 10 new clients. 1 dissatisfied client = 100 lost clients."

In Poland this principle works without a doubt as for example the bosses of communal waste water treatment plants quite often meet for nationwide trainings and dissatisfied clients are not afraid to bring forward their experiences.

The only way to develop a long-term relationship with a Polish customer is to make sure that post marketing is effectively taken care of. Especially technical support and maintenance must be provided in order to generate additional sales in the future. Although the business consists of projects and occasional deliveries, long-term

relationships with the customers are strived for. When asked about customer relationships during the data collection it was expressed that it is very easy to have satisfied customers if the following four points are fully considered: 1) high quality of goods and services, 2) availability 24 hours each day, 3) willingness to listen to complaints even if problems do not exist and 4) fast reactions to real problems. All in all, constant social work is of great importance.

The maintaining of customer connections is primarily the responsibility of the Polish representative as it is impossible to do this from Finland due to difficulties caused by distance and language barrier. Therefore, once more the important role of the local partner is evident. As the strategy of the case company is to get into projects through local design offices one of the main tasks of the representative is to maintain good relations with the designers of waste water treatment plants who are likely to be successful in bidding processes. Specific marketing action which may enable entry into a project is to target the contractors which according to public procurement listings have won tenders. Short faxes which include technical details and special offers may attract further inquiries and thus access into a public project. On the other hand, private investors may be sent basic presentation material about the technology in offer along with questionnaires which can be returned in case they become interested. The simplest marketing measures might be the most effective as long as customer is respected and reliability is proven.

In Poland most of the networking is done with the designers of waste water treatment plants and naturally with the former satisfied customers. Government officials are to certain extent also part of the network and in particular the local connections are significant. Ultimately the business is based on personal contacts and one must invest in the contact network if wishing to generate additional sales. The importance of individuals is vitally important and should be highly appreciated.

4.3 Bid process in acquiring environmental customers

Biggest differences between public and private customers when it comes to the project development arise from the fact that in private sector it is most often the owner who pays the cost of the environmental investment whereas in the public sector official guidelines and public financing regulate the business. In the private sector if the price is right and the manufactured process is guaranteed the deal can in most cases be closed but in the public sector selection criteria are different. Consequently, bidding processes and financing arrangements are much more complicated in the public sector. Suppliers are evaluated at least based on references, price level, delivery times and quality criteria.

Moreover, in the private sector the size of the customer makes a difference to the bid process. If negotiations are carried out directly with the owner of a small factory the negotiation process is rather straightforward but if a factory is so large that the management is not directly the owner the process is at once more complex. Doing business with large industrial plants might even resemble the procedures better known in the public sector because many different parties may be involved and closing a deal is a fairly long process.

To understand the process of foreign company entering public environmental projects in Poland is somewhat complicated. According to one opinion, correct motivation and goal oriented hard work connected with high quality know-how can not cause a disaster but others are more sceptical about the possibilities of foreign suppliers in the market.

"I would not even try to offer a waste water treatment plant in communal public bidding to Poland and that tells a lot."

Nevertheless, the possibilities of entering public projects seem to depend on the chosen strategy. In entering the Polish market local partner is a must. Offering turn key projects on one's own to the public sector does not appear the best option since the competition is harsh and local contractors are most likely to win the bidding. By offering complete projects to the market the foreign manufacturer may acquire several enemies and as a result better mode to enter a project is to offer partial projects to contractors through the local designers. At least this seems to be the case in the public sector and preferred method is to constantly offer products to the contractors and answer to the sprouting enquiries. The projects are continuously evolving but if the price and technology is right, entry into a project is likely.

The harsh competition which dominates the Polish environmental market is definitely challenging. According to one experience compared to trading in Russia, the environmental business in Poland is much more ruthless. Denigrating competitors is not uncommon and this can occur at all stages of the project development. Competitors may try to complicate the project implementation even though the buyer has clearly made his choice. However, it is not impossible to cope with the circumstances and the prevailing conditions. Consistent company strategy is the key and after all everything is based on personal contacts. You must know personally the people you want to close a deal with. It is not possible to make contacts on paper; without personal contact there is no business.

Altogether, there are possibilities in the Polish market for foreign environmental products since demand remains high and local production of environmental technology is not necessarily the most competitive. Nevertheless, competition is fierce and Finland

is still surprisingly exotic country for the Poles. An example was given that if customer keeps in hand two identical offers with same price and same technical solution but the first offer comes from Finland and the second from Germany, the Polish customer will most likely choose the German supplier. Presumably the biggest competition comes from Germany.

"The biggest challenge for Finnish environmental businesses is that Germany which is very active on the Polish environmental sector is a neighbouring country of Poland."

Nevertheless, there are always possibilities for success and the origin of the country does not restrict the entry to environmental projects in Poland. German companies may be very active and close to the Polish market but Finland is not that far either and more active export efforts are worthwhile because there are many opportunities for environmental technologies in the country.

The largest difficulties for foreign companies when it comes to accessing the Polish market might arise from the ignorance of Polish mentality, intricate law and corruption. Corruption has been diminishing but remains an issue at least until the generation of people who started careers during the communistic times retires. Corruption is definitely associated with the Polish business environment and is evidently a problem at least in the public sector as when asked whether there is corruption in the public sector bidding processes, the answer was: no comment. In international business it might come up that the definitions of corruption differ and certain procedures are considered a standard in one country whereas in another it would clearly be considered corruption. In Poland no regulation is clear and different interpretations continue to complicate the commercial culture. Intricate law is complicated even for the native citizens and problems may come up when interpretation of the same regulatiois is totally different between two individuals. In addition, what might prove exceptionally difficult for the Finns is to understand that the simplest discussion takes time.

"If two Finns discuss – there can only be two different opinions. If two Poles discuss – there will be minimum 3 different opinions."

The Polish way to do a project demands numerous meetings. Estimation was given during one of the interviews that four times more meetings are needed in Poland when negotiating environmental projects compared to negotiations in Finland. This might be difficult to understand for the Finnish businesses which are used to efficient and rather straightforward negotiations. However, this difference must be acknowledged and one

has to be careful in order to avoid insulting the local customer. The Polish mentality must be understood if one wants to succeed in the negotiations and once more the local representative is in key role.

"Poles are definitely tough negotiators."

The export manager is informed of the negotiations but rarely takes part in them as this is mainly the responsibility of the local representative. Naturally if there appears such need, the Finnish management takes part in the negotiations. However, usually the Polish representative is best aware of the local tactics and can best perceive the development of the projects.

4.4 Implementation of environmental technology projects

Municipalities are not directly the customers as entry into public projects is acquired through the Polish contractors which have won the bidding for a waste water treatment plant. Single mechanical parts may be delivered to existing plants but mainly cooperation with local designers is the method to access the market. The designers should be impartial but in practise they are paid a provision to secure certain machinery into a plan. Morally this may be problematic but nevertheless common custom in the country.

It is possible for foreign suppliers to take part in publicly funded projects since the public procurement procedures within the EU are standardised but if entering a project through contractors the supplier may not necessarily know which public fund is used for financing the project. Within the EU, invitation to tender must be officially published for public projects of certain value. Common database helps suppliers to remain up to date of current possibilities. In communal sector in Poland there are few foreign contractors involved in large projects but the case company is rather delivering parts to small and medium sized treatment plants which are currently under construction. Most of large communal waste water treatment plants have already been built but some of these are constantly under renovation and thus even if the most visible investments have been made, there remains large market for environmental technology in Poland.

It can be concluded that the practical requirements for a successful environmental project in Poland are the following. Minimum few meetings with customers in person before contract signing, verification of technical data given by the customer in order to avoid destructive misunderstandings, detailed contract where both sides are prepared for eventualities and in addition efficient realisation of the agreed delivery is naturally also one of the top requirements. Furthermore, minimum few hundred pages of manuals

which nobody reads are needed and the bigger the volume the better. The payment terms can not be too strict as this might result in losing the client and finally efficient guarantee and after sale services are definitely required by the Polish customers.

If supplier fails in some of the points mentioned above as requirements for a successful project, there is a risk to turn out a failure. The importance of verifying technical data given by a customer is highlighted as it is the base for the delivery. If misunderstandings occur at this stage it will influence the whole process as machines are installed to correspond to certain capacities. In addition, the delivery time has to be realistic so that the project can be efficiently implemented. One of the first assumptions when it comes to biggest risks in project implementation in Poland involves financial issues. Nevertheless, in Poland most of the pro-ecological investments are publicly funded and according to the procedures re-financing can not be received before full settlement with the suppliers.

"Polish customers always pay but few weeks or many months after term days."

Offering correct way of payment for the Polish customer may prove an advantage and competitive financing package can increase the overall attractiveness of the offer.

Strength of Finnish environmental technology is the open-minded attitude of engineers with wide scale of high quality know-how and experience. For small plants in Poland simple cheap equipment is needed whereas newest technical innovations may be implemented in larger industrial plants. Some of the main challenges arise from the fact that to enter the environmental market is not an easy task.

"Poland is not a country – Poland is a way of life."

Certain atmosphere of unpredictability in the market complicates the procedures and one has to be truly committed to entering the market if wanting to succeed.

Poland as a target market is important for the case company because the achieved position in the market generates new deliveries continuously. The network which has been created with the representative brings about orders monthly and the number of customers in Poland is significant. Furthermore, Poland is a good target market because the economy has been constantly ascending. Nevertheless, the business is a constant process and it might take few years to implement a certain order after it is gotten into a plan as it may take time to secure the financial arrangements. The only way to sell a turn key project to Poland is to cooperate with a local partner. Unassisted project exporting is not the case company's strategy as entry in to the market is achieved through delivering critical partial processes of the projects rather than constructing complete

treatment plants. Last year to Poland was hired a person who is responsible for technical support and after sale maintenance. This was discovered a requirement since in Poland the volume of customers is so high that technical services are necessary.

Exporting Finnish environmental know-how to Poland is definitely challenging due to the fierce competition. In municipalities there is a must to invest in environmental technology but in convincing private investors some incentives are needed in order to close the deal. Environmental regulations introduced by the EU have encouraged many investments as the private customer is more likely to invest in environmental conditions if he can somehow clearly benefit from it. Avoiding environmental fees and receiving environmental certificates are examples of investment incentives.

"The main challenge rises from the fact that we are selling something that the customer does not really want to buy."

It is a challenge in project exporting to be able to offer cost-effective processes which generate better results than the competitor's product. Too high price is a weakness. The importance of the representative is significant and cooperation is the key to success.

In exporting Finnish environmental know-how one big threat arises if own technology as considered superior. Finnish origin is not enough for internationalisation although the environmental knowledge is of high quality. Arrogant attitude takes nowhere and lack of capital may hold back the internationalisation process. Well planned marketing and determination are good starting points if wishing to export abroad. Furthermore, it is important to find the right market area with appropriate market niche which suites the specific know-how that can be offered.

The case company estimates future in the Polish market quite positive. With the fairly new investment in local maintenance and technical support the turnover is expected to rise. The strict EU regulations continue to generate environmental projects and the older plants need modernisations.

"Even though competition in Poland is fierce, the future prospects are good because the environmental field offers endless opportunities."

Opportunities exist in the Polish market for Finnish environmental businesses but to commence exporting activities remains a big step for most candidates. Competition may be a threat but Finnish technology is appreciated and the large market offers attractive potential.

4.5 A summary of the main empirical findings

The research findings were in previous chapters described in detail but the main empirical results are recapitulated in order to fully comprehend the collected data. Most definitely it became obvious during the case study that finding a local partner is very important if one wants to succeed in the Polish environmental market. The role of the Polish representative in project development is remarkable and although the main responsibility is to take care of the sales and marketing, the representative supports the entire project implementation.

There are quite significant dissimilarities between the public and private customers during all of the project development phases. The fundamental difference arises from the fact that in public sector the bidding processes and the official procedures are more specific and structured. As can be expected in both sectors the environmental regulations enforce the investments but when marketing environmental technology to the private sector it is more important to convince the customer that the sold technology will bring measurable financial benefits. Naturally, this argument is also used in the public sector but private investments are less frequently financed by public funds and therefore the private investor must be shown an economic analysis which proves that the environmental investment is in fact worthwhile financially. Altogether, the main challenge is confronted by the fact that the environmental technology suppliers are selling something that the customer does not really want to buy.

Financial and technical details are more important arguments in marketing environmental technologies than bringing forward the aspect of environmental protection. The competition in Poland is fierce but due to the vast market size and high demand for environmental technologies in general, there are nearly endless opportunities in the country for the environmental technology suppliers. The possibilities of foreign manufacturers to enter environmental projects in Poland are fairly good. However, Finland is still surprisingly exotic country for the Poles and the Finnish origin is not highlighted in marketing since this is not necessarily considered a remarkable advantage.

The empirical review brought forth that long-term customer relationships are strived for and maintaining the connections is primarily the responsibility of the local representative. Customers are satisfied if few simple points are fully considered. To begin with the goods and services must be of high quality. Furthermore, the supplier must be constantly available and willing to listen and react fast to all requests. The largest difficulties for foreign companies when accessing the Polish market most likely arise from the ignorance of Polish mentality, intricate law and corruption.

The main empirical observations are summarised in the following figure in order to outline the entire project exporting process more accurately. The findings are

summarised according to the sub questions of the research. Marketing theme corresponds to the first question: *how to market environmental technology* whereas bid process and project implementation respond jointly to the second question: *how to enter environmental public projects in Poland*.

<i>“How to market environmental technology”</i>	
MARKETING APPROACH	
▪ Polish representative mainly responsible for the sales and marketing (working on commission) ▪ Public sector: - marketing targets the contractors and designers of waste water treatment plants ▪ Private sector: - marketing targets industrial plants, important to convince the investor that the technology will bring financial benefits in the long run ▪ Personal selling, direct marketing, participation in exhibitions and environmental conferences, articles and advertisements in international branch journals, Internet ▪ Supporting customer in document preparations and financial arrangements ▪ Customers much get to know what he is buying ▪ Finnish origin not used in marketing (Finland still surprisingly exotic country for Poles) ▪ Marketing message includes: high quality, effective service, good prices, technical details ▪ Foreseeing customer’s questions and doubts > first ten minutes of the meeting the most important ▪ Long-term customer relationships are strived for > satisfied customer not only potential clients in the future but also great marketing channel ▪ Post marketing important > availability 24 hours each day ▪ Communicating and networking with the local designers and former customers > constant social work	

<i>“How to enter environmental public projects in Poland”</i>	
BID PROCESS	PROJECT IMPLEMENTATION
▪ Public sector: - access to public projects through local contractors and designers, bidding processes and official procedures very specific, waste water treatment an important political issue in the municipalities, public funding ▪ Private sector: - more often the owner pays the cost of the investment > negotiations more straightforward ▪ Local partner and personal contacts are a must ▪ Projects are continuously evolving but if the price and technology are right entry into a project is likely ▪ Competition most of all with German suppliers ▪ Major difficulties arise from ignorance of Polish mentality, intricate law and corruption ▪ Negotiating takes time and numerous meetings	▪ Mainly partial projects ▪ Competition is fierce throughout the process but foreign businesses can be successful in the Polish environmental market ▪ Must have local representation ▪ Technical service and maintenance ▪ After product is in a project plan it might take few years to get to implementation ▪ Implemented projects reference objects in future tenders > references lists found on the company webpage ▪ Requirements for a successful environmental project: minimum few meetings with customers in person before contract signing, verification of technical data given by the customer, detailed contract, efficient realisation, minimum few hundred pages of manuals which nobody reads but the bigger the volume the better, correct payment terms, efficient guarantee and after sale services

Figure 4 A summary of the main empirical findings

In connection with the marketing approach the empirical findings show that in the public sector the marketing of the case company targets the contractors and designers of waste water treatment plants whereas in the private sector the marketing concentrates directly especially at the industrial factories with relatively high waste water utilisation costs. Personal selling and direct marketing are the most important marketing methods regardless of which market segment is addressed and participation in exhibitions and environmental conferences is needed in order to become recognised in the market. Very little international advertising has been practised by the case company although articles and advertisements in international journals are an effective marketing channel. All in all, the importance of Internet is emphasised in today's marketing. The marketing message includes statements of high quality, effective service, good prices and technical details. The customer must be aware of what he is buying and foreseeing the customer's questions and doubts might prove necessary since the first ten minutes of a meeting are the most important. The marketing aims to hold on to satisfied customers as they are not only potential clients in the future but also a great marketing channel since references are always needed. Constant social work combines marketing to all phases of project development and networking is the base for success.

Waste water treatment is an important political issue in the public sector and thus the bid processes are not necessarily the most straightforward. The case company aims to access the public environmental projects through local contractors and designers who have won the public bidding. The projects are mainly partial and continuously evolving but if the price is right and the technology suitable, entry into a project is likely. The negotiation process in Poland takes time and numerous meetings have to be arranged. This might be sometimes difficult to comprehend by the Finnish businesses but of utmost importance is to respect the local culture. Local representation is a must and patience is needed because getting from a plan to actual project implementation might take even few years. Although the competition in Poland is fierce the foreign companies can be successful in the environmental market as long as long-term commitment is made and the strategy is suitable to the prevailing market conditions.

5 CONCLUSIONS

5.1 Internationalisation of Finnish environmental technology to Poland

Secondary data proposed that there is high demand in the environmental market of Poland (Każmierczyk 1997, Lehtinen 2002). Furthermore, the environmental sector has been considered a niche market which offers business opportunities in Poland for Finnish companies specialised in environmental know-how and the empirical findings support this assumption. The interviews carried out within the case company brought forward that opportunities exist in the Polish market for Finnish environmental businesses. However, there are not that many Finnish environmental technology companies active in the market and to commence exporting activities remains a massive step for most candidates. Competition in Poland is fierce but the future prospects are good because the environmental field offers endless opportunities and the large market size presents attractive potential.

In connection with the themes of the study it became evident that a **local partner is essential in accessing the Polish environmental market**. During the preliminary research it was discovered that foreign firms which want to operate in the emerging markets should find a local partner who will help in marketing and customer functions. Therefore, the importance of the local representative was not surprising. The case company has experienced difficulties with representatives in the past and thus fully acknowledges the importance of functional cooperation with the Polish partner. It is worthwhile to invest in the relationship with the representative as this is the key to success.

When it comes to entering public environmental projects in Poland the process is not that easily comprehensible. The bidding processes especially in the public sector are fairly harmonised since the EU regulations on public procurement are in force. Nevertheless, the bidding process is not necessarily proceeding straightforward since corruption and fierce competition seem to interrupt the project development at least to some extent. Continuous bidding processes are in operation and the local representative is controlling the development and reporting to Finland about the progress. The amount of networking does not appear extremely extensive and involves mainly micro-level connections in the case company. It can be questioned whether this is satisfactory since it has been suggested that networking on all levels is of great importance (see e.g. Cova, Ghauri & Salle 2002; Donaldson & O'Toole 2002).

The case company has customers in Poland from public as well as private sector. However, the entry to public projects is rarely achieved through public bidding because **the strategy is to access the public sector through local contractors and designers who have won the bidding for a waste water treatment plant**. Foreign businesses can be successful in the Polish environmental sector but turn key projects are rarely the best way to operate in the market. Experience has proven that less complicated way to operate in the market is to supply parts or complete partial subprojects. Cova et al. (2002) have introduced a matrix which suggests that being a supplier of parts is an entry option when project attractiveness or company strengths are rather low. To some extent the research findings do not support this statement because it seems like both company strengths and project attractiveness can be high but still entry into the project is pursued through supplying merely parts or sub processes. In addition to the strengths of the company and the project attractiveness it is concluded that the amount of competition in the market has a remarkable influence on the strategy defining the best possible entry mode into a project.

The business marketer's product often includes an important service component which is of great importance to the end client. According to previous empirical research the key factors behind a successful sale of environmental technologies in Poland are an in country representative office and reliable after-sales services (Kaźmierczyk 1997). This finding is fully supported by the completed research as earlier the importance of local representative was acknowledged and in connection with a product's service component, **the case intensified the importance of local technical support and maintenance**. A local technical service employee was hired last year as the need for this was discovered essential. The vast number of clients in Poland demanded technical support and the service must be easily available in order to fully satisfy the customers. Ascribe to investing in after sales technical services better financial results are expected.

Internationalisation to Poland should be considered an option. Project operations have been examined in this research mainly because projects include a broad variety of entry options and thus the evaluated processes can be widely learned from. Marketing of environmental technology may not hugely differ from other industrial products. Mainly the technological details must be acknowledged and naturally it is of utmost importance to familiarise oneself with the needs of the potential customers. However, in connection with exporting Finnish environmental know-how it has to be concluded that the importance of marketing measures should be effectively emphasised as together with the technological know-how the marketing skills are the base for success in internationalisation.

As a consequence of the completed research the *theoretical implications* suggest that the marketing approach is not a separate element which is only important at the beginning of the project development but rather the marketing measures should be kept

in mind throughout the process. The task of marketing is to place oneself in a favourable position amongst those likely to acquire projects (Luostarinen & Welch 1990). However, the marketing process of a project can be divided into three phases: 1) independent of any project, 2) pre-tender and 3) tender preparation (Cova et al. 2002). The empirical findings point out that marketing is important not only during the initial strategy phase and bid process but also in project implementation because completed projects serve as reference objects in future tenders.

As *managerial implications* certain conclusions can be highlighted. Finnish environmental products are appreciated but it is a major mistake to consider the own technology superior. High quality know-how is not on its own enough for successful internationalisation as full commitment is needed from the organisation if sales abroad are the target. Management of the environmental technology company should fully acknowledge the process of internationalisation in order to prepare oneself for the challenges. The environmental sector in Poland is highly competitive but the case company's experience proves that the target market is worth entering.

How to market environmental technology has been explored throughout the research as it was found that **marketing measures are a continuous process in project development**. The main practical implication is to include technical details in the marketing message in such a way that the customer is satisfied with the received information. Main marketing channels are the previous satisfied customers, traditional exhibitions, environmental conferences and professional journals. Furthermore, the importance of Internet in today's international trading has to be emphasised. *How to enter environmental public projects in Poland* is according to this research best achieved through local designers and contractors. **Foreign suppliers can be successful in the Polish environmental market as long as own technology is not considered superior, long-term commitment is made and reliable local representative is found.**

There might be even more attractive target markets in the world than Poland when it comes to increasing the exports of Finnish environmental technology but the evident potential of the market in Poland should enhance the attractiveness of the country. Geographical location by the Baltic Sea should further increase the interest of Finnish environmental businesses to invest in the country and the completed case study advocates that internationalisation to Poland can be profitable. As mainly partial projects are implemented in Poland by the case company the financial value of single delivery is not tremendous but the market area is one of the most important because deliveries are constant and the number of clients is significant.

5.2 Suggestions for further research

The relationship development between the supplier and the local Polish representative could be further researched as the cooperation is the key to success. Furthermore, it would be interesting to complete a multiple case study where experiences of many Finnish environmental technology companies could be compared. The contribution of this single case study has been to open discussion on internationalisation of Finnish environmental technology to Poland. The market is considered fairly attractive but Finnish environmental know-how is not very widely exported to Poland.

Actions are already taken to improve the Finnish environmental technology a significant growth area in internationalisation. The aim of the Environmental Programme of the Finnish National Fund for Research and Development (Sitra) is to: expedite the development, internationalisation and integration of the environmental sector; promote investments in the field; create business networks and promote their internationalisation; and devise a national action programme to support the growth of environmental technology exports. All of these actions are considered necessary on the basis of the completed study because it is believed that the potential of Finnish environmental technology sector is not fully utilised.

Major weakness arises from the fact that most environmental businesses in Finland are fairly small and unable to invest in internationalisation projects as effectively as needed. Therefore, it could be interesting to research further how to jointly derive benefit from the vast potential. According to the research findings, Finnish origin is not used in marketing as this is not considered an advantage but it might be interesting to examine whether the Finnish environmental technology providers for example in the Polish market could benefit from the Finnish origin if this was created a more attractive feature. It was discovered during the research that the country of origin is not considered the most important and arrogant attitude is a definite turn off, but possibly further networking within the Finnish environmental cluster could strengthen the internationalisation possibilities of Finnish environmental technology and this could be further examined.

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APPENDIX 1 PREVIOUS RESEARCH ON INTERNATIONALISATION OF ENVIRONMENTAL TECHNOLOGY

<i>Who</i>	<i>How</i>	<i>What</i>	<i>Results</i>
Keltanen, Taru & Salminen, Mervi (1993) Publications of the Division for International Affairs of the Ministry of Trade and Industry 1/1993.	Research data gathered by interviews and mail surveys. Over 200 Finnish environmental companies were contacted. (73 personal visits, 163 mail surveys of which the response rate was 48 %)	Internationalisation of environmental companies	The international environmental market is growing rapidly. Finland needs a long-term programme in order to build strong competitive environmental sector. The goal is to enable rapid international growth of small Finnish companies. Maximum utilisation of existing resources, increasing exports and developing networks are needed.
Salminen, Mervi & Mettälä, Kari (1993) Ministry of Trade and Industry, studies and reports 19/1993	Summary of the results and recommendations of the internationalisation project of environmental companies (Ministry of Trade and Industry; Finnish Foreign Trade Association)	Commercialisation of environmental technology	Developing the environmental sector is a current national challenge for Finland. Support in internationalisation is important and different environmental projects need attention.
Säynevirta, Maarit & Ylä-Anttila, Pekka (1994) ETLA, The Research Institute of the Finnish Economy	The study gives an overview both theoretically and empirically based mainly on secondary data of Finnish multinational enterprises	Internationalisation of technology-intensive firms	Strategic considerations related to gaining market shares seem to be more important for Finnish firms than firm-specific knowledge.
Haverila, Matti (1995) Tampere University of Technology, publication 173. Dissertation.	A quantitative nomotetic (neoclassical) research methodology. Questionnaires both for successful and unsuccessful product launches. Sample population was 230 companies of which the response rate was 35.2 %	The role of marketing when launching new products into the international markets: an empirical study in Finnish high-technology companies	Product and sales related factors more important than marketing when launching new products into foreign markets. Personal selling the most important promotional element. The launch of technology product differs from traditional goods.

The regional environmental center (REC) for Central and Eastern Europe, edited by Pawel Kaźmierczyk (Conducted between October 1996 and April 1997)	In each country a local environmental expert carried out an in-country research based on REC format and standard questionnaire. Up to 50 professionals were interviewed in each country	The environmental technology market in Central and Eastern Europe, an overview of the Czech Republic, Hungary, Poland, Slovakia and Slovenia	The two major environmental priorities are air pollution control and protection of water resources. Environmental expenditures expected to grow at a rate of 6-12 % annually. Opportunities exist for foreign suppliers.
Silvennoinen, Arto, Apilo, Sari & Vaara, Miska (2002) Ministry of Trade and Industry, studies and reports 1/2002	Qualitative business-based corporate interviews. A total of 123 interviews (mainly in-person but partly by phone). A review: Finland's Natural Resources and the Environment, published by Statistics Finland, served as a quantitative secondary data	Present structure of the Finnish environmental cluster and improvement of its functioning particularly from the business perspective	The Finnish environmental sector is potential but not yet unified. Strengths are: technological know-how, information technology and innovative SMEs. Weaknesses discovered in marketing skills and internationalisation processes.
Kalmi, Panu (2002)	Few in-depth interviews with managers responsible for Finnish operations in Poland > 6 case companies Mailed questionnaires aimed at Finnish companies which had a daughter firm in Poland > 93 companies were contacted, response rate was 68 %	The operations of Finnish firms in Poland	Almost every firm seeks to operate in Poland because of the large and growing market but unique set of problems is faced by each company. Perhaps best future exists for firms that are able to find niche markets and well-off customers.
Lehtinen, Kari (2002)	Based on writer's observations of Finnish companies' business operations in Poland. Aims to describe some factors enabling successful business in Poland.	Review of Poland as market for Finnish Business	Poland provides a fairly good region for business operations. Environmental sector in Poland one potential area for Finnish businesses.

APPENDIX 2 CORRUPTION PERCEPTIONS INDEX 2005

Ranking	Country	CPI	Ranking	Country	CPI	Ranking	Country	CPI
1	Iceland	9.7		Cuba	3.8		Afghanistan	2.5
	Finland	9.6	59	Thailand	3.8		Bolivia	2.5
2	New Zealand	9.6		Trinidad&Tobago	3.8		Ecuador	2.5
4	Denmark	9.5	62	Belize	3.7	117	Guatemala	2.5
5	Singapore	9.4		Brazil	3.7		Guyana	2.5
6	Sweden	9.2	64	Jamaica	3.6		Libya	2.5
7	Switzerland	9.1		Ghana	3.5		Nepal	2.5
8	Norway	8.9		Mexico	3.5		Philippines	2.5
9	Australia	8.8	65	Panama	3.5		Uganda	2.5
10	Austria	8.7		Peru	3.5		Albania	2.4
11	Netherlands	8.6		Turkey	3.5	126	Niger	2.4
	United Kingdom	8.6		Burkina Faso	3.4		Russia	2.4
13	Luxembourg	8.5		Croatia	3.4		Sierra Leone	2.4
14	Canada	8.4		Egypt	3.4		Burundi	2.3
15	Hong Kong	8.3	70	Lesotho	3.4		Cambodia	2.3
16	Germany	8.2		Poland	3.4	130	Congo	2.3
17	USA	7.6		Saudi Arabia	3.4		Georgia	2.3
18	France	7.5		Syria	3.4		Kyrgyzstan	2.3
19	Belgium	7.4	77	Laos	3.3		Papua New Guinea	2.3
	Ireland	7.4		China	3.2		Venezuela	2.3
21	Chile	7.3	78	Morocco	3.2		Azerbaijan	2.2
	Japan	7.3		Senegal	3.2	137	Cameroon	2.2
23	Spain	7.0		Sri Lanka	3.2		Ethiopia	2.2
24	Barbados	6.9		Suriname	3.2		Indonesia	2.2
25	Malta	6.6	83	Lebanon	3.1		Iraq	2.2
26	Portugal	6.5		Rwanda	3.1		Liberia	2.2
27	Estonia	6.4		Dominican Rep.	3.0		Uzbekistan	2.2
28	Israel	6.3	85	Mongolia	3.0		Congo	2.1
	Oman	6.3		Romania	3.0		Kenya	2.1
30	United Arab Emirates	6.2		Armenia	2.9	144	Pakistan	2.1
31	Slovenia	6.1		Benin	2.9		Paraguay	2.1
	Botswana	5.9		Bosnia&Herzegovina	2.9		Somalia	2.1
32	Qatar	5.9	88	Gabon	2.9		Sudan	2.1
	Taiwan	5.9		India	2.9		Tajikistan	2.1
	Uruguay	5.9		Iran	2.9	151	Angola	2.0
36	Bahrain	5.8		Mali	2.9		Cote d'Ivoire	1.9
37	Cyprus	5.7		Moldova	2.9	152	Equatorial Guinea	1.9
	Jordan	5.7		Tanzania	2.9		Nigeria	1.9
39	Malaysia	5.1		Algeria	2.8		Haiti	1.8
	Hungary	5.0	97	Argentina	2.8	155	Myanmar	1.8
40	Italy	5.0		Madagascar	2.8		Turkmenistan	1.8
	South Korea	5.0		Malawi	2.8	158	Bangladesh	1.7
43	Tunisia	4.9		Mozambique	2.8		Chad	1.7
44	Lithuania	4.8		Serbia&Montenegro	2.8			
45	Kuwait	4.7		Gambia	2.7			
46	South Africa	4.5	103	Macedonia	2.7			
	Czech Republic	4.3		Swaziland	2.7			
47	Greece	4.3		Yemen	2.7			
	Namibia	4.3		Belarus	2.6			
	Slovakia	4.3		Eritrea	2.6			
	Costa Rica	4.2	107	Honduras	2.6			
51	El Salvador	4.2		Kazakhstan	2.6			
	Latvia	4.2		Nicaragua	2.6			
	Mauritius	4.2		Palestine	2.6			
	Bulgaria	4.0		Ukraine	2.6			
55	Colombia	4.0		Vietnam	2.6			
	Fiji	4.0		Zambia	2.6			
	Seychelles	4.0		Zimbabwe	2.6			

Source: Corruption surveys and indices, Transparency International.

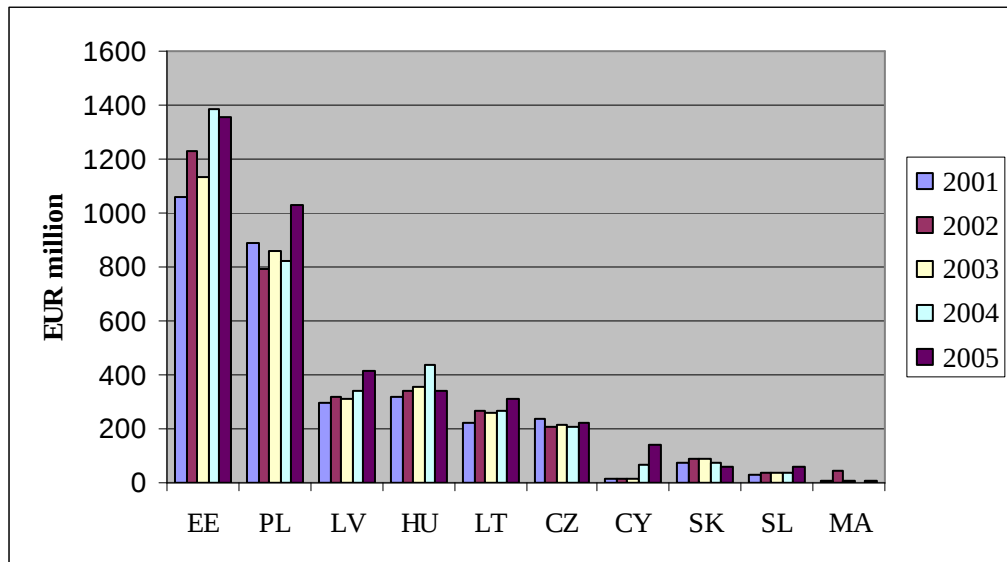
APPENDIX 3 ENVIRONMENTAL EFFECTS OF LOCAL INVESTMENT IN POLAND

Area	1991	1996	2001
Water supply system (km)	93 200	168 900	218 100
Sewage collecting nets (km)	26 500	35 900	56 600
Towns with sewage treatment plants	467/830	683/864	818/884
Biological treatment plants	302	583	796
Biologically treated sewage (%)	37	56	83

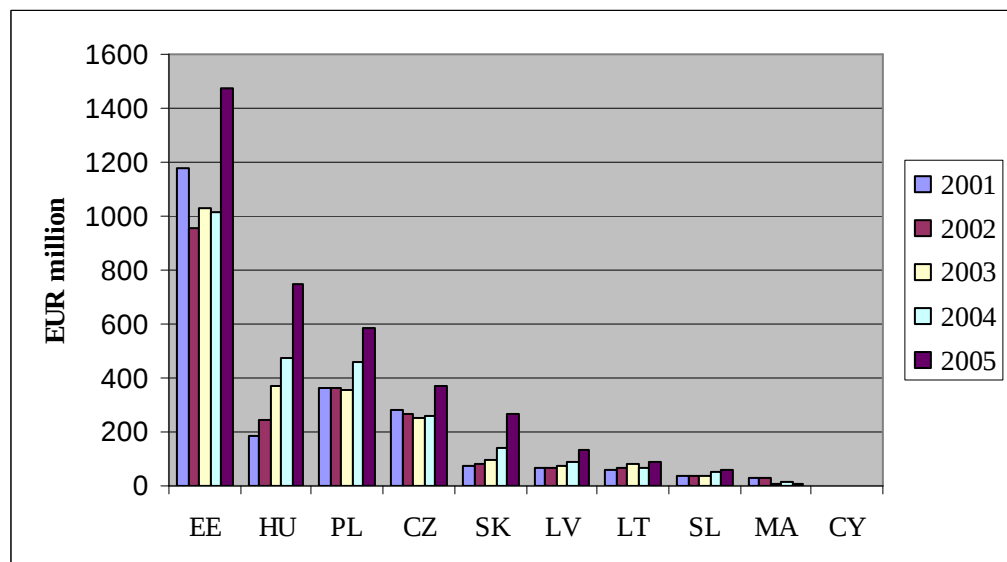
Source: Improving management of public environmental expenditure – Poland,
Global Forum of Sustainable Development, OECD.

APPENDIX 4 TRADE BETWEEN FINLAND AND THE NEW EU COUNTRIES

Finland's exports to the new EU countries⁷



Imports from the new EU countries to Finland



Source: Tullihallitus (2004) Suomen ja EU:hun liittyvien maiden välinen kauppa.

⁷ CY=Cyprus, CZ=Czech Republic, EE=Estonia, HU=Hungary, LV=Latvia, LT=Lithuania, MA=Malta, PL=Poland, SK=Slovakia, SL=Slovenia.

APPENDIX 5 DEMAND FOR WATER AND WASTEWATER TECHNOLOGY IN POLAND

	<i>Surface and ground water</i>	<i>Potable (drinking) water</i>	<i>Municipal wastewater</i>	<i>Industrial wastewater</i>
Monitoring	3.5 (14)	3.4 (10)	4.2 (9)	4.1 (15)
Sampling/laboratory analysis	3.2 (12)	3.0 (11)	3.7 (9)	3.3 (13)
Construction of collection/supply networks	3.1 (6)	3.5 (9)	3.4 (10)	3.3 (12)
Inspection and reconditioning of existing supply and collection networks	3.2 (4)	3.7 (7)	3.4 (1)	3.5 (10)
Standard physical, chemical and biological treatment processes	3.4 (10)	3.2 (7)	3.7 (13)	3.7 (16)
Advanced (tertiary) treatment processes (e.g. UV/ozonation, activated carbon, phosphate removal, reverse osmosis)	3.6 (5)	3.8 (6)	4.2 (9)	4.0 (13)
Sludge treatment and disposal	3.6 (5)	3.6 (3)	4.7 (11)	4.3 (16)
Pollution prevention/waste minimisation	3.5 (4)	3.2 (4)	4.3 (10)	4.2 (14)
Water recycling and reuse	3.0 (9)	3.6 (5)	3.8 (5)	3.9 (12)
Spill control and containment/clean-up	4.1 (7)	3.8 (5)	3.6 (6)	3.7 (14)
Quality restoration and decontamination	3.8 (9)	3.0 (1)	3.0 (2)	3.4 (5)
Instrumentation/process control/software	3.1 (7)	3.3 (6)	4.2 (4)	4.0 (8)

Source: Summarises expert responses from the survey: The environmental technology market in Central and Eastern Europe (Każmierczyk 1997).⁸

⁸ The following scale has been used in ranking: 5 – highest, and with rapidly growing demand, 4 – high demand, likely to grow, 3 – moderate, slowly growing demand, 2 – low demand, will not grow, 1 – very low, and decreasing demand.

Figures are average scores and in brackets can be seen the number of responses. Figures in bold show averages above 4 and consequently areas in which the demand is estimated the highest.

APPENDIX 6 THE FRAME OF THE INTERVIEW

<i>Background</i>	1. What is your personal history in the company and in exporting environmental technology? 2. Business in Poland (when, what, why)? 3. What is specific about Poland as a market area compared to other countries?
<i>Sub question 1: How to market environmental technology?</i>	4. When marketing environmental technology, what are the differences between public and private customers? 5. What are the challenges in project exporting to Poland (uniqueness, discontinuity, uncertainty)? 6. Who is responsible for marketing planning and implementation in Poland (the roles of key persons involved)? 7. What kind of marketing mix is used in Poland in order to increase sales? 8. What is the importance of the company's origin (Finnish) in marketing? 9. How to develop profitable long-term customer relationships? 10. How to reach the decision makers of the customer's buying centre? 11. What kind of influence other parties (e.g. political) have on project marketing? 12. What is most important in marketing environmental technology abroad? 13. What is most challenging in exporting environmental technology? 14. What is the importance of personal contacts when exporting environmental technology? 15. How important is networking with different parties (competitors, government, other organisations)? 16. Network in Poland? 17. Network in Finland?
<i>Sub question 2: How to enter environmental public projects in Poland?</i>	18. What kind of projects have you implemented in Poland? 19. What are the most important factors in selling and implementing a project in Poland? 20. What are the differences between public and private sector when it comes to bidding process and negotiations? 21. What kind of information do you try to obtain from the potential customers in advance? 22. How do you prepare to fulfil project criteria (feasibility study, consultants, fast tender preparations...)? 23. Who is taking part in the project negotiations (price negotiation, pursuing new customers)? 24. How do you prepare for the negotiations (how to succeed in negotiation in Poland, cultural differences)? 25. How a foreign company can enter public environmental projects in Poland (biggest difficulties, possibilities for success)? 26. What are the possibilities to participate in publicly funded projects (e.g. EBRD)?

	27. What is specific in Poland when it comes to public procurement, are there differences compared to other countries? 28. What is the effect of corruption on bidding processes? 29. How do you control the implementation of a project in Poland (Finnish/local participation)? 30. How do you take care of technical support and maintenance in Poland? 31. What are the requirements for a successful project? 32. What are the biggest risks? 33. Do the customer relationships continue after project implementation (rebuy, maintenance...)?
<i>Future</i>	34. What is the importance of Poland as a market area for your company (now/future)? 35. What to do in environmental industry when the largest environmental problems have been solved (e.g. in Poland a lot has already been invested in water management)? 36. What are the biggest opportunities and threats in exporting Finnish environmental technology to Poland? 37. What are the strengths and weaknesses of Finnish companies in the environmental business? 38. What are the future plans and prospects?