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Europe 1992

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**CANADA
EUROPE**

**EUROPE 1992 AND THE
CANADIAN
ENVIRONMENT
INDUSTRIES**

September 1991

External Affairs and
International Trade Canada Affaires extérieures et
Commerce extérieur Canada

Canada

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Dept. of External Affairs
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FROM THE GOVERNMENT OF CANADA

External Affairs and International Trade Canada (EAITC) is pleased to offer the Canadian environment industry, as part of the Going Global trade strategy, this study on market opportunities in the European Community resulting from the Europe 1992 initiative and the possible means by which Canadian firms can capitalize on them.

Europe 1992 is happening now. The European Community's ambitious Single Market program has already dramatically changed the way Europeans are doing business. The process is irreversible; the pace is rapid and accelerating. If Canadian businesses are to profit from the opportunities that this enormous market will bring, they must be well-informed.

After the recent completion of a series of sectoral studies entitled *1992 Implications of a Single European Market*, EAITC conducted a consultative process which included government departments, the provinces and our European embassies to determine which subsectors should be the focus of further study. The result was the selection of the ocean industry, environmental industries, software, telecommunications products and services and value-added wood products. All of these studies will be published during the Fall of 1991 and into the Spring of 1992.

We also have tangible programs to introduce you to the European market. These are well-publicized through our CanadExport publications. Our trade officers in the European Community Division of EAITC and at the International Trade Centres in each province would be pleased to respond to your specific questions. Take advantage of these programs. They have been established to benefit you.

Publications that are currently available from the series *1992 Implications of a Single European Market* include: Agriculture and Food Products; Telecommunications and Computers; Automotive Industry; Minerals and Metals; Forest Products; Defence, Aerospace and Transportation; Specialty Chemical Products, New Materials, Pharmaceuticals and Biotechnology; Industrial Products and Services; Financial Services; Fisheries Products; and Professional and Consulting Services — Law and Accounting. Other reports include European Economic and Monetary Union; Company Law; Competition Policy; Standards; Freight Forwarding; 1992 and Related Issues; and Intellectual Property.

For more information on publications available, please contact the EAITC InfoExport hotline, 1-800-267-8376.

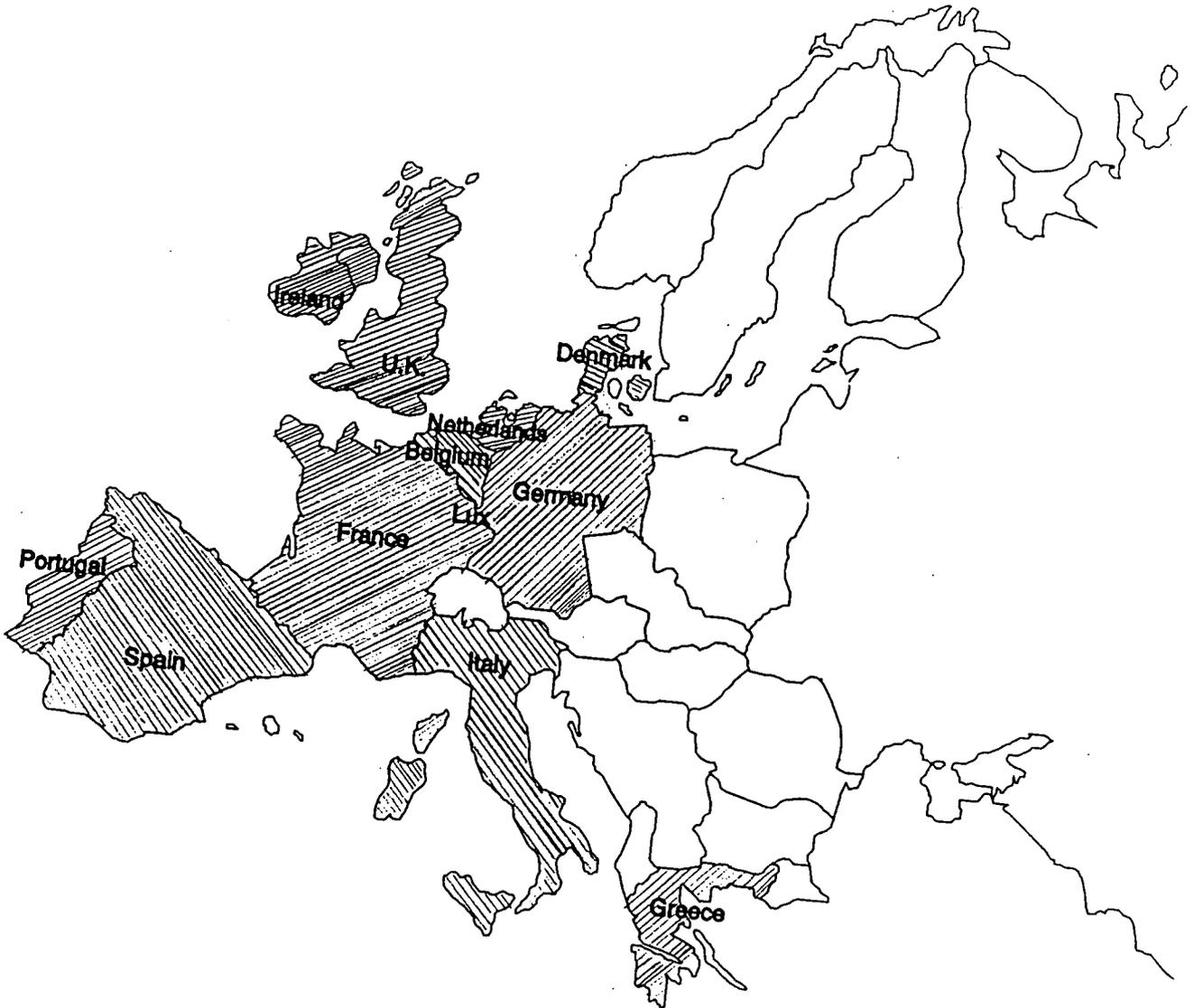
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EXHIBIT #1

Europe 1992



1. INTRODUCTION

Background and Purpose

The European Common Market first began in 1957 with the signing of the Treaty of Rome. The treaty resulted in the elimination of custom tariffs between member states, but numerous non-tariff barriers remained in place.

In 1985, European Community (E.C.) countries began negotiations to build a true Single European Market by the year 1992 (see Exhibit #1). The goal was to remove all barriers to the movement of goods, services, labour and capital. The initiative is not limited only to these four areas, but also includes new, common policies in areas of shared jurisdictions on R&D, environment, air transport, business mergers, energy, regional development, university cooperation, social rights and cultural cooperation. Exhibit #2 highlights the changes that will occur as a result of the Single Market.

The program called for the adoption of 282 legislative measures. To date, all 282 legislative measures have been introduced before the European Commission: over 60 percent have been approved. As a result, the economic, cultural and political landscape of the European community is being dramatically transformed.

The Single Market is an all encompassing program which is creating the world's largest trading centre. In 1990, for the first time, the Gross National Product (GDP) of the E.C. surpassed that of the U.S. and the E.C. replaced the U.S. as the largest recipient of direct foreign investment.

The E.C. market is of great importance to Canada: it is our second largest trading partner. Canadian exports to the E.C. totalled \$11.5 billion in 1990, and imports \$15.6 billion. Although Canadian exports are still largely based on resource sectors, the manufacturing of goods has risen to almost 20 percent of the total exports. These exported goods include machinery, equipment and high technology.

Canadian direct investment in the E.C. has risen from \$4.8 billion in 1983 to \$17.8 billion in 1990. During this same period, direct investment in Canada by the

E.C. rose from \$13 billion to \$30.2 billion. Next to the U.S., this establishes the E.C. as Canada's largest source of, and destination for, direct foreign investment.

The importance of Western Europe to the Canadian economy will only increase with the creation of a Single Market. The free movement of imports between E.C. countries, the need to fulfil the technical standards of one E.C. country only, as opposed to each one, and the sheer size of the Single Market create a huge new trading partner; more than just a sum of its parts. The Single Market presents tremendous opportunities for Canadian companies to gain entry, and/or to expand operations, in the Western European marketplace.

Environmental protection (EP) goods and services represent one important segment of the business opportunity in Western Europe. The purpose of this report is to demonstrate the size of that market in Western Europe, to illustrate the successes which Canadian EP companies are having in it and to recommend marketing approaches for Canadian industry.

Format of this Report

There are five parts to this report. This, the introductory part, presents the background and purpose to the report. The second part gives some definitions and observations concerning the environmental protection market. The third part summarizes recent estimates of the market in Western Europe for environmental protection goods and services. This is the "demand" part of the report, i.e. it presents estimates on what Western European countries are likely to spend on environmental protection over the next decade. The fourth part of the report, the "supply" side, reports on Canadian industrial domestic strengths in environmental protection goods and services. The fifth section, entitled "Succeeding in the European Market", reports on a number of Canadian companies which have succeeded in breaking into the sophisticated Western European market. Suggestions are made for successful strategies based on the experiences and comments of a number of Canadian Trade Commissioners in some of the prime markets in Western Europe.

EXHIBIT #2

Key Changes to the E.C. 1992

Removing Physical Barriers

- Frees the movement of goods, services, labour and capital within the E.C.
- Assures that imports can move freely within the E.C. once they enter any member state.

Eliminating Technical Barriers

- Allows unrestricted distribution to all E.C. countries once a product meets the technical standards of any E.C. member.
- Allows industry to produce for a wider market.
- Opens the public procurement market to competition.

Removing Fiscal Barriers

- Reduces the difference in indirect taxes that distort trade among member states.

Liberalizing Movement of Capital

- Enhances competition and choice in financial services.
- Makes channelling of savings into investment more efficient and less costly.
- Gives borrowers access to more diverse and cheaper financing.
- Permits more competitive financing for investment and trade within the E.C.

Source: External Affairs and International Trade Canada, *Forecasted Expenditures on Environmental Protection in Western Europe*, July 1991.

2. THE ENVIRONMENTAL PROTECTION MARKET: SOME DEFINITIONS AND OBSERVATIONS

The environmental protection market has some important distinguishing features about it which should be discussed before getting into the market studies! We review three points below.

1. **The phrase "environmental protection" has a variety of meanings. The focus in this report will be on engineering/ technical aspects of pollution prevention and control.**

The phrases "the environment" and "environmental protection" are used in a great many ways. Some interpret "environmental protection" to mean the specific concern about the toxic and hazardous emissions of industrial and public sector activities; others expand this definition to include issues such as noise disturbances and health and safety in the work place; still others equate it with a concern about park lands, species preservation and the containment of the blight of urbanization; and it is becoming increasingly common to see references to general "greening", such as food labelling and consumer boycotting of certain products, as examples of environmental protection.

All these notions of environmental protection share a common underpinning, but that underpinning is so broad and diffuse that it is of little use for doing practical business planning. The markets for urban planning bear little resemblance to those for flue gas desulphurization or to process engineering R&D designed to reduce wastes.

For business planning purposes, this broad notion of environmental protection must be refined. The major focus in this report will be on the engineering/ technical markets associated with pollution abatement and control for industrial and public sector activities. This includes fundamental R&D aimed at pollution prevention as well as the traditional end-of-pipe markets for pollution control.

2. **The environmental protection industry is driven by regulations.**

By the "environmental protection industry" we will mean all of those firms, including those being regulated, which spend or receive money in meeting environmental protection objectives.

This industry has one major driver — government regulations. This fact has some important consequences.

The first is that you should expect to find the strongest environmental protection industries in those jurisdictions which have the strongest regimens in place for environmental protection.

The second consequence is that the market for environmental protection goods and services is a risky one. The history of Western governments' actions on environmental protection shows typically long implementation times and frequent exceptions to rules. What this means is that it can be risky to assume that a particular regulation calling, say, for a new control technology or process will lead immediately to a new market. The market can take years to develop, in some cases so long that new processes or products replace those originally being controlled.

3. **Market research in the EP industry is done from "buy" and "sell" perspectives. Each has its strengths and weaknesses.**

The market for EP goods and services can be calculated from what industry is spending and is expected to spend on environmental protection, i.e. the "buy" perspective. The market can also be calculated from the amount of revenue collected by those selling products and services, i.e. the "sell" perspective.

Both methods have weaknesses and strengths. Estimating from the "sell" side is based usually on an historical analysis of the revenues of EP firms.

The strength of this approach is its ease of use: historical sales data are extrapolated to yield estimates of future sales. However, it does have serious weaknesses. The most important weakness is that such a historical approach ignores the fact that future EP expenditures will be driven by new regulations. Historical data offer no insights into the future changes. This approach also may lead to double-counting of dollars.

Typically, regulators estimate the market from the "buy" side, estimating the amount of money which would have to be spent to bring all affected operations up to compliance with proposed regulations. The studies of the Western Europe market reviewed in preparing this report both take the "buy" approach.

The "buy" side estimating approach, based on actual and projected expenditures to meet regulations, is usually more difficult to do but it has the advantage of being based on an analysis of regulatory changes and their cost implications. A significant weakness with this approach is that it ignores the "make-versus-buy" nature of the environmental protection business in practice. If polluters are given long lead times to comply with regulations, innovations and simple housekeeping changes can frequently achieve the required results in a more cost-effective fashion, thus reducing the market for control products. Thus, the "buy" perspective should usually be taken as an upper bound on the likely market.

3. THE EP MARKET OPPORTUNITIES IN WESTERN EUROPE

In this section, we summarize two recent studies on the EP market opportunities which are foreseen for Western Europe.

- Background information on the studies and the main conclusions of the report are presented.
- The markets are discussed from the perspective of forecast expenditures, priority market segments, priority countries, barriers to market entry and market strategies.
- Key points are summarized in a conclusion.

Sources of Information

The two studies reviewed were:

- *The Market For Environmental Technologies In Western And Eastern Europe Up To The Year 2005*, by Helmut Kaiser Consultancy of Tubingen, FGR (April 1990); and
- *Green Europe: Economic Implications and Business Opportunities*, by DRI/McGraw Hill (Autumn 1990).

Both studies were provided to the consultants by the client and are quoted herein with the client's permission. Some general observations on the two studies must be made before discussing their individual conclusions.

- Both studies take the "buy" perspective: they offer their views on what industry in Western Europe is going to spend on environmental protection over the next ten to 15 years. The strengths and weaknesses for this approach were identified earlier.

- Neither study provides any detailed background information on the methodology used to produce the forecasts of EP expenditures or to identify the key markets. Thus, it is difficult to judge the reasonableness of the forecasts and the conclusions reached.
- As is typical of most studies of the environmental protection industry, these two studies use different definitions of environmental protection and therefore of the EP industry. Both also use different bases to project expenditures: one estimates total expenditures while the other estimates "additional" expenditures. Neither term is defined unambiguously.

The main conclusions of the reports are:

- Where appropriate, we augment the analysis of these two studies with the comments provided by Canadian Trade Commissioners who were interviewed in Europe as part of this project.
- As well, we incorporate comments from on-going monitoring reports of the U.S. Department of Commerce on the status of Europe 92 negotiations and implementation.

The Markets

Forecast Expenditures on Environmental Protection in the E.C.

Conclusion

Both studies forecast large expenditures in Western Europe on EP goods and services. While the individual estimates vary, the overall conclusions are similar: a great deal of money is going to be spent on EP in Western Europe.

Exhibit #3 presents the total expenditures forecast to be spent on environmental protection. Note the following points:

- The Kaiser total is almost three times that of the DRI report. It is not possible to tell from the reports what might account for these differences. In any event, both totals are very large and the discrepancy is not beyond what might be expected for a situation in which definitions vary and no firm forecasting methodologies exist.
- A partial explanation for the difference could be that the Kaiser report forecasts "total" expenditures, whereas DRI forecasts "additional" expenditures over a baseline level of expenditures. It is therefore reasonable that the DRI total would be smaller than the Kaiser one which sums current and incremental expenditures.
- Another explanation could be that the DRI estimate in Exhibit #3 is for the business sector only whereas it appears as though the Kaiser estimate is for both public and private sectors' expenditures.

- The Kaiser report presents an estimate of the EP expenditures forecast for the U.S. for the year 2000. The estimate of about \$110 billion is reasonably close to the U.S. Environmental Protection Agency's own estimate for 2000 of \$185 billion (1990 dollars) under the EPA's "full implementation" scenario.

A cautionary note is in order here.

Some of these forecast expenditures are for government procurement within the E.C. This is a huge market: about U.S.\$385 billion is annually spent at all levels of government on services, including construction. However, some E.C. government procurement markets will be reserved for domestic suppliers. See *Barriers to Market Entry and Market Strategies*, page 20, for more details on this point.

The Priority Market Segments

Conclusion

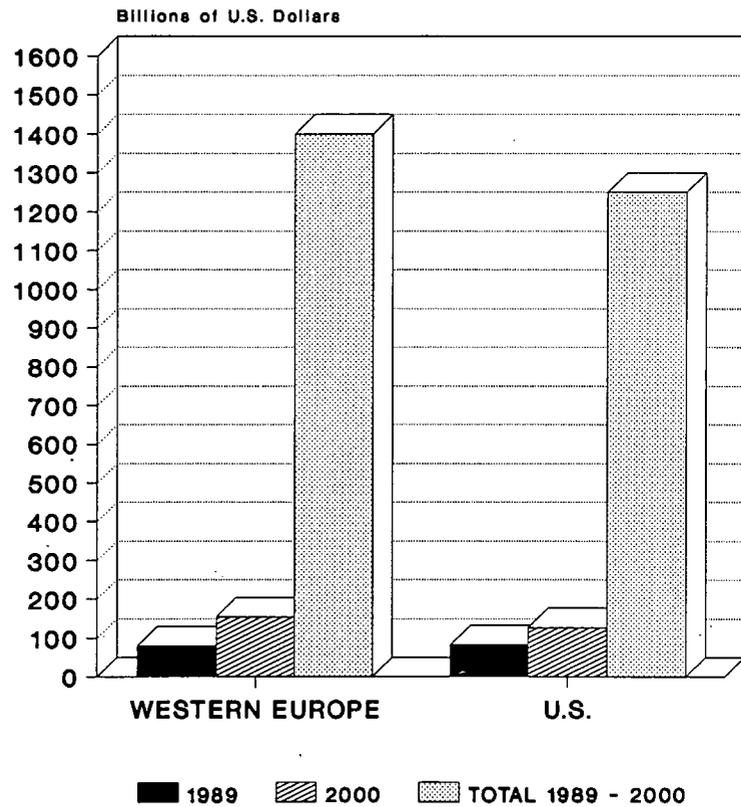
Water purification and solid waste market segments will be the biggest spenders. Air pollution issues could also represent large spending. R&D expenditures may be heavy.

EXHIBIT # 3

COST OF ENVIRONMENTAL PROTECTION MEASURES IN WESTERN EUROPE

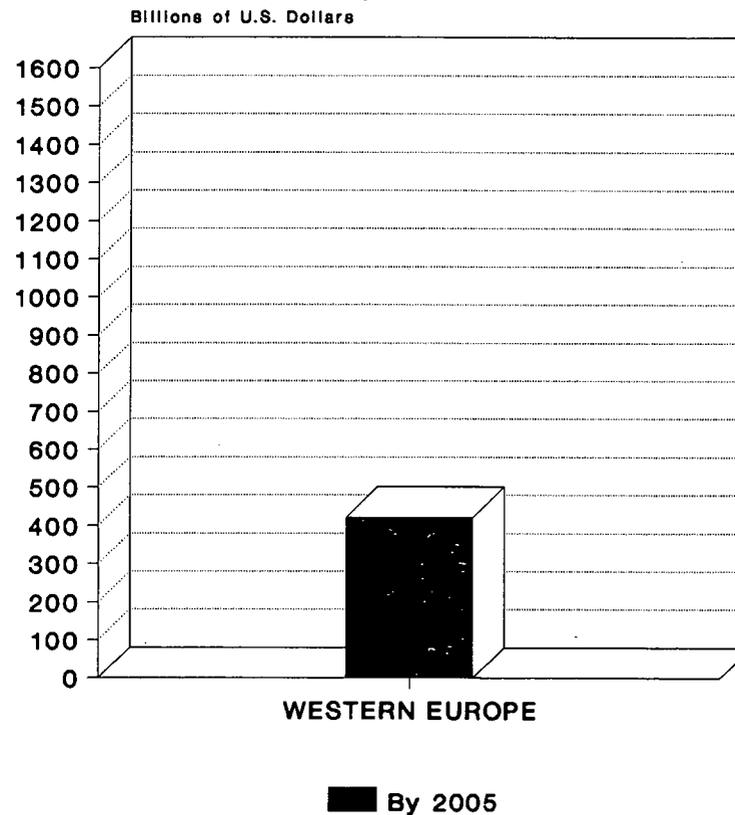
HELMUT KAISER

Private and public sectors



DRI

TOTAL ADDITIONAL EXPENDITURES BY 2005
Private sector only



Both studies break up the EP market into six segments. However, there are significant differences among the segments referred to by each of the two studies and they are difficult to compare. Exhibit #4 presents a summary of one of the sets of market segment.

Priority sectors are identified on the basis of current expenditures and growth forecasts. Exhibit #5 presents the priority markets identified in the two studies along with their estimated expenditures.

The following notes present the highlights of the two tables in Exhibit #5.

- The Kaiser report estimates that water purification and solid waste market segments will account for approximately two-thirds of the expenditures. DRI, on the other hand, estimates that the allocation of the additional expenditures to environmental problems varies over time. The early years see waste management, water quality, and R&D dominate. Atmospheric pollution expenditures increase rapidly, especially those on energy conservation. As well, transportation investment and noise pollution expenditures take time to catch on.
- While Kaiser estimated that expenditures are split almost equally between capital and O&M, DRI estimates that capital costs represent an increasing proportion of expenditures as energy conservation and noise reduction measures are phased in. Initial capital investment will be in construction, public works, transportation infrastructure, water treatment plants, etc. Over time, capital resources will be reallocated towards investment in equipment and machinery as opposed to construction.
- DRI states that the corporate sector will have to increase R&D expenditures to develop the required technologies. Over 80 percent of the R&D will be carried out by four industries: chemical, electrical engineering, mechanical engineering and transport equipment.

Exhibits #6, #7 and #8, taken from the Kaiser report, present overviews of the three key markets of water, solid waste and air. Exhibit #9 gives specific examples of technical market opportunities identified by DRI.

The three Trade Commissioners were in general agreement with these results. The West German Commissioners pointed out that site remediation was a big item in the former East Germany and that Canadian technological leads in nutrient removal from wastewater were good opportunities. The French Commissioner suggested that air quality control was likely to be more limited than the other markets.

The Priority Countries

Conclusion

The priority target countries, in terms of the likely size of their EP expenditures, are:

- Germany
- France
- U.K. and
- Italy

Holland and Spain will also be large spenders on EP.

Germany alone will account for about 25 percent of expected EP costs in Western Europe.

Of course, size of likely expenditures is but one factor which a Canadian company would consider in deciding whether a particular country represented an attractive export market.

Interviews with Canadian Trade Commissioners in Germany, the U.K. and France confirmed that these three countries are expected to be the biggest spenders on EP over the next decade. However, all three Commissioners also reported the domestic strengths within the three countries to be excellent. The competition will be tough and sophisticated.

EXHIBIT #4

The Market Segments of the Kaiser Report

1. **Water purification and effluents/sludge treatment:**
 - Municipal water supply and wastewater treatment.
 - Municipal sludge treatment.
 - Industrial effluents treatment.
 - Measurement, process control and analysis.
2. **Solid hazardous waste disposal, materials recovery and site decontamination:**
 - Hazardous waste disposal, collection and transportation.
 - Engineering/consulting.
 - Measurement, process control and analysis.
 - Dumping technology.
 - Recycling centers, especially plastic wastes.
 - Domestic refuse and hazardous waste incineration.
 - On and off-site decontamination — engineering, thermal leachate, stripping, extraction, biological methods and earthworks.
3. **Air quality control:**
 - Engineering/consulting.
 - Desulphurization.
 - Denitrification.
 - Dust Removal.
 - Waste Gas Treatment.
 - Measurement, process control and analysis.
4. **Noise Reduction:**
 - Engineering/consulting.
 - Acoustics in buildings and construction.
 - Noise protection in the workplace.
 - Industrial noise protection.
 - Noise protection on highways.
 - Measurement technology.
5. **Energy conservation:**
 - **Technologies: including**
 - solar energy.
 - wind energy.
 - biomass.
 - dumping site gas.
 - geothermal energy.
 - **Efficiency in Industry:**
 - heat/power coupling.
 - heat recovery plants.
 - energy from waste products.
6. **Measurement, process control and analysis:**
 - **Water Purification:**
 - technology measuring and analyzing metals, chemicals and toxins.
 - **Air quality control:**
 - technology measuring and analyzing particulate emissions, gaseous emissions and dust.
 - **Noise reduction:**
 - technology measuring sound-level and noise dose.
 - **Solid waste disposal:**
 - technology measuring wet chemical content, weight determination, spectroscopic analysis.

EXHIBIT #5

The Kaiser Priority Markets

Market Segment	Annual Expenditures ¹ (billions US\$)		Compound Growth Rate ⁴
	1989	2000 ²	
1. Water purification and effluents/sludge treatment	26	47	6%
2. Solid waste disposal and materials recovery	31	65	7%
3. Air quality	15	28	6%
4. Noise reduction	4	6	4%
5. Energy conservation	7	13	6%
Totals	83	159	6%
6. Measurement, process control ³	2	5	11%

1. Expenditures on both capital and ongoing O&M. The split between capital and O&M is approximately 50/50.
2. Assumed to be in constant 1989 units. Kaiser study does not specify.
3. Also counted in the previous five market segments.
4. Calculated from the Kaiser data.

The DRI Priority Markets Additional Costs to 2005 of the Green Scenarios Western Europe (billion US\$)

	Likely	Extreme	Average Annual Growth Rate	
			Likely	Extreme
Air ¹	28	123	5.6%	11.0%
Water	46	66	5.2%	6.4%
Soil	19	46	N/A	N/A
Waste	66	95	8.9%	10.0%
Noise	8	30	9.7%	17.3%
R&D	34	69	N/A	N/A
Totals	201	429	6.7%	9.3%

1. Includes measures to combat global climate change and to expand transport infrastructure.

EXHIBIT # 6

Water Purification and Effluents/Sludge Treatment in Western Europe

Trends

- High growth of water recycling methods (recirculation).
- Third purification stage (nitrate/phosphate precipitation).
- Increased need for water treatment chemicals.
- Growing demand for measurement, process control and analysis technology (expert systems, Artificial Intelligence).
- Rise in engineering and consulting services.
- Seepage water treatment.
- Sludge treatment and recycling (especially industrial sludges).
- Water conservation systems.

Opportunities

- Growing need for ultrapure water in the electronics and pharmaceuticals industries.
- Increasing contamination of drinking water.
- More stringent legislation (lowering of max. permissible concentrations, higher effluents discharge fees).
- An increase in the quantities of sludge.
- Large need for investment for sanitation of sewage pipes and water supply mains.
- Rising investments in industrial water/effluents treatment.

Risks

- Lack of financial means.
- Fierce competition, especially for low-tech methods.
- Lack of enforcement of pertinent laws (e.g. non-observance of Common Market guidelines).
- Inadequate measuring stations (mobile), especially for the surveillance of industrial discharges.

EXHIBIT #7

Solid Waste and Hazardous Waste Disposal, Materials Recovery, and the Sanitation of Contaminated Sites in Western Europe

Trends

- Solid waste/ hazardous waste incineration (waste heating/power plants).
- Avoidance and recycling strategies.
- High-security dumps.
- A drastic increase in the cost of disposal.
- Disposal centers.
- The sanitation of contaminated sites.
- Regional solid waste/hazardous waste disposal.
- A drastic drop in the transportation of solid waste and hazardous waste.

Opportunities

- Lack of dumping sites.
- A drastic increase in the quantity of hazardous waste due to a re-definition.
- Large market potential.
- High growth rates.

Risks

- The search for siting and lengthy approval procedures.
- Technology/safety.
- Financial means.
- The market price of recycled products is too low.
- Fierce competition.

EXHIBIT #8

Air Quality Control/Waste Gas Treatment in Western Europe

Trends

- Desulphurization by 1995.
- Denitrification by the year 2000.
- More stringent "Technical Guidelines for Air Quality Control" in West Germany.
- Legal regulations in other Western European countries will be adapted to correspond to West German standards.
- Air quality control for solid/hazardous waste incineration plants.
- Industrial waste gas treatment.
- Mobile measurement and analysis.

Opportunities

- Large market potential.
- More stringent legislation.

Risks

- Financial means.
- Lack of enforcement.
- More fierce competition.
- Technology/safety.

Barriers to Market Entry

Conclusion:

The biggest barrier to entry into the European EP industry is the strength of the domestic EP industry. Delays in harmonizing standards could continue to make the E.C. market a difficult one. The water market is subject to E.C. preferences.

The EP industry in Western Europe and Germany in particular has been driven by:

- strict EP laws
- a large domestic market
- the need to efficiently use its limited natural resources
- a high level of competition and innovation and
- an emphasis on technological differentiation, basic research and customized solutions

The Trade Commissioners agreed strongly with these conclusions. Their three countries, three of the most developed in Europe, have both mature companies with extensive R&D facilities and new, entrepreneurial companies springing up in response to stringent environmental regulations. Stiff, sophisticated competition will be the biggest barrier to success.

No changes in this situation were foreseen as a result of Europe 1992, except that it might heighten as it becomes easier for European firms to compete throughout the E.C. member countries. Europe 92 will not mean a homogeneous market: there will still be wide local differences in regulations and culture, probably for many decades.

U.S. Department of Commerce officials, in their reports to U.S. exporters, point out that there are large gaps between the adoption of legislation by the E.C. and the implementation of that legislation by E.C. member countries. The largest gap is in the elimination of technical barriers to trade, especially

in setting standards for products. The E.C. members are significantly behind the planned dates for achieving more uniform standards and exporters to the E.C. may continue for some years to face varying standards and certification processes throughout the E.C. member states.

The water sector could pose a particular barrier to Canadian exporters. A recent E.C. directive covering procurement in four sectors (water, energy, transportation, and telecommunications) allows discrimination against non-E.C. exporters, in the absence of an over-riding international or bilateral agreement. The directive authorizes member states to exclude, in these four sectors, bids with less than 50 percent E.C. value; in addition, acceptable offers from E.C. sources would receive a three percent price preference over foreign offers.

These discriminatory practices will influence the strategies Canadian suppliers will have to use to crack the affected markets. For example, selling an EP product to an E.C. chemical manufacturer would not bump up against the preferential practices, whereas selling the same product to an E.C. water supply company could.

Market Strategies

Conclusion

The EP market is a technical one and technical expertise should be the basis of any market penetration strategy. A physical presence within the E.C. is also becoming a necessity.

The Kaiser report diagnoses both current strategies and required future strategies. DRI identifies a number of factors to be considered when designing a successful market strategy. Exhibit #10 summarizes the conclusions.

Kaiser identifies the strategies currently employed by businesses as being competitive bidding, pilot projects and problem solving for individual problems. Kaiser sees these approaches as being high risk ventures offering, with a few exceptions, low profits.

EXHIBIT #9

“Examples of Opportunities” in the European Environmental Protection Market Identified by DRI

	Past Demand Growth	Future Demand Growth
Fluidised bed boilers	Medium	Low
FGD	High	Accelerating
De-NO _x	Low	Accelerating
Solar energy	Very Low	Local & Long-Term
Wind energy	Very Low	Local & Long-Term
Catalytic converters	Medium	Accelerating — Short Term
Catalysts	High	Accelerating
CFC substitutes	New Market	Very High
Membranes	High	Very High
Incinerators	Low	Medium
Environmental audits	New Market	High
Waste management services	Low	High
CAD/CAM	High	High

EXHIBIT #10	
Market Strategies	
Kaiser	DRI
<p><i>Current</i></p> <ul style="list-style-type: none"> • competitive bidding • pilot projects • problem-solving 	<ul style="list-style-type: none"> • current EP industry is fragmented, few large companies which do mainly EP business • becoming a global industry, evidenced by increases in cross-border agreements, licences, mergers, etc. • Japanese and U.S. firms particularly active
<p><i>Future</i></p> <ul style="list-style-type: none"> • aimed at private sector • global in scope • integrated systems and services • cooperative R&D • offers of services • holistic solutions 	<ul style="list-style-type: none"> • innovation is essential, but R&D investment is hampered by uncertain prospects of regulations • however, companies beginning to move in advance of regulations by “greening” their manufacturing, marketing and product planning.

DRI claims that the current EP industry in Western Europe is fragmented since there are few large companies which do mainly EP business. Rather, a large number of companies undertake EP business as an add-on to their core operations. No evidence is offered to support this claim, and it is not in accord with the results of other studies.

The Trade Commissioners agreed generally on the key points of a successful strategy for Europe: have a technological edge, look at niche markets, and establish a strong local presence. The Counsellor from France issued a cautionary note about using "manufacturers' representatives" because of legal issues which had arisen. Distributors or licensing arrangements were to be preferred.

Recall that the E.C. has recently identified four sectors (energy, water, telecommunications and transport) for which its members can institute preferential procurement practices, based on E.C. content. Canadians wishing to export to these markets will certainly have to establish a strong E.C. presence, especially if they are dealing with manufactured EP products. Canadian and U.S. trade officials are advising their small and mid-sized manufacturers to begin the search for partners now, as much out of enthusiasm for the E.C. market as for fear of these preferential practices.

Conclusions

The estimates of the likely Western European expenditures on EP vary widely but all the estimates are large. This is a common feature of all such attempts to estimate EP expenditures in Western

countries, and reflects the different assumptions and approaches which can be taken to the task.

The important point, however, is not so much this variation as the fact that all of the estimates foresee large expenditures on EP goods and services. There are major EP markets in Western Europe.

The specific market segments identified vary across the studies, but in general all of the traditional EP market segments are pointed out as significant:

- wastewater treatment
- ambient air pollution control
- site remediation
- all aspects of solid waste handling and management
- noise control
- environmental audits and planning
- a wide variety of energy and transportation-related issues and
- global issues such as greenhouse gases control

A company with a technological edge in any of these fields will have potential markets in Western Europe. However, the domestic competition will be tough and sophisticated. A strong local E.C. presence will be an essential ingredient for success.

4. CANADIAN DOMESTIC INDUSTRIAL STRENGTHS IN ENVIRONMENTAL PROTECTION

In this section, we present a review of Canadian domestic industrial strengths in the environmental protection market. Recall that this constitutes the "supply" side of the market research, i.e. how well positioned are Canadian companies to supply the goods and services demanded by the European EP markets in the 90's.

Methodology

Three methods were used to diagnose domestic strengths:

- a review of previous studies carried out on the EP industry in Canada and the Provinces;
- interviews with representatives of Federal and Provincial government departments interested in the EP industry; and
- a tele-conference with 12 representatives of the EP industry and governments, including the recently-formed Environmental Protection Industry Association of Canada.

The following studies were reviewed:

- *The Canadian Environmental Supply Industry: Size, Significance and Trends*, by Informetrica Ltd. for Industry, Science and Technology Canada, Ottawa, March 1991;
- *Europe 1992 And The Ontario Environmental Protection Industry*, Ontario Ministry of Industry, Trade and Technology, 1990.

Studies on the domestic EP industry are about to be undertaken by the Western provinces and ISTC in Quebec. A recent study of the Maritimes EP industry will be released soon by ISTC in Halifax.

Domestic Industry Strengths

Each of the studies reviewed provides interesting insights into the size of the industry in Canada and its local characteristics, but none identified clear and unqualified domestic sectoral strengths which could be used as a spring board for European forays.

An Overview of the Canadian EP Manufacturing Industry

Under contract to ISTC, Informetrica Ltd. prepared a macroeconomic overview of the EP manufacturing industry in Canada. The overview used the 1980-86 census of manufacturers and focused on 58 manufacturing industries, but did not include the service sector and primary sectors (agriculture, fisheries, trapping, mining). The preliminary conclusions of this overview were as follows.

- There were about 1700 establishments producing environmental products in 1986. About 68 percent of these firms got over 50 percent or more of their revenues from the sale of environmental products.
- The number of firms concentrating on the production of environmental goods has increased notably in recent years.
- Most of the firms are small. Over 50 percent of the firms reported sales of between \$1 million and \$25 million; another 33 percent reported sales of less than \$1 million.
- 72 of the firms reported sales of over \$50 million. This 4.5 percent of all firms accounted for 63 percent of the sales of all environmental products.
- Recent years have seen the emergence of a large number of small EP manufacturing establishments.

- Most of the Canadian EP manufacturing appears to lie outside of the “high technology” sector. Informetrica concluded tentatively that most of the EP manufacturing in Canada is used “... to supply the country’s public and private sector “plumbing” and garbage collection and removal”.
- Ontario and Alberta account for relatively higher proportions of value added and employment in EP manufacturing than would be warranted by their shares of overall manufacturing in Canada. The reasons for this were not obvious.

The Ontario MITT Study

The Ontario government, in its report *Europe 1992 And The Ontario Environmental Protection Industry*, presented an analysis of provincial strengths and market opportunities. Exhibit #11 gives a summary of this report. The extreme diversity of the EP industry makes it difficult to draw overall conclusions from this work, but the authors do conclude that:

Ontario strengths lie mainly in engineering consulting, some niche equipment products (specialized wastewater treatment equipment, monitoring equipment, flue-gas desulphurization, etc. but less so in high-volume, lower technology products or instruments), solid waste management services, and in adapting technologies to the needs of resource processing industries. Although engineering consulting is a provincial industry strength, the opportunities for activity in Europe may be limited by the competitiveness of the local industry in Europe, the large civil engineering component of environmental projects which can be readily served by European firms, and the costs of relocating scarce skilled resources to Europe when local Ontario demand is strong. Those firms that can supply equipment or patented processes along with design work will have the greatest promise in Europe.

The limitations of the Provincial industry’s export potential for equipment stems from its domination by foreign-owned companies: the exception is the solid waste treatment equipment market.

EXHIBIT #11

Strength of the Ontario EP Industry (from MITT Report of 1990)

Pollution Abatement and Control Equipment

In terms of the strengths of the domestic industry, Ontario appears to have only modest potential for exports of pollution abatement and control equipment to Europe. However, a small number of selected suppliers may have excellent prospects. The limitations of the industry are reflected by its negative trade balance, the predominance of foreign subsidiaries in Ontario, transportation cost barriers and limited differentiation in some of the basic industrial process equipment used in environmental applications. Nevertheless, a number of firms have distinguished themselves by recognized technological leadership or recent export success.

Successful Ontario-based air pollution firms tend to be small, niche-market players or large resource-based companies. Several have only recently begun to market their in-house process technologies.

The water and wastewater treatment industry in Ontario is also led by U.S. subsidiaries. The larger U.S. manufacturers are supplemented by many small and medium-sized Ontario firms with successful niche-market products. These Ontario firms are often technologically driven (i.e., they have emerged or grown as a result of successful R&D efforts), entrepreneurial concerns that anticipate or react quickly to legislative change. A number of these Ontario firms have already established a presence in export markets, including Europe.

The solid and hazardous waste segment of the EP equipment industry is populated by a mix of U.S. subsidiaries and Canadian firms. Solid waste equipment is dominated by heavy manufacturers. Ontario manufacturers do not appear to have any particular competitive advantages in Europe in these products.

Control, Sampling and Monitoring Equipment and Instruments

The CSM industry involves the design and manufacturing of EP instruments including gas samplers, filter samplers, gas analysis equipment, and meters. Many of the leading firms in the Ontario market are foreign subsidiaries. Others merely assemble control panels and other products from imported electronic components. While overall dollar volumes may not be large, there are a few technologically-innovative Ontario companies specializing in CSM equipment that have export potential. Several of these firms have already shown promise in export markets, including those in Europe.

Environmental Services Industry

In contrast to other segments of the EP industry, the environmental services industry in Ontario is dominated by locally-based firms. Ontario heavy industries and utilities also have a considerable degree of in-house expertise in environmental matters. For the most part, these firms and institutions have not yet actively commercialized these skills for sales to other organizations.

Despite the strength of the domestic services industry, many of the same forces that have protected the Canadian market from imports of EP services will pose impediments to exports to other industrialized countries. Laboratory services are not generally exported except when linked to aid-funded projects in the Third World, although laboratory firms can set up operations in other countries. Engineering and construction firms generally face local licensing requirements and need a strong local market presence.

Comments By Government Officials

Interviews with representatives of the Federal and Provincial government departments of trade and trade development confirmed that the structure, strengths and weaknesses of this industry sector were not well understood yet. There were numerous examples of individual Canadian EP companies which were successful in exporting to Western Europe, but there was no overall picture of domestic sectoral strengths being the basis for these successes.

The Tele-conference with Government and Industry Experts

The tele-conference with industry and government representatives presented further insights into this finding. The consensus was that success by Canadian EP companies was more a matter of individual firms' efforts and capabilities than regional or national strengths. Some regions, such as Alberta, may have strengths in a particular sector such as engineering in oil and gas exploration and development. The critical issue was still one of turning this general, diffuse expertise into a specific export foray by individual companies.

In part, this finding reflects a reality of the EP market. It consists of a great variety of different products and services, united only by their common purpose, i.e. protecting the natural environment. The finding also reflects the reality of the Canadian industrial base.

The studies and involved officials all agree that a Canadian company looking to succeed in the European market should have some technological edge, preferably protected by patents or some other mechanism. Thus, technological innovation becomes the domestic strength which spurs the export successes.

Conclusions

The Canadian EP industry is still largely an unknown. While all levels of governments have a strong interest in its growth and development, problems of inconsistent definitions and lack of resources have hampered obtaining clear insights into the structure and strengths of the industry. There are no clear pictures of sectoral strength.

However, there are numerous examples of Canadian firms which have been successful in selling both their EP products, processes and services into Western Europe. A key feature in most of these successes has been a technological lead which gave the firms an advantage over the sophisticated European domestic competitors.

In the next section, we examine some of these success stories of Canadian companies and distil from them the key components of a successful export strategy.

5. SUCCEEDING IN THE WESTERN EUROPEAN MARKET

The previous sections have demonstrated that there is a large EP market developing in Western Europe. Some Canadian companies have been successful in exporting to the market, despite significant obstacles. In this final section of the report, we present some case studies of successes. Based on these successes and comments from Canadian Trade Commissioners in three Western European countries, we draw general conclusions about the appropriate approaches to tackling this market.

Six Success Stories

The Cases

The following success stories, drawn from across the country, illustrate various approaches which companies have taken to succeed in the Western European market. These cases show that there are opportunities for companies with a technological edge and the determination to tackle the market.

**SIX SUCCESSFUL
CANADIAN COMPANIES IN THE
WEST EUROPEAN EP MARKET**

CASE STUDY #1

The Company

Axys Group Ltd.
P.O. Box 2219, 2045 Mills Road □ Sidney, B.C.
Telephone: (604) 656-0881 □ Fax:(604) 656-4511

Founded in 1974, the Axys Group Ltd. is a privately owned company offering a range of distinctive products and services. These include environmental consulting, trace organic analytical services, environmental systems, GIS, and high purity chemicals. These services and products are offered internationally.

- Sales: \$ 8 million
- Employees: 100

The Product

Axys markets several environmental protection products and services in the Western European market. These are:

- water quality instrumentation;
- environmental monitoring buoys;
- trace organic analytical services; and
- ultra-pure chemicals.

Water quality instrumentation represents the bulk of Axys' sales in Western Europe.

Achieving Success

Western Europe was Axys' first attempt at exporting their services outside of North America. They have been in the market for 7 years.

Axys initiated entry into the market by attending international trade shows. Inquiries about their services soon followed.

Determining that their products, especially water quality instrumentation, were unique enough to

compete in the Western European market, Axys began to search for suitable distribution agents. These agents are licensed only to sell Axys' products, not their services.

Axys' services have gained a strong enough reputation that requests come directly to their Canadian offices, rather than having to rely on sales agents.

Through these agents, Axys has achieved sales in Italy, the U.K., Germany, France and Spain.

Most of these sales, which totalled \$200,000 in 1990, were to federal and state or provincial governments.

The Barriers

The largest barrier Axys encountered in entering the market was finding good sales agents. Persistence and ongoing research has proven to be the best method of overcoming this barrier.

Key Factors in Achieving Success

The uniqueness and quality of Axys' products was the single most important reason for their success.

Government assistance in entering the market also proved helpful. Axys utilized two government programs to assist their strategies: PEMD, and the Technology Opportunities in Europe Program . The Technology Opportunities in Europe Program had a \$20 million budget to assist Canadian companies in becoming participants in EUREKA projects. EUREKA is a program to upgrade European technologies to make European firms more competitive with their North American and Japanese counterparts.

A Word of Advice

Perform surveys of markets you are intending to enter, otherwise a great deal of resources are wasted in attempting to compete in the wrong markets.

CASE STUDY #2

The Company

Cascade Group
3999 Cote Vertu □ Montréal, Quebec H4R 1R2
Telephone: (514) 336-3330 □ Fax: (514) 336-3023

Celebrating their 28th year in business, Cascade Group offers a wide range of products. These include environmental control systems: primarily chemical filtration of airborne contaminants, dust collectors, industrial air conditioners and electric heating elements.

- Sales: \$ 20 million
- Employees: 150

The Product

In Western Europe, Cascade markets environmental control systems which provide chemical filtration of airborne contaminants. The control systems are sold primarily to pulp and paper and petrochemical industries, and engineering firms.

Achieving Success

Prompted to enter the Western Europe market because of the emergence of global markets, the promise of 1992, and the excellent success enjoyed by a North American competitor, Cascade began the entry process two years ago.

They contracted Raymond Chabot & Associates to perform research on potential markets before developing their strategic plan.

Initially they tried direct supply to Western Europe. Not proving to be as effective as wished, Cascade then contracted six non-exclusive agents to distribute their product. These agents were each subject to a six month probation period, and then the best were chosen from amongst them.

Presently, Cascade is negotiating with a well established French firm to enter into a joint venture/technology transfer. The French firm will have exclusive rights to Cascade's products in Western Europe and in return, Cascade will have exclusive rights of this company's product in North America.

Cascade's sales are growing quickly, with anticipated growth over the next several years estimated at 10 to 12 per cent. They currently have achieved sales in U.K., Italy, the Netherlands, and Spain.

The Barriers

The largest barriers Cascade encountered were the differences in business practices. Clients were unwilling to switch to an unknown foreign company. Even substantially reduced prices did not help. Cascade is slowly overcoming this attitude by establishing their name as a quality producer with competitive prices. Time and persistence again proved to be effective elements for success.

Key Factors in Achieving Success

- The technological advantages offered by Cascade's products.
- The business strategy developed and used by Cascade.
- The price of their products.

A Word of Advice

Don't neglect your home market at the expense of exporting. If there is a choice between a sale in Canada and in Western Europe, take the Canadian sale, otherwise your core business may disappear.

CASE STUDY #3

The Company

Eco-Tec Inc.
925 Brock Road South □ Pickering, ON
L1W 2X9
Telephone: (416) 831-3400 □ Fax: (416) 831-3409

Eco-Tec is a privately owned company with plants in Pickering, Ontario and Walsall, England.

- Employees: 60

The Product

Chemical recycling and chemical purification, primarily for the metal-finishing industry, represents the bulk of Eco-Tec's business. Approximately 90 percent of Eco-Tec's sales are attributed to these products.

Achieving Success

Eco-Tec has been competing in the West European market for approximately 15 years. Their initial contact with the market came as a result of interest generated over their product at international trade shows. An active response by Eco-Tec to this interest resulted in sales to industrial clients in Western Europe. Eco-Tec made the product in Canada and exported it to the client.

As exporting became too costly due to foreign exchange rates, Eco-Tec licensed a U.K. firm to manufacture systems in the U.K. for the European market. This arrangement enabled Eco-Tec to keep capital outlay to a minimum. To help fund the venture they also employed government assistance programs as much as possible.

Eco-Tec eventually founded ETE, providing them with a wholly owned production facility in the U.K. from which to service the European market.

Presently, Eco-Tec competes in virtually all of the European Community countries. They have achieved sales in Germany, the U.K., France, Italy, Belgium and the Netherlands.

To develop their sales in the E.C. countries in which they compete, Eco-Tec has contracted with local

distributors to market their products. These distributors are not representatives, but rather, buy Eco-Tec's products and then resell them. Sales in these countries have been steadily increasing over the past decade and a half, with 1990 representing the best year for Eco-Tec. Increased sales are anticipated to continue with the formation of the Common Market in 1992.

The Barriers

Eco-Tec's largest barriers to successfully entering the West European market were the language/culture differences. After 15 years, Eco-Tec understands the differences in business practices between Canada and Western Europe. The establishment of a distributorship network has been vital in overcoming these barriers.

Being able to meet European standards in Canada proved difficult. Parts and processes which ensured compliance were not always available in Canada. By establishing a plant in the U.K., Eco-Tec has effectively overcome this barrier.

European domestic companies have — and continue to — infringe on patents held by Eco-Tec. The only solution to this, unfortunately, has been to spend a large amount of time and resources fighting these infringements in court.

Key Factors in Achieving Success

- The technical quality of Eco-Tec's product was essential.
- Sheer persistence in the marketplace has been another key factor. Throughout 15 years in the Western European market there were plenty of times when it would have made sense to quit. However, after many years of losses Eco-Tec realized a profit in 1990, illustrating the benefit of hanging tough.

A Word of Advice

Gather as much information on the Western European market before attempting to market your products there.

CASE STUDY #4

The Company

Kenox Corporation
Village Center Place □ Mississauga, ON
L4Z 1V9
Telephone: (416) 756-4888 □ Fax: (416) 756-4889

Established in 1983, Kenox is a privately owned company offering a unique second generation wet air oxidation technology to municipal and industrial clients.

- Sales: \$700,000
- Employees: 4

The Product

Kenox offers a patented wet air oxidation technology for treating and detoxifying municipal and industrial wastewater, sludges, and slurries. They provide complete turnkey installations of their product.

Achieving Success

Kenox was meeting with no success marketing their product in Canada and was forced to look at alternative markets to avoid having to close down. They contacted the Waste Management Authority in the U.K. and had an article describing their product placed in the Authority's newsletter. It was hoped this might lead to a joint venture with an U.K. firm.

The U.K. was chosen as the preferred market to compete in as regulations governing equipment used by Kenox were less stringent in the U.K. than in many of the other Western European countries.

Several months after the newsletter was published, Lee Environmental contacted Kenox. Consequently, Kenox entered into a licensee arrangement with Lee to sell, market and use their product in the U.K. Lee also bought a system for their own purposes.

This sale was the first by Kenox and accounted for all of their \$700,000 in sales last year.

Now Kenox competes in Belgium, Denmark, Italy, Netherlands, Spain and the U.K. They are presently

negotiating with another firm to be an exclusive licensee of their product for all of Europe, excluding the U.K.

Sales are expected to increase as a result of these continued efforts.

The Barriers

Kenox's small size and lack of a track record were the largest barriers to entering the Western European market. They had no working product which could be used for demonstration purposes, and therefore companies chose their larger, better known competitors, even though these products were up to twice the price.

The high capital cost of Kenox's product also proved to be an obstacle in entering the market. A typical unit costs between \$1.5 and \$1.8 million, and while this is an extremely competitive price, it still represents a large capital outlay.

The cost of entering the market was another barrier. Kenox spent approximately \$40,000 in initial efforts, all of which was provided by company resources.

Key Factors in Achieving Success

- The technical quality of Kenox's product was the key factor.
- The competitive price of the product also proved to be a key component.
- A thorough knowledge of competitor's products and services was critical.
- Sheer persistence and tenacity in the marketplace has also played a role.

A Word of Advice

Perform surveys of markets you are intending to enter, otherwise a great deal of resources are wasted in attempting to compete in the wrong markets.

CASE STUDY #5

The Company

Novatec Inc.
Suite 3000 □ 40 Powell Street
Vancouver, B.C. □ V6A 1E7
Telephone: (604) 682-8777 □ Fax: (604) 682-8701

Founded in 1984, Novatec is a privately owned engineering consulting firm. Situated in Vancouver, they offer civil and bioresource engineering services to industry (primarily pulp and paper and food processing) and municipalities. Novatec competes in Canada, the U.S., Europe and the Pacific Rim.

- Sales: \$ 2.6 million
- Employees: 35

The Product

Novatec provides process and detail design for water and wastewater treatment facilities. These services account for approximately 85 percent of Novatec's gross sales.

Achieving Success

Western Europe was Novatec's first attempt at exporting their services outside of Canada. Novatec did not actively pursue the market, but rather the market indirectly pursued them: an international request by Denmark for wastewater treatment technology enticed them to enter the market. The Canadian embassy contacted companies offering this service and offered valuable advice on how to approach the market.

Novatec did not enter the market directly, but rather were subcontracted by Stanley Technology Group to provide the process design and some detail design expertise for a wastewater treatment facility in Denmark. To date this has been their only sale in Western Europe.

The work in Denmark has provided Novatec with insight into how to enter other Western European markets. Currently, business development is being undertaken in Greece, Italy, Germany and Sweden.

In attempts to generate more sales Novatec has, at the cost of approximately \$50,000, developed pilot projects to demonstrate the quality of their services to potential clients in each of these countries. To date, these ventures have not succeeded in securing any contracts, but interest has been very high in Novatec's services. Sales to date in the Western European market are approximately \$20,000.

The Barriers

The largest barrier for Novatec to enjoy success in Western Europe stems from different engineering arrangements between Europe and Canada. In Canada, liability insurance for consulting firms disallows them from being involved with the actual construction of a project. However, in Europe, a firm is required to be involved with construction if they wish to win a contract. Therefore, a Canadian company exposes itself to serious liability problems if it enters directly into contracts with European clients.

As a market entry strategy, the liability problem makes it virtually impossible for Novatec to form partnerships, their preferred option, with local European firms.

Language/culture differences presented another barrier. Trade shows did not attain the preferred level of success due to language barriers. And again, the German belief that for a product to be worthy it must be produced in Germany restricts sales.

The financial burden of entering and remaining in the Western European market also affected Novatec.

Key Factors in Achieving Success

- The high quality of Novatec's service was the single most important reason for their success.

A Word of Advice

Team up with a partner or distributor to ease your entry into the marketplace.

CASE STUDY #6

The Company

Stanley Environmental Sciences Inc.
as part of Stanley Technology Group Inc.
Stanley Technology Centre
10160-112 Street □ Edmonton, Alberta
T5K 2L6
Telephone: (403) 423-4777
Fax:(403) 424-8988

Founded in 1954, the Stanley Technology Group comprises 15 operating companies which provide a variety of professional consulting services for industrial, commercial, government, institutional and international clients. Representing one of these 15 companies, Stanley Environmental Sciences Inc.(SESI) was formed in 1988 to market and implement advanced wastewater treatment systems.

- Employees: 40, with support from 1200 Stanley Technology Group employees
- Sales: \$4-5 million

The Product

Stanley's product is a biological nutrient removal technology designed to work in the low strength, low temperature wastewaters common to Canada, the United States and Europe. A key component of this technology has been the development of the unique primary sludge fermentation (PSF) system. The system removes nutrients more effectively than traditional chemical technology without producing any chemical sludges. The system is designed to be utilized as an "add-on" to existing wastewater plants, or incorporated into the design of new plants.

Achieving Success

Stanley was alerted to an International symposium on wastewater technologies being held in Copenhagen. They quickly decided to prepare a presentation of their technology for the symposium in hopes of attracting clients.

To help fund the costs associated with presenting at a symposium Stanley received a \$25,000 PEMD grant.

Within months of the symposium Stanley was commissioned by the municipality of Frederiksvaerk, Denmark to design a new biological treatment plant using the PSF system.

As Stanley's process was desired by the client they had the luxury of choosing a local partner to work with. A careful survey of potential engineering partners was undertaken to determine the best fit for Stanley. Carl Bro Inc. of Denmark was chosen as the partner for the Danish venture.

Successful joint venture with Carl Bro has provided Stanley with potential future business in various Western European countries.

Due to their success within Denmark, Stanley has been pursuing the German, U.K. and Swedish markets. Partners have been located for the Swedish and U.K. markets, and pilot projects have been established in Sweden to illustrate to potential clients the effectiveness of the product.

Sales for 1990 equalled \$100,000 for the Western European market. It is anticipated that sales will increase as Stanley becomes more entrenched in other Western European countries.

The Barriers

The major barrier was overcoming an "in-house" belief within Stanley that the Europeans must already have developed similar technology to Stanley's and therefore time and money were being wasted on preparing for the symposium.

The existing standards for effluents still result in chemical processes being cheaper to operate than Stanley's biological process. However, as the standards for nutrient removal are increased, Stanley's process is more economical as well as more environmentally acceptable.

An additional barrier was the German belief that a product not developed or produced in Germany is not worth considering.

Key Factors in Achieving Success

- Having a unique and high quality product was a key factor in Stanley's success.
- Teaming up with quality local partners has enabled Stanley to avoid many of the barriers to entry which would exist if they were attempting to enter the market alone. The nurturing of the relationship is also of utmost importance as Stanley's product is but one of many which Carl Bro Inc. can choose from.

- Acting quickly when learning of the symposium afforded Stanley a relatively easy entrance into the West European market.
- Finally, having experience in other export markets proved invaluable in their successful foray into the Western European market.

A Word of Advice

As Western Europeans prefer to deal with fellow countrymen, locating a good local partner will contribute to success in the market.

Tips from Trade Commissioners

Trade Commissioners from three Western European countries (Germany, France and the U.K.) were asked for advice on what separated the successful Canadian companies from the unsuccessful ones in the EP market.

The most important factors identified were the following:

- having some kind of edge, preferably a technological one, that differentiates the Canadian company from its sophisticated European competitors;
- getting to know the individuals in the European EP market. Western European purchasers of EP products and services talk to each other a great deal, and it is important to get your name known in these circles;
- establishing a strong local presence, preferably through a dedicated local office or a partner/distributor/service representative as appropriate; and
- having the determination and resources to see the market foray through to successful completion.

Conclusions

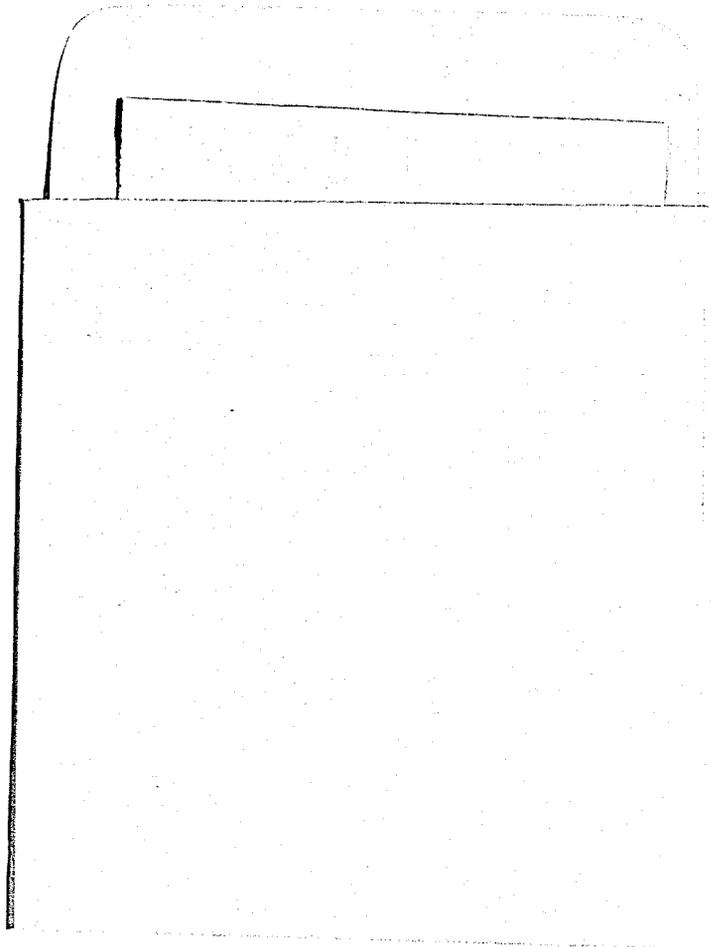
For manufacturers of EP products, the direct export route is likely to be most feasible for high-value products with low transportation costs such as instruments, specialized filters, etc. Some Canadian firms have already penetrated the E.C. market in fields of specialized wastewater treatment and monitoring equipment. The licensing or joint venture approach is likely to be favoured in cases where transportation costs, tariffs and other trade barriers impede direct export or in cases where the Canadian company simply cannot afford the costs of the more direct approach. Public sector procurement in some sectors will call for a high E.C. content to avoid preferences for E.C. suppliers.

For EP service companies, a direct presence in the target national markets seems to be required for success. The vehicles for achieving this are: acquisition of a European firm; joint venture; or opening a European office of the Canadian company. Both the acquisition and office-opening routes can be expensive, but they achieve the required end quickly. The joint venture route is a more cautious one, and anecdotal experience suggests that the Canadian firm seeking a European partner should be bringing something specific to the bargaining table, preferably some technological edge protected by patents or otherwise. A variety of Federal and Provincial programs (trade fairs, PEMD, exploratory missions, etc.) are available to assist Canadian companies in identifying appropriate European partners.

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