WORLD MARKET OPPORTUNITIES

MACHINERY

FOREWORD

Canada.

This publication is one of a series of World Market Opportunities booklets produced by the Department of Industry, Trade and Commerce to assist Canadian companies in determining potential export markets. The information presented has been derived from input provided by the department's various industry sector branches, international bureaux and Canadian Trade Commissioners abroad.

Countries represented have been arranged in special groups that encompass particular market areas of geographical regions. An alphabetical listing of all countries can be found at the back of the publication.

The World Market Opportunities series includes: Agriculture and Food Products, Capital Projects, Chemicals, Defence, Electrical and Electronic Products, Fisheries, Machinery, Resource Industries and Construction, Textiles and Consumer Products, and Transportation Industries.

Further information on the series or on exporting is available from the department's Business Centre in Ottawa. The centre receives calls 24 hours a day and may be contacted free from anywhere in Canada by dialing "0" and asking the operator for Zenith 03200.

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EASTERN EUROPE

BULGARIA

The Market
Since World War II, Bulgaria has been transformed from an agricultural to an industrial country. Fully 77 per cent of the labour force is engaged in non-agricultural sectors that account for 85 per cent of total production. In the new Five Year Plan (1976-80), Bulgaria will continue to record one of the fastest economic growth rates in the world (approximately 9 per cent a year). About 70 per cent of capital investments in material production are to be used for modernization, reconstruction, and expansion of existing production facilities.

The output of the machine building industry is to rise by 100 per cent during the plan period.

Housing (particularly apartment blocks) will continue to be a high priority, offering opportunities for specialized building systems and equipment. Reconstruction of major highways will continue. Canadian agricultural equipment has established a strong reputation, but more modest increases in agricultural machinery are called for in the current Five Year Plan.

Import Policies
Bulgaria's foreign trade amounted to about $11.0 billion in 1976. Of this total, approximately 75 per cent was with Comecon countries and 55 per cent with the Soviet Union. Foreign trade is managed by monopoly Foreign Trading Organizations. Because they purchase for the whole of Bulgaria, orders are large enough to make persistence worthwhile. Increasing foreign debt has led the Bulgarians to push hard for "industrial co-operation agreement" with Western firms. The crudest form is to simply accept a specified portion of the payment in Bulgarian products. What the Bulgarians really seek, however, is a long-term relationship with a western company which, in return, can count on preferred treatment in the Bulgarian market. Bulgaria is very keen to export machine tools and counter pressure casting machines.

Bulgarian firms also co-operate with western firms in third markets, such as Africa and the Middle East, where politics gives them an entrée.

Export Opportunities
- Agricultural machinery (especially for production of fodder).
- Pollution control equipment for Varna harbour on Black Sea Coast.
- Light portable drilling rigs for mineral exploration.
- Housing construction systems (for apartment blocks).
- Road construction equipment.

CZECHOSLOVAKIA

The Market
Czechoslovakia boasts a well developed machinery industry with a broad production capability. However, an ambitious development and investment program keyed to improving export capability has made it necessary for Czechoslovakia to import significant quantities of machinery. The hallmark of these imports is state of the art technology. Total machinery imports to Czechoslovakia in 1976 were $2.50 billion, of which $687.9 million came from western countries and comprised the following major items:

	($ million)
Power generating machinery (non-electric)	10.3
Agricultural machinery and implements	13.8
Office machines	33.4
Textile and leather machinery	48.2
Metalworking machinery	73.8
Special industries machinery	110.6
Machinery and appliances other than electrical and machinery parts	397.8

Import Policies
Foreign trade in Czechoslovakia is state-controlled and only certain authorized business organizations are entitled to import machinery to Czechoslovakia. The list of these organizations and their addresses is given in the booklet "Information for Canadian Businessmen — Czechoslovakia" which is available from the Department of Industry, Trade and Commerce.

Export Opportunities
Canadian manufacturers can compete successfully in major projects in the pulp and paper, chemical, sawmilling, grain processing and metallurgical industries. Marketing efforts relative to sales of mining and construction equipment should also prove rewarding.

GERMAN DEMOCRATIC REPUBLIC

The Market
Nearly a quarter of total industrial production and a half of export earnings are produced by the machinery sector and these proportions are constantly rising. The sector employs 894,000 workers in 2,122 plants. Since 1960, the number of employees has grown by 30 per cent while output has climbed by 283 per cent. Its share in investments is as high as the chemical industry — 16 per cent. The major fields of production are: machine tools (second to the U.S.S.R. within the CMEA and eighth in the world), chemical plants, foundry equipment, ships, vehicle construction, railway rolling stock and heavy engineering. Exports in 1975 were 8.7 billion marks, approximately U.S. $4.3 billion.

German Democratic Republic — (cont'd.)

Import Policies
In 1975 imports were as follows:

Construction machinery	314,971,000 marks
Cutting machine tools	439,400 marks
Drilling machine tools	4,010 pieces
Planing and polishing machine tools	429 pieces
Grinding machines	1,132 pieces
Hydraulic presses	653 pieces
Milling machines	33,838,000 marks
Machinery and equipment for the textile, clothing and leather processing industries	454,800,000 marks
Lifting gear and conveyors	458,739,000 marks
Pumps	61,603,000 marks
Fittings	144,761,000 marks
Bearings	125,393,000 marks

Export Opportunities
Prospects for Canadian manufacturers have not been explored in depth but are foreseen as being confined to areas of unique technology with some possibilities for forest industry equipment.

HUNGARY

The Market
With a population of approximately ten million, Hungary has a sophisticated economy with considerable domestic manufacturing capability. Metal working lathes and machine tools of various types are exported to many countries. Large, articulated farm tractors are made under licence from an American company, as are some agricultural implements. In the pulp and paper sector, Soviet technology seems to have the inside track for a number of reasons, but Canadian firms have made sales.

Import Policies
Hungary has a centrally planned economy, with exports and imports in the hands of a limited number of Foreign Trading Organizations (FTO's) dealing in a specific industry or industry sector. Although several large factories have the right to deal directly with foreign companies, as a rule this is not the case and all contracts go through the FTO. In contrast with the past two years, imports from the West in 1977 are to increase by about 8 per cent, while exports to this area are to rise by 17-18 per cent.

Export Opportunities
- Forest harvesting and wood processing equipment
- Saw chains
- Coal mining equipment (pneumatic and conventional belt conveyors, drilling equipment, long wall advancing equipment, submersible pumps, hydraulic coal mining equipment)
- Agricultural equipment (hay stackers, potato harvesters, grain handling equipment, silage preparation equipment, horticultural — fruit and vegetable growing — equipment, tobacco harvesting equipment, vineyard equipment, corn toppers and detasselers)
- Metal turning lathes, drills, milling machines
- Technology for manufacture of alumina (Hungary is already an important producer)
- Technology for secondary and tertiary production of crude oil
- Technology for air conditioning in deep mines
- Technology for environmental protection equipment

POLAND

The Market
In the period 1970-76, Poland's average level of capital investment was 30 per cent of national income, a spectacular program by any measure. Imports of machinery to fill the needs of a state-run economy, which has made a major decision to modernize, expand and create entire industries, have totalled billions of dollars and have come largely from Western countries.

A wide variety of construction equipment is manufactured under such Western licences as Clarke and International Harvester (U.S.), Coles (Britain), and Kockums (Sweden). Massey-Ferguson is involved in a billion dollar modernization and expansion of the Polish agricultural tractor industry via its British subsidiary, and Poland has her own design and manufacturing facilities for combines and agricultural implements. However, the manufacture of smaller-sized equipment for Polish private farmers, who own almost 80 per cent of the agricultural land, has not yet begun and could offer some opportunities for Canadian firms.

Import Policies
For the next few years, the government will follow a program of consolidation, and major new investments will likely be limited to such carefully selected fields as forestry, metallurgy, agriculture and food processing.

Much of Poland's machinery import purchasing takes place via turnkey projects for large industrial complexes. This will continue, but as the government's more selective policy on new investments takes effect, enterprises are taking a more selective approach to buying and, therefore, contract for individual items directly from manufacturers rather than through consortiums or contractors.

Export Opportunities
This sector offers great scope for Canadian firms, as Canadian sales in 1976-77 totalled more than $200 million. However, a number of large investments in the forestry and metallurgical fields planned for implementation before 1981 have been delayed due to a financial restraint.

ROMANIA

The Market
The machinery sector offers the most opportunities for Canadian exports to Romania. The trade post in Bucharest has details on major mining and pulp and paper projects. As well, it has prepared a comprehensive report on Romania's pulp and paper sector. Opportunities here include equipment from Canada for third countries in which Romania is participating. Negotiations for the sale of a CANDU nuclear reactor are in process between the Canadian and Romanian Governments, and if completed, will provide equipment opportunities.

Import Policies
Major consideration is whether the equipment requirement can be sourced from an Eastern Bloc country which will avoid the expenditure of Western currencies.

Export Opportunities
- Chemical recovery boiler units
- Continuous digesters
- Chippers
- Pulp bleaching washers
- Paper machines
- Semi-autogenous grinding mills
- Electro screw compressors
- Mining trucks
- Drill bits
- Slurry pumps
- Integral drill steels
- Jumbo drilling equipment
- Hydrocyclones
- Heavy duty log skidders (third countries)
- Tobacco harvesters
- Nuclear equipment

UNION OF SOVIET SOCIALIST REPUBLICS

The Market
A growing variety of machinery and equipment for Soviet heavy manufacturing, chemicals, oil and gas industries has been sold to the U.S.S.R. over the past several years, especially since the establishment of the Canadian line of credit to the U.S.S.R. of $500 million. This is the area of greatest growth and potential.

Import Policies
All types of equipment and machinery for heavy manufacturing, processing, oil and gas, mining, pulp and paper, forestry, and other resource industries is in demand and has high priority under the Five Year Plan. All imports are controlled by state monopoly Foreign Trade Organizations. Products incorporating latest technology and design are required. FTOs normally seek competing bids from at least three western suppliers. Policy is to obtain equipment to modernize production facilities, improve quality, productivity and efficiency.

Export Opportunities
Canadian equipment of proven superiority in our own natural resources development and processing, especially that suited to operation in cold northern environment, is of particular interest. Recent multimillion dollar sales of Canadian gas lift compressors and oil/gas valves support this view. Significant purchases by the U.S.S.R. of Canadian furniture manufacturing and asbestos milling and packing equipment reflect persistent promotional efforts. Agricultural machinery is of limited interest because of joint research and production programs with other socialist countries of Eastern Europe. However, where special technology is involved, e.g., grain dryers, special harvesting machinery (tobacco), there are some possibilities for sales. Negotiations will be long and difficult. Demonstrations/test machines may have to be provided. Licensing of technology is an alternative to exports.

YUGOSLAVIA

The Market
Canadian manufacturers will find the Yugoslav machinery market open for a number of specialized types of equipment. Interestingly, machinery also accounts for approximately 40 per cent of Yugoslav exports to Canada. Machinery is the second fastest growing industrial sector in Yugoslavia and accounts for 15 per cent of exports and 25 per cent of imports. As a less developed country in a rapid state of industrial and economic expansion, Yugoslavia is heavily dependent upon the import of technology, which is often in the form of machinery and is often financed through supplier credits or IBRD.

Import Policies
The general policy of the Yugoslav government is to improve exports and protect domestic industry through restrictions on imports. Customs duties on imports of machinery vary from 35 per cent to 50 per cent and counter exports or buy backs of a minimum of 30 per cent are required.

Export Opportunities
Forestry equipment is an area in which there are suitable opportunities for Canadian suppliers as Yugoslav firms are anxious to improve their technology and productivity in this sector. There is also a requirement for Canadian mining equipment and machinery. This requirement extends from the mine to the processing of materials. Although Yugoslavia attaches great importance to development of its agricultural machinery industry, there are continuing Canadian export possibilities for specialized requirements, such as tobacco harvesters, rock pickers, various vegetable harvesters and sprayers. Yugoslavia is quickly developing its chemical and petrochemical industries and there are opportunities for the installation of plant machinery. Another area which has just begun to be opened up by Canadian manufacturers is road construction machinery such as graders and pavers. Yugoslav interest in postal automation could give Canadian firms opportunities for the installation of a new system.

The machinery sector of the Yugoslav economy offers Canadian suppliers a multitude of export opportunities. Given the Yugoslav government's high priority for machinery imports, Canadian firms will find excellent possibilities for the development of this market if they can provide improved technology and competitive pricing.

WESTERN EUROPE (EEC)

BELGIUM/LUXEMBOURG

The Market
The metalworking industry, with a labour force of 323,000 and an annual production which is currently estimated at about $19 billion is Belgium's largest industry sector. Two-thirds of production is exported, with approximately 70 per cent of exports going to the EEC countries.

Despite the importance of the industry and the wide range of machinery and equipment produced, a significant proportion of Belgium's total machinery requirements continue to be met by imports, principally from West Germany, France, Italy and other Common Market countries. Imports in 1977 reached over $3.6 billion.

Canadian machinery exports to Belgium/Luxembourg in 1977 amounted to $15.8 million and covered a diversified product range. Chain saws and parts ($10.2 million) and textile industry machinery and parts ($1.9 million) represented the two largest items. Construction machinery and equipment, conveyors and parts, general purpose industrial machinery and parts, bearings, office machinery and equipment are also relatively important.

Import Policies
A further series of measures, which are designed to stimulate economic activity by increasing public sector investment and encouraging capital spending by industry, are expected to be adopted shortly by the Belgian Government within the framework of the new "Anti-Crisis Law". This in turn should lead to growing machinery requirements and imports.

Export Opportunities
Possibilities exist in Belgium for machinery and equipment sales covering a diversified range, in particular:

- Pulp and paper mill machinery, woodworking and wood products machinery, forest harvesting equipment.
- Environmental control plant and equipment, water treatment equipment.
- Special process plant machinery for the textile, leather, rubber, chemical, pharmaceutical and plastics industries.
- Self-propelled agricultural machinery and other specialist equipment.
- Construction and earthmoving equipment, such as excavators, loaders, scrapers, and asphalt plants.
- Materials handling equipment, filling, labelling and packaging machinery.
- Vending and coin operated equipment.
- Hotel and hospital equipment.

There are also opportunities in Belgium for Canadian expertise in certain specific areas, for instance, solid waste disposal, as well as possibilities for joint ventures and licensing agreements, particularly in high technology sectors.

In general, Canadian machinery which presents unique features, is of an advanced design, fully automatic, labour saving, or simply not made by any one else, should definitely be of interest to Belgian buyers and users.

BRITAIN

The Market
In 1977 Britain imported $7.5 billion in machinery and related equipment and exported $12 billion. This is a widely diversified market sector which has shown growth above the level of background inflation of prices. Canada exports about $50 million to Britain and competes mainly with EEC and U.S. manufacturers.

Import Policies
Canada faces only two significant barriers to trade in this sector:

1. From July 1, 1977, the Commonwealth Preference duty rates were completely phased out. They have been replaced by the Common External Tariff of the EEC.

2. Machinery operated by electric power should conform to local electrical standards. This is rarely a significant problem as most machinery manufacturers buy-in the necessary electrical parts. Local safety regulations are generally similar but should be treated on a case-by-case basis.

Export Opportunities
Printing, labelling and packaging machinery: Canada has some specialized experience and expertise which is acknowledged by British buyers and users. A competitive market but worth special attention.

Machine tools: A good steadily growing market but dominated by a few specific countries. Specialized products from Canada would find interest.

Mechanical handling: The more technically advanced the product the greater the market opportunities. To date few Canadian firms have explored the potential.

Food and beverage preparation and serving equipment: A useful growth market but does require a long term commitment by the Canadian firm to the market.

Hospital equipment: Considered to be a difficult market area because of the buying practices of the National Health Service. However new products do gain acceptance after a year or two if a well established and reputable agent is employed.

Alarm and security equipment: A good market for systems but individual products face strong competition. This is probably the fastest growing sector at the present time.

In general Canada is readily accepted in this market but lacks some sophistication in the products currently available for export. Manufacturers would be advised to consider further research and development to remain competitive with other countries.

DENMARK

The Market
Most of Denmark's machinery imports come from its neighbours, Sweden and West Germany. Principal imports are motor vehicle parts and accessories, electronic components, navigational instruments and appliances, and vending machines.

Export Opportunities
Canadian exports of machinery to Denmark have been very limited, and have consisted mainly of occasional sales of specialized equipment to specific customers. Despite the limited size of the market and the strong competition from European manufacturers opportunities do exist in the Danish market, especially for new and innovative machinery. There are also opportunities for technology exchanges with Danish firms.

FEDERAL REPUBLIC OF GERMANY

The Market
The secret of introducing most machinery products into this very competitive market is to locate an interested agent possessing a good sales and service organization and to exploit the various trade fairs. There is no single barometer to gauge the opportunities for Canadian machinery as Germany represents a large and varied market. A building slump and differences in standards and taste have severely limited the import market for products such as construction machinery, and heating, plumbing and air conditioning equipment. On the other hand, an increasing awareness of pollution problems has given rise to requirements in the area of environmental protection equipment which cannot be met by local industry. The largest expenditure over the next five years will be to improve the quality of the Rhine, the source of drinking water for more than 20 million Europeans. Germany plans to invest about $12 billion in cleaning up water pollution. German manufacturers as well as potential users of pollution control equipment look forward to the next International Fair and Congress on Pollution Control Systems, Envitec 80, which will take place in Duesseldorf in February 1980, and is expected to put special emphasis on the new air pollution law which will probably be passed in six months. Due to the international character of the event, participation at Envitec is to be considered a highly effective promotion vehicle for Canadian manufacturers of relevant equipment. In a similar vein, markets do exist for incineration and recycling equipment as well as for systems to control noise pollution. The appetite of German industry will probably defeat environmentalists' concern over the safety of light water nuclear reactors, and this opens a market for nuclear power components suited to the American system.

In 1977, about 5,000 buildings in Germany were equipped with solar energy heating systems as auxiliary sources of energy. This development will be strongly stimulated by a new law offering a subsidy of 25 per cent of the total investment for solar and other economic energy systems. Only a limited number of German companies can at present supply a wide range of high quality products. The majority of German manufacturers are still in the process of developing their systems and would therefore be interested in purchasing imports of components or technical knowhow. Markets also exist for air and gas compressors as well as for specialized agricultural machinery geared to the smaller European scale, especially harvesting equipment. Similarly, Canadian forestry machinery enjoys a high reputation whenever it is suitable to the selective harvesting practised in the FRG. Other opportunities are to be found in the areas of metalworking and printing machinery.

Two growing markets with good opportunities for Canadian firms are packaging machinery materials and products used by stores for display, maintenance and presentation. These areas are growing as Europe becomes more geared to North American style and standards of convenience in shopping and packaging. Firms wishing to enter these expanding markets should seriously consider participation in the Interpack '81 and Euroshop '81 trade fairs. Many other world stature trade fairs take place in Germany, such as those in the areas of metallurgy and scientific instruments.

As German firms are active on a worldwide scale, it is possible for Canadian firms to find rewarding third-country markets for catering and brewing equipment by being represented by German agents and by direct contact with German food firms.

FRANCE

The Market
The machinery sector is highly developed in France and participates actively in international trade. As a matter of fact, in 1977, French exports were worth more than $10 billion and imports amounted to approximately $8.5 billion. Canada's contribution to those imports was a mere $15 million or so.

The uncertain economic situation in France over the past two years has been instrumental in restraining French manufacturers' investments in the purchasing of new machines. Consequently, the national market made little headway during that period. However, most experts are agreed in predicting a substantial recovery in the second half of 1978 and especially in 1979. More particularly, a resumption of activity is expected in farm machinery sales which had declined considerably after the 1976 summer drought.

This recent difficult period was one of extreme hardship for some sectors. Machine tools were particularly hard hit and State intervention was required for the reorganization of the industry.

Depending on the type of machinery, relatively complicated or strict standards established by AFNOR (the equivalent of the Canadian Standards Association) or other specialized organizations may exist.

Export Opportunities
Sectors in which imports far exceed exports are machinery for packing, refrigeration, printing, lithography and the graphic arts and also farming and logging machinery. There are also possibilities for non-electrical and pneumatic equipment.

Furthermore, a large number of French firms are specializing in reselling machinery to third countries in Eastern Europe and Africa.

IRELAND

The Market
Despite its small population (3.1 million), Ireland is an active and substantial market for machinery due to a continuing expansion of general industrial capacity. Almost 700 foreign companies have established new plants between 1960 and 1977, largely because of generous incentives offered by the Industrial Development Authority and access to the EEC market. While some 40 of these plants, which are largely owned by United States or European companies, manufacture machinery or machinery components, Ireland must still depend on imports for the broad range of manufacturing and service industry machinery needed in an industrial economy. Imports of machinery including agricultural and office machinery (computers), but excluding electrical and transport equipment, totalled £415 million in 1977. Britain and Germany are the main suppliers. Irish machinery exports amounted to £200 million and were largely to EEC countries in 1977.

Import Policies
The EEC common external tariff became fully applicable to Ireland in 1977.

Export Opportunities
Irish machinery imports from Canada in 1977 were $5.3 million, of which $3.3 million were for drilling, excavating and mining machinery. Office machines and equipment accounted for approximately $1 million. It is expected that the new half billion dollar Alcan alumina facilitybeing built at Aughinish will result in a substantial annual increase in imports of machinery and equipment from Canada during 1979-82. However, there will be some offsetting decreases in imports of mining machinery. While many manufacturing subsidiaries in Ireland could be expected to have preferences for plant machinery similar to that used by parent companies in the U.S. or Europe, their scale of operation may be more limited or diversified in certain cases, so that some of their machinery requirements might be for types used in Canada. Opportunities for Canadian exports are not readily identifiable, but there appears to be potential in the industrial equipment machinery sector, e.g., mechanical handling equipment, packaging machinery, welding equipment and woodworking machinery. Competitors from member states of the EEC will have, of course, the advantage of tariff-free entry and market proximity.

ITALY

The Market
The Italian machinery industry ranks as the fourth largest producer after West Germany, the United States and Japan, and before Britain, France and Switzerland. Approximately 40 per cent of the production is exported throughout the world and the aim is to increase this to 50 per cent in the near future.

After a peak in 1973/74 and a slump in 1975, both production and exports in 1976 and the first quarter of 1977 showed strong improvements. Machine tools and precision machinery rose the most rapidly (15 per cent) and other sectors increased by 6 per cent.

In the first seven months of 1977, exports of Italian machinery (mainly machine tools, textile machines, precision equipment) reached $6.5 billion, an increase of 34 per cent over 1976.

Italian Imports, 1977
(in million dollars)

West Germany	965
Britain	222
France	309
Switzerland	161
United States	269
Japan	60

Overall imports in 1977 totalled $3.3 billion.

Import Policies
There are no major barriers to trade in this sector.

Export Opportunities
Canadian producers wishing to export to Italy must compete with the major manufacturers of the other members of the EEC and with Switzerland, the United States and Japan.

Given not only the price competitiveness because of shorter transportation distances, but also the duty-free entry of products from within the EEC, it is obvious that the products that succeed will be those with high technology and attractive price. Specialized machinery such as winches and windlasses, welding apparatus; chain saws and even textile machinery have all been exported to Italy with growing success.

The Italian market also presents opportunities for the licensing of technology, patents, etc., and for the establishment of joint ventures. In sectors such as woodworking machinery, Italian developments can help Canadian manufacturers to expand an existing line of products, while Canadian producers of packaging machinery can offer much to the Italian market. There are certainly other sub-sectors of the machinery sector that offer similar potential for industrial co-operation, and Canadian manufacturers are encouraged to look beyond traditional channels to find commercial ventures.

THE NETHERLANDS

The Market

The recent economic recession has considerably reduced Dutch import requirements of machinery. Current official predictions in The Netherlands point to limited economic growth, particularly in the metal working sector which would prolong the present weak demand for machinery. However, in most areas where Canadian industry has export capabilities the outlook is somewhat brighter. In addition, Canada's competitive position has improved because of comparatively lower cost increases and the continuing dollar realignment against the guilder.

While reliable statistics are not available, Dutch imports of machinery and equipment were estimated to be close to $5 billion in 1977. The market is highly competitive and does give preference to proven equipment backed by strong after sales support. The metric system is used in The Netherlands.

In the mining, metallurgical and forestry sector, spot sales of sawmill and related equipment (chippers), as well as forest harvesting equipment can be expected.

In agriculture, construction and materials handling a limited market exists for four-wheel drive heavy tractors. There are also opportunities for advanced livestock barn equipment, and possible outlets for labelling and packaging machinery beyond the Canadian equipment already being sold in this market.

The Netherlands requires heat pumps, heat accumulators and other energy saving equipment. The Dutch are interested in sewage and water treatment systems and equipment superior to that now in use here. Potential also exists for large-diameter axial ventilators and cooling towers and there are modest opportunities for custom built process machinery. There is also some interest in specialized printing equipment, commercial air-conditioning equipment, institutional catering equipment, lawn mowers and hand tools (except power drive).

WESTERN EUROPE (NON-EEC)

AUSTRIA

The Market
Austria has a strong, export-oriented machinery industry. Imports in 1977 totalled $2.9 billion and exports $2.3 billion. Most companies are old and established with good engineering know-how and craftsmanship but somewhat conservative in their business approach. Austrian firms concentrate on high quality, modern equipment to make best use of their skilled, but increasingly expensive labour force. They are strong in excavating machinery and equipment, packaging and paper machinery as well as machine tools, petrol and diesel engines and pumps. Austria is a net importer of packaging and filling machinery, cranes and cables, textile machinery and chain saws. But many specific machines in general areas where the country is a net exporter are also imported.

Import Policies
For years customs duties for Austria's partners in EFTA have been zero or very low. On July 1, 1977, duties on most industrial products made in the EEC were also reduced to zero under the terms of a free trade agreement. For semi-finished or finished goods, if there is no Austrian industry or if local production is considered insufficient, a reduction of duty is possible. Canadian firms can expect to compete in Austria on much the same basis as elsewhere in Europe.

Export Opportunities
Canadian woodland log handling equipment has established a strong reputation in Austria and remains an area of priority. Generally, specialized equipment in various fields finds a positive reception. Opportunities include chain saws, textile machinery and needles, packaging machinery. Austrian companies are keen to co-operate with foreign partners, and where tariffs intervene, a joint venture or licensing agreement may be the answer.

FINLAND

The Market
Finland imports over 50 per cent of machinery and other equipment required by industry. Within the basic industries, i.e., pulp and paper, metalworking, textiles and garments, investments have been low during 1977/1978. Timber trade seems to be picking up slowly and some possibilities for forest machinery and equipment can be foreseen. Also, sales possibilities for sawmill equipment are expected to pick up in the near future.

The Finnish Government has introduced a "revival" program by which it hopes to revive investments within the industry. The program includes abolishment of some taxes and payments to the government by the industry and granting of some new loans. The effect of these measures is still to be seen: the industry itself regarded the program as merely a gesture of goodwill rather than a helping hand.

Apart from the forest and woodworking machinery, favourable prospects for machinery for the food industry and for the construction industry are expected, depending on how the "revival" program works on the private consumption side.

GREECE

The Market
In 1977 Greece imported $1,124 million worth of machinery and equipment, an increase of 31 per cent over 1976. Tractors, combustion engines, and agricultural machinery were among the most important items supplied by foreign firms.

Canadian sales were only $1.2 million in 1977 (1976, $1.6 million, compared with $0.7 million in 1975). Major Canadian sales were excavating dredging machinery and parts, swathers or windrowers and parts, rock drills and parts, and cranes and derricks.

Import Policies
Greece does not have a highly developed machinery industry with the exception of a number of agricultural implements. Therefore, there are no major import restrictions although the usual import/foreign exchange approval is required for all products referred to above.

For those products where custom duties and import taxes still apply, EEC suppliers have a definite advantage with lower rates. Furthermore, importers of machinery equipment from bilateral clearing countries have the advantage of not having to arrange advance deposits with local banks which are "frozen" for periods of two to eight months from the date of obtaining the import permit.

Penetration of the Greek market requires the appointment of an exclusive representative to deal with private trade and state tender business.

Export Opportunities
The recent participation of a Canadian firm in an offshore oil exploration/exploitation project and the anticipated award of additional offshore oil prospecting concessions, in which a number of Canadian firms are interested, could conceivably offer sales opportunities for related equipment.

In 1977 a Canadian firm signed a contract with a local mining company for engineering and construction supervision on a new ferro-nickle project; equipment sales of between $20 and $30 million could be involved. Another Canadian company was awarded a similar contract in 1978 for an asbestos project. Equipment purchases could amount to $45 million. Another project of potential interest to mining equipment manufacturers is the Scalistiri seawater magnesium plant project on Eubea island. Although it is now at a standstill, purchases of equipment might take place in a year or two. Other consulting firms might get involved in steel, cement and lime projects, which could offer excellent opportunities to Canadian suppliers of related machinery equipment.

Other product areas of interest include road graders, fire control equipment, snow blowers, tools, hardware, log skidders, agricultural equipment, industrial and marine refrigeration equipment, and food processing and packaging equipment.

NORWAY

The Market
Norway imports most of its machinery requirements but some equipment is manufactured locally. Import requirements vary from sector to sector. However, in general most of the machinery for the metallurgical industry, mining and forestry is imported, as is most of the machinery and equipment for the secondary manufacturing industries, with the exception of agriculture. (All tractors are imported.) Equipment for the energy aid environmental sectors is generally made domestically. Service industries equipment often undergoes improvement and modification, and originates from both local and foreign manufacturers.

A large part of industrial machinery installed is purchased by companies that depend on export sales of the products they make. Europe is Norway's largest market for such products and consequently the companies buy machinery that will produce to European standards.

Availability of prompt servicing facilities is an important factor in deciding where to purchase. Duties vary from 5 to 18 per cent assessed on the c.i.f. value.

Import Policies
There are no restrictions on importing machinery. However, consumer items wired for electric power must receive approval from NEMKO.

Export Opportunities
Specific opportunities include machinery for opening up new land for cultivation; specialized industrial machines and instruments (custom built); chain saws and possibly mobile forest harvesting equipment with low ground pressure; anti-pollution equipment; waste re-cycling equipment; specialized ventilating systems; forest fire fighting equipment.

Iceland: (territory of the Oslo trade office).
Canada exported $22,000 worth of food and beverage machinery in 1976. Any equipment related to the fish and food industries has sales potential.

PORTUGAL

The Market
The depressed economic situation resulting from the political turmoil of the last few years and the world recession has seriously disrupted the Portuguese industrial sector. The fall in output stems mainly from reduced demand for both domestic and export-oriented production. Production is now picking up but the government has recognized that the economic recovery of the private sector will be long term. Industry is in need of technical, financial, managerial, research and development, and marketing assistance. The objectives of government industrial strategy are creation of employment, investment in export and import-substitution sectors and improved distribution of the national product.

Import Policies
Import surcharges of 30 and 60 per cent apply to non-essentials and luxury goods and to products that can be produced locally. In some cases, customs duties have been increased and quotas established. Severe cuts in import credits have also been enforced which reduce prospects for sale of certain types of machinery that could be manufactured in Portugal. Imports of machinery for new plant facilities are exempted from payment of surcharge.

Export Opportunities
Forestry equipment such as chainsaws, forest machines and other logging equipment offer good opportunities. The Sines Industrial Complex is progressing at a good pace and presents prospects for specialized machinery where Canadian manufacturers are competitive. Invitations to tender issued by the Sines Authority are brought to the attention of Canadian manufacturers.

The secondary industries machinery sector will be of interest to exporters of products such as paving machines, transmission power line equipment, graders, cranes and farm equipment. On the other hand, few prospects exist in the service industries machinery sector despite some success obtained with vulcanization equipment, and cleaning machines. This sector will remain a limited market.

SPAIN

The Market
Business uncertainty and continuing recession in Spain have caused a decline in investment and a general wait-and-see attitude on the part of businessmen which has resulted in a slack market at present for capital equipment. However, Spain is an industrial country where the industrial sector continues to grow and diversify.

Import Policies
Special incentives are offered to industries which are prepared to modernize and for establishment of new industries likely to create jobs, earn foreign exchange or supply the market with products now imported. These incentives are for obtaining of equipment or new technology. Special incentives are also offered to joint venture firms wishing to manufacture, or partly manufacture, machinery and plant in Spain. Government support for a number of large new projects in steel, mining, energy, pulp and paper, etc., often consists of joint government/private sector investment through the National Institute of Industry (INI).

Export Opportunities
Canada already has an established market in Spain for construction equipment, statistical and accounting machinery, boiler equipment and parts, drilling equipment, farm machinery and forest harvesting machinery. Joint ventures with Spanish firms could provide Canadian manufacturers of mining machinery an opportunity to participate in mining concessions being awarded by the Spanish Government.

There are good possibilities for mining, excavating, construction, pulp and paper, tunnelling and drilling, oil exploration, metal-working, packaging and food processing equipment, particularly if Canadian firms are prepared to consider partial manufacture or assembly in Spain.

SWEDEN

The Market

Canada is today exporting a large variety of machinery to Sweden. Very specialized engines, technical equipment and special machinery dominate, and the sheet metal working machinery and equipment generally used in mechanical workshops and factories.

Canadian engines for cars, trucks and airplanes accounted in 1976 statistics (all figures c.i.f.) for Cdn. $1.2 million; computers and parts Cdn. $1.1 million; materials handling equipment, transmissions and bearings Cdn. $1 million; paper, pulp, sawmill and woodworking machinery Cdn. $0.8 million; heating, ventilating and air treatment machinery Cdn. $0.7 million; and vending machines Cdn. $0.4 million.

In no case is Canada a large supplier to Sweden compared with other exporting countries.

Import Policies

Machinery products sell under free competition conditions (price, quality, transport, services, etc.).

Export Opportunities

The most interesting export opportunities for Canadians are vending machines; special machines and equipment for the rubber, plastics and packaging industries; paper, pulp and sawmills equipment; materials handling equipment; and the whole sector of equipment within heating, ventilation and air-conditioning. There are opportunities for licence manufacture in Canada, especially for materials handling equipment, packaging machinery and sawmill equipment.

SWITZERLAND

The Market

The machinery industry, which is Switzerland's most important industry, is facing some difficulties. Exports are keeping up although competition in world markets has become keen, but demand in Switzerland is still lagging. In 1976, Switzerland exported machinery and apparatus worth $3.43 billion and imports amounted to $1.24 billion. EEC countries supplied 77 per cent of the total, EFTA countries 6.8 per cent and Canada 0.4 per cent.

Import Policies

Machinery and apparatus imported from EFTA countries is duty-free, and, as of July 1, 1977, imports from EEC countries will also be duty exempt. Customs duties on imports of machinery from Canada range from Swiss Francs 1.- to 450.- per 100 kilos gross weight. No import permits are needed. The Swiss are very quality conscious and only machines with an excellent finish have a real chance in this market. In order to establish the quality of a machine, it is advisable to have it tested by the Swiss Federal Testing Station. The end-user also favours machines for which adequate service facilities exist in this country and spare parts must be available on short notice. Technical descriptions and service manuals must be in German and French.

Export Opportunities

Engines and motors account for about 50 per cent of machinery imports from Canada. As a rule, Swiss importers are prepared to examine any offer, but the machine has to be up to Swiss standards of quality. Small agricultural and forest machines, and machines with new or improved features should have good possibilities if prices are competitive. Participation in international trade fairs held in Switzerland is an opportunity to establish contacts with buyers not only from Switzerland, but also from other European and developing countries.

PACIFIC

AUSTRALIA

The Market

Australia and Canada have many of the same machinery import requirements although there are important degrees of difference that point to interesting export opportunities. Generally, Australia lacks the depth of manufacturing capability Canada has developed in a number of industry sectors, e.g., mining, and forestry. This opens direct sales or licensing possibilities for major plant and equipment installations.

Australia is also inclined to have more gaps in the range of locally manufactured machinery and equipment, mainly as a result of the limitations imposed by a small market. Tariff protection has been able to maintain the domestic industry with a large part of production under licence or assembly, using locally-produced parts and imported components.

Most world trade names are represented in Australia, producing their heavy equipment locally.

Although Australia is at the point of making large capital investments in mining and forestry, the market for Canadian machinery is not limited to these sectors. Canada sold some $24 million worth of machinery to Australia in 1977, ranging over more than 90 machinery categories. Any producer who can be competitive in North America stands a good chance of taking a piece of the market in Australia.

Remembering that Australia is a developed and sophisticated country, Canadian producers of advanced design and technology machinery and equipment for secondary manufacturing and service industries should give serious attention to this market.

Import Policies

A preferential tariff margin, often amounting to several percentage points or more below non-Commonwealth suppliers, still exists on a number of machinery and equipment categories. Such margins have tended to be eroded, however, when an Australian manufacturer of a specific type of machinery has been able to substantiate a case for increased tariff protection. When there is no Australian manufacturer of specific equipment or machinery, it is usually possible to gain duty-free entry under by-law.

Export Opportunities

Prospects are excellent for machinery related to the mining and forestry sectors. Planned mining and mineral processing projects include: alumina refinery (Wagerup, Kurri, Gladstone), aluminum smelter expansions, coal mining (Norwich Park, Gregory and about five others), iron ore (Mt. Newman, Tom Price, Marandoo, Area 'C' and others), uranium (Ranger, Jabiluka).

Equipment needs associated with these projects would include drilling machinery and drill bits, excavating equipment such as ore shovels, materials handling and mineral processing equipment.

Planned forestry projects include: APPM pulp mill expansion, two newsprint mills, one pulp mill, two chip mills, continuing sawmill modernization.

Good opportunities exist for band saws, chippers, chain saws, tree harvesters, skidders, and cable systems for logging in steep terrain.

Pulp and paper machinery has particularly good prospects with the planned $30 million APPM pulp mill expansion in Tasmania and the $150 million, 500 tonne per day newsprint mill project for ANM at Albury, N.S.W.

The Australian softwood plantations are coming to maturity, and there is a gradual shift from hardwood to softwood pulping and sawmilling. The market is open for harvesting machinery suitable for pinus radiata plantation thinning operations.

Canadian shortline agricultural machinery, mainly for land preparation, is currently receiving an intensive promotional effort and results are proving that substantial opportunities exist for increased market penetration.

The North West Shelf Gas Project envisages an expenditure of $3,000 million to bring 1,200 million cubic feet a day of off-shore gas to a liquefication plant in Western Australia.

New contracts are being established for Canadian packaging, printing, food processing and materials handling equipment.

NEW ZEALAND AND THE PACIFIC ISLANDS

The Market

New Zealand manufacturers and processors continue to show a strong interest in the availability of Canadian machinery to meet specific industrial requirements. While the prime area of interest has been in the forest industries sector, new and often unforeseen enquiries from New Zealand companies are being received by the trade post.

In 1977 Canadian machinery exports to New Zealand reached: mining, metallurgical and forestry equipment $2.0 million, power and fluids handling equipment $14 million, agriculture, construction and materials handling equipment $2.1 million, tooling machines for secondary industries $0.7 million, various equipment for service industries $2.6 million.

Import Policies

Because of the earlier geographical isolation of New Zealand, and the time required for the placement and receipt of orders from overseas, the country has developed a sophisticated engineering industry to cater for the requirements of the primary farming industry. A system of import licensing controls has been developed over the years to protect the investment in local engineering plants and employment opportunities for skilled labour. In general, machinery of most types is subject to import licensing restrictions but if there is a demand for machines not currently made or assembled in the country and which have the capacity to increase export earnings a licence to import is generally granted.

The Government has introduced an import deposit scheme which requires the importer to lodge with the Customs Department for a period of six months a non interest bearing refundable deposit of one-third of the value of the machine being imported.

Export Opportunities

Interest in Canadian machinery for forest harvesting and processing of trees over 20 inches in diameter will continue. The declaration of a 200-mile fishing economic zone will give New Zealand the right to the world's third largest fishing zone and is expected to result in a growing interest in fish processing and packaging equipment.

It is also expected that the increasing cost of oil from OPEC will result in the expansion of coal mining interests and techniques and in the development of off-shore oil exploration.

Opportunities for the introduction of Canadian machinery and processes into New Zealand will depend upon case by case evaluation studies. The post will welcome enquiries by potential exporters and is in a position to define market interests by specific industries and processing plants.

The market in the Pacific Island countries for Canadian machinery is generally confined to forest harvesting and processing plants. Apart from Fiji, these operations will continue to be on a fairly primitive labour intensive level. In Fiji however, the projected program provides for a total area of 180,000 acres with an immediate target of 50,000 acres to be progressively harvested from about 1980.

ASIA

BURMA

The Market
Burma is a socialist country. Imports are the exclusive domain of the various State Enterprises which control all activity in their respective economic sectors. Procurement is effected on the basis of international tendering, and price is the overriding consideration in determining sources of supply. Burmuda's ability to import is limited owing to a chronic shortage of foreign exchange.

Opportunities for commercial sales in the machinery sector are limited to procurement for projects financed by the IBRD or the Asia Development Bank. Status reports on such projects are published monthly by the International Financing Branch, Department of Industry, Trade and Commerce in Ottawa. Tender documents are distributed to potential Canadian suppliers by the Machinery Branch of the department.

CHINA, PEOPLE'S REPUBLIC OF

The Market
Mining, Metallurgical and Forestry Equipment — China is a potential market for several billion dollars of mining and construction equipment during the next few years. The new Ten Year Economic Plan calls for the realization of some 30 major capital projects in the mining and metallurgical sector. Major new developments are about to be launched in iron ore mining, coal mining, non-ferrous metals mining, etc. While much of the necessary equipment will be purchased in the context of complete or turnkey packages direct opportunities will also exist for Canadian suppliers of mining trucks and other mining vehicles. There will be strong competition from all major world suppliers, many of whom are already investigating this market. West European suppliers have been successful in selling large amounts of coal mining machinery. Canadian companies that have had international sales success in the mining and metallurgical equipment field would be well advised to consider making a proposal to the Chinese.

There is a rapidly growing demand for paper in China which cannot be met by existing plant capacity. China has expressed an interest in sourcing pulp and paper equipment and technology from Canada and Canadian suppliers are urged to pursue this opportunity aggressively. Principal competition will be from Scandinavian suppliers.

Power, Fluids Handling and Environmental Equipment — China has a major requirement for equipment relating to the petroleum industry. The current Ten Year Economic Plan calls for the development of ten new major oilfields, both onshore and offshore, and there are indications of significant interest in offshore equipment and technology. Japanese and American suppliers have already been active in this field and European suppliers also are becoming more agressive. France is mounting a solo oil and gas equipment exhibition in Peking in October 1978. There is considerable potential in this sector, especially for valves, pipeline equipment, drilling equipment, etc., but Canadian firms will have to be very competitive with United States and Japanese suppliers in order to enter this market. Canadian companies have already had some success in this area.

Secondary Industries — The Chinese have shown interest in the purchase of packaging equipment; a packaging equipment delegation visited Canada and the U.S. in 1977. Under the new economic plan, significant improvement in export performance is called for, and Chinese producers and exporters are paying increasing attention to packaging of their products for export. Canadian suppliers of packaging equipment are advised to pursue these opportunities aggressively.

Agricultural, Construction and Materials Handling Equipment — China has a tremendous requirement for material bulk handling equipment at ports, mine sites, processing facilities, etc. However, imaginative salesmanship will be required to produce sales in this field. With an abundant labour supply China is less persuaded of the necessity of using bulk handling equipment than most Western countries. Nevertheless, the current drive for modernization is likely to result in significant opportunities for the sale of this equipment and Canadian suppliers should make themselves and their capabilities known to the Chinese.

Agriculture is and will remain the mainstay of the Chinese economy. The new Ten Year Economic Plan calls for the very rapid modernization of agriculture and there is every indication that China will import agricultural equipment and technology during the next three to five years. Although China produces tractors and agricultural implements, domestic capacity is not sufficient to meet the new demand and new models and new systems will have to be introduced. China is holding an international agricultural machinery and equipment exhibition in Peking in October 1978 in which Canadian suppliers are participating.

Service Industry Equipment — The Chinese produce air conditioning and refrigeration equipment and heating and plumbing equipment. For hospital equipment and scientific and professional instruments the Chinese have a preference for the latest designs which they purchase to supplement their own research and development programs.

HONG KONG

The Market
Hong Kong is almost entirely dependent on imported resources to meet the needs of its 4.5 million people and the requirements of its diverse industries. Imports of machinery, other than electric, at Canadian $649.7 million, represented 5.9 per cent of total imports in 1977. Canada continues to make progress in the sale of packaging machinery, materials handling equipment, power generating machinery, hotel equipment, metal working machinery, office machines, machines for special industries and construction equipment.

Import Policies
Hong Kong industrialists, in order to respond to the increasing competition from other developing countries in the region, have continued to modernize their manufacturing operations and to move into more sophisticated product lines.

The Hong Kong Government has planned to open up 7,000 acres of land for development over the next five years.

Export Opportunities
The current building boom here and its recently announced extension, and the need to broaden Hong Kong's industrial base by bringing in more advanced equipment, expertise and new industrial technology create opportunities for Canadian machinery suppliers. The major factors which have given Hong Kong its international reputation as a leading manufacturing and commercial centre — economic policies of free enterprise and free trade, an industrious workforce, a sophisticated commercial infrastructure, a modern and efficient seaport, a strategically located airport and excellent worldwide communications — have also encouraged Hong Kong-based international companies to actively look for reputable overseas industrialists to invest jointly in the local manufacturing industry (particularly in the fields of packaging machinery, materials handling equipment and hotel equipment).

Planned new power stations hold opportunities for heavy duty boilers, turbine and coal handling equipment.

INDIA

The Market
Although India has a broad and advanced industrial base, most of which is self-sufficient in machinery requirements, there remains a demand for sophisticated equipment — particularly for the mining, petroleum and other specialized industries. Imports of such equipment amount to about $500 million a year, roughly 10 per cent of India's total import bill.

Oil and gas production in India has top priority; the country hopes to increase its present annual output of 8.9 million tons to 19 million tons by 1981/82. The Bombay High offshore oil field is quickly being developed by the Oil and Natural Gas Commission, which has a budget of $571 million for this purpose (including $150 million of World Bank funds). Indian Oil Corporation, the operator of refineries and pipelines, is constructing a 900-km pipeline and a third company, Oil India Limited, has embarked on offshore oil exploration with a $150 million budget. All three companies are government owned.

India has large and varied mineral deposits. The principal ones requiring equipment from abroad are coal, iron ore, copper, lead and zinc. Most of the large mining concerns are government owned; they include the National Mineral Development Corporation (iron ore), Hindustan Copper Limited, Hindustan Zinc Limited, Coal India Limited and the Kudremukh Iron Ore Company Limited. The latter firm is developing a $630 million iron ore project in South India with the aid of Canadian consultants.

In the power generation sector, India is nearly self-sufficient except for large capacity gas turbines and large thermal power plants. Canada has had success in the gas turbine market. Non-conventional power systems would find an excellent market here.

The equipment demands for specialized industries encompass a wide range of items. Newsprint mills, base metal smelters, steel mills, refineries, etc., are some of the prime customers. There is also an increasing requirement for industrial pollution control equipment although local industry is rapidly gearing up to meet the demand. Materials handling equipment offers potential if it is either too large or too sophisticated in design to be made locally.

Import Policies
Indian import policy normally prohibits the expenditure of foreign exchange on items that are, or could be, manufactured in India. There has however been some recent liberalization of import procedures and duties on capital equipment, particularly for mining and petroleum equipment. One means of approaching the market is a "collaboration" agreement, that is through the sale of designs and technology on a royalty or lump sum basis.

Export Opportunities
The Oil and Natural Gas Commission is expected to issue tenders shortly for various pieces of oilfield equipment, particularly for offshore installations. Development will call for central processing and pumping platforms, telemetry and telecom systems via satellite, well platforms, gas fractionalization plant, crude stabilization plant, as well as recurring items such as casing pipes and well-head fittings.

INDONESIA

The Market
Canada has been very successful in selling machinery and equipment for pipline construction, drilling, cement plants and coal mining. Opportunities for continued sales are excellent. In addition, Indonesia is embarking on a program of major development of its mineral resources, power, transportation and rural electrification. Indonesia is also approaching the implementation stage of its massive transmigration program which is an effort to move millions of people from Java to other islands. Over the next five years, 2 million hectares of land will be cleared to accommodate 500,000 families, requiring quantities of machinery. As all these developments approach the procurement phase, opportunities for Canadian machinery and equipment sales will be tremendous. Every effort should be made to follow programs financed by IBRD, ADB and CIDA.

Of major importance is that Pertamina (state-owned oil company) spends $100-120 million per year for equipment used in oil and gas exploration, refining and distribution. The market for this type of equipment should grow substantially in coming years.

Import Policies
There is no major policy or legislation precluding the import of machinery other than that Indonesia will not allow imports of used machinery. It is recommended that Canadian manufacturers work through local firms which can act as agents and, more important, as service companies if such are needed. Indonesian clients normally demand that representatives in Indonesia be able to solve problems with the machinery or equipment. The Indonesian Government is also encouraging assembly of machinery and equipment where possible, normally on a joint venture basis. This concept should be kept in mind by Canadian exporters.

Indonesia — (cont'd.)

Export Opportunities

As Indonesia's varied development programs approach the implementation and procurement stage, sales opportunities for Canadian manufacturers of machinery and equipment exist in the following areas: power generation (hydro, coal, oil and nuclear), high voltage transmission, rural electrification, land clearing, agriculture, forest industry development, paper making, cement production, railway development, road construction, airport construction and harbour development, oil and gas exploration, refining, and distribution. All types of machinery and equipment required for developments of this nature will be needed, and virtually all of it will have to imported.

JAPAN

The Market

In fiscal year 1977 Japan's worldwide machinery imports amounted to approximately U.S. $1.7 billion. Imports from Canada in the same period were approximately U.S. $10 million or 0.6 per cent of the total. This is an industrial sector in which Japan is one of the leading producers in the world and a major exporter. Canadian exports to Japan face not only domestic competition but also that of other major machinery exporting nations. Nevertheless, our machinery sales to Japan continue to increase steadily, if not spectacularly, year by year. They fall mainly into the categorie of products which are unique and/or highly competitive.

Import Policies

There are no specific Japanese government policies or legislation that are a major deterrent to the import of machinery.

Export Opportunities

The following list of major items of machinery that Japan imported from all sources in fiscal 1977, to a value of more than Cdn. $5 million each, suggest the type of products Canadians might export to Japan.

- Pumps
- Gas compressors
- Refrigerating machines
- Machinery parts for plant and similar laboratory equipment
- Liquid or gas purifying machines
- Packaging machines
- Spraying machines
- Cranes, winches, etc.
- Construction machinery
- Agricultural machinery and dairy machinery
- Food machinery
- Paper and pulp machinery
- Printing machinery
- Textile machinery
- Industrial machines
- Valves
- Bearings, etc.
- Marine controllable pitch propeller and trochoidal propeller

KOREA

The Market

Korea continues to be dependant on foreign machinery suppliers for a large proportion of the sophisticated capital equipment required for its economic development. However, plans call for the localization of the production of the majority of such equipment by 1981, through the licensing of foreign technology and/or the establishment of joint ventures. At present, price is an important factor in all Korean decisions to purchase plant and equipment. In addition, foreign machinery suppliers are faced with problems created by the Korean Government's policy restricting the stocking of parts for some types of equipment. Because of this, many Korean buyers prefer to source in nearby countries, notably Japan, since spares can be flown in in a matter of days, if not hours. Because of domestic conditions, there are virtually no market opportunities for North American style agricultural machinery and forestry equipment.

Import Policies

Generally speaking, imports of all machinery are subject to government supervision. If similar equipment is locally produced, imports are most often not allowed unless specialized foreign equipment is required for the production of export products. In all other cases the end user must show that he has a specific and vital need for the imported machinery before import authorization is granted. As already noted, the government prohibits the stocking of parts for some kinds of equipment, which creates difficulties for foreign suppliers, especially those distant from Korea. Buyers prefer to source purchases in nearby countries (notably Japan) since parts can be shipped very quickly once they are required. The entire question of stocking of parts is currently under review by the Korean Government and it is expected that a decision to permit at least limited supplies of parts to be stocked will soon be forthcoming which will assist Canadian (and other) machinery suppliers to penetrate the market. Korea has a very large trade deficit with Japan however and it is now endeavouring to diversify its capital goods purchases.

Export Opportunities

Opportunities exist for a wide variety of specialized industrial equipment. For the more sophisticated industrial projects (e.g., petrochemical plants) the Koreans are often interested in complete industrial plant packages including engineering services and financing, and if Canadian suppliers can compete on price terms, and as well are able to offer any necessary financing, some success may be achieved. Machinery for industrial heating, cooling, boilers and machine tools will be required under a $75 million IBRD sponsored project for the upgrading of export industries. For those Canadian machinery manufacturers interested in joint ventures or licensing of technology, opportunities in Korea are present, especially if export markets for the equipment produced in Korea can be developed (e.g., countries in Asia or the Middle East).

Select opportunities also exist for specialized mining equipment, diamond drilling equipment, mine hoists and compressors and geophysical survey equipment such as airborne electromagnetic exploration devices. The sale of the CANDU nuclear reactor to Korea will also serve to open doors to the Korean market for Canadian suppliers of related equipment. Localization is becoming a factor for future sales of nuclear equipment. Limited market potential exists for marine equipment, tire manufacturing equipment and thermal power plant components.

Korea — Export Opportunities (cont'd.)

As Korean construction firms are actively engaged in overseas contracts (notably in the Middle East where contracts awarded to Korea in 1978 are expected to total U.S. $8 billion), Canadian suppliers of heavy construction equipment may wish to consider the potential market opportunities offered by Korean firms in third countries.

The Korean pulp and paper industry will soon begin an expansion program and opportunities exist for specialized paper manufacturing equipment. Should Korea decide to expand the Donghae pulp mill (300 ton/day), which is scheduled to start up in 1979, a major export opportunity will open.

Korea's third petrochemical complex is also in the early planning stages and with the right kind of financing could offer major export opportunities.

MALAYSIA

The Market

The mining sector which includes quarrying will assume a new and strategic role in Malaysia's economy. Geological surveys are underway to obtain a more complete picture of the mining potential for other minerals. A copper prospect in Sabah is being investigated, while in Peninsular Malaysia negotiations are in the final stage for the prospecting of copper, lead and zinc in the Pahang Tengarra area. A study is being undertaken on the feasibility of using local bauxite to manufacture alumina and/or aluminum in the country. Deposits of quality coking coal have been found in Balingan, Silantik and Bintalu in Sarawak.

Detailed plans for forest management units will be undertaken for the purpose of guiding forest exploitation and the establishment of wood processing industries. Priority will be given to the development of viable systems for forest regeneration including the establishment of pine plantations for a pulp and paper industry.

During the period 1976-80 emphasis will be given to increasing the production of cement, glass, wood-based and food processing industries, fertilizers, petrochemicals, refined palm oil, pulp and paper, iron and steel, automotive accessories. Ports will be expanded to keep pace with industrial development.

Import Policies

Machinery importers may require a licence.

Export Opportunities

In the sectors mentioned, there is keen competition from Japan, the EEC, the United States and Australia in the sale of industrial machinery. Opportunities exist for the Canadian supplier who is aggressive and willing to work with a local agent.

Joint ventures are encouraged in the manufacture of machinery and component parts for the following: ball bearings, machine tools, dies and molds, anti-pollution devices, woodworking tools, saw mill equipment, automotive accessories, primary iron and steel milling (by integrated process).

NEPAL

The Market

Nepal produces no industrial or construction machinery of its own although the country has plans for wide ranging developments in infrastructure, small scale industry and hydro power. Most of the imported equipment is now coming from India, Japan and the United States. Items are often needed in small lots and the high cost of transportation limits Canadian successes to the more sophisticated items not produced closer to hand.

Import Policies

Most projects requiring imported machinery are supported by multilateral or bilateral aid schemes, but implemented by a local government agency. Some small scale industrial projects are tendered on a turnkey basis. After sales service is an important consideration for a successful sale.

Export Opportunities

Over the next few years there are plans for two sugar refineries, a paper mill, a starch and glucose plant; several hydro projects; and a continuing program of road construction. Agricultural implements are imported by the Agricultural Inputs Corporation. As the range of items tendered at any one time can be varied and in small quantities, a trading house approach could do well in this market.

PAKISTAN

The Market

There is a growing need in Pakistan for a variety of production machinery and oil and gas equipment for the expansion of existing and the establishment of new industrial projects in the public sector. The purchases have been traditionally financed against bilateral aid and multilateral funds from international institutions (Asian Development Bank and IBRD). Machinery for the textile and small scale industries in the private sector is bought against cash resources principally from West Germany and Japan.

Import Policies

The large scale industry (steel, chemicals, heavy engineering, autos) is owned by the government and is dependent almost exclusively on imported machinery and production techniques. Small scale industry in the private sector (excepting cotton textiles) rely heavily on domestic reproduction of now outdated imported machinery. The government industrial strategy for the next five years calls for the modernization and expansion of state-owned large enterprises and the setting of new capital goods and heavy engineering units based on indigenous and foreign knowhow.

Pakistan — Import Policies (cont'd.)

Foreign exchange components of imported machinery and equipment are expected to be picked up by the bilateral and multilateral aid resources.

Export Opportunities

There are good prospects for Canadian oil and gas equipment including mining, construction machinery, cement and fertilizer plants and accessories, port handling and conveying equipment. CIDA fund availability for oil and gas equipment, mining construction machinery and the port handling equipment is expected. Canadian manufacturers will also have opportunities to bid against IBRD and ADB funds (fertilizer and cement plants, pipeline compressors and valves, mining and port handling equipment).

PHILIPPINES

The Market

As practically all of the machinery requirements of the Philippines have to be imported, market opportunities exist for equipment required by certain industrial sectors vital to the economy. This includes basically the development of the oil and gas industry, mining, the forest industry and certain types of light manufacturing. There are also opportunities for equipment related to the construction and agricultural industries. The total Philippine market for machinery is quite diversified in view of the developing nature of the economy and also very price conscious.

The Philippines is the seventh largest copper producer in the world with a production (copper concentrates) of about 800,000 MT annually. Despite depressed demand in the past few years, copper production is up. Japan remains the major recipient of the country's copper exports (95 per cent of total production).

The Philippines has substantial reserves of nickle and chrome. Nickle production, although down by 18.3 per cent in 1974, is recovering and will eventually place the country in fifth position among the world's producers.

Gold production responded favourably to last year's increased prices. Production of other base metals, with the exception of zinc, was down due to depressed demand in the world market. Projections for 1977, however, point to increased production levels as increasing interests in manganese, iron, chromite, and silver have been indicated by a number of producing mines.

Import Policies

Although all imports of machinery are subject to import licensing, the government gives priority to licences for machinery and equipment vital to the development of the economy. Due to recent concern over balance of payments, the government has been holding up or delaying foreign exchange certificates for large volume purchases of machinery and equipment even if this equipment is financed over a relatively long term.

Export Opportunities

Canadian companies supplying forest harvesting and wood processing equipment would be well advised to look into the Philippine market. A restriction on the export of logs in effect since January 1976 has resulted in considerable demand for wood processing equipment. However, because of depressed prices during the period plus the difficulty in producing an equivalent amount of processed wood in order to offset the lost export earnings from log exports, most operators have experienced current cash flow problems. This means that some sort of financing is almost a necessity in order to sell new equipment. Expansion of mining and mineral production also has resulted in opportunities for specific types of equipment. Considerable activity is anticipated in this sector during the next 12 months with substantial large purchases being made for certain types of mining equipment, particularly materials handling, excavation and large mine vehicles related to the open-pit type of operations prevalent in the Philippines. Opportunities for oil and gas equipment still exist but a lack of progress in the exploration program has reduced the opportunities in this sector. Many companies are still carrying out active exploration programs in the offshore waters of the Philippines and should oil be found, this sector could become very active.

SINGAPORE

The Market

Singapore's requirements for machinery are dependent on the level of investment by foreign companies in establishing industrial manufacturing plants. Without natural resources, there is no demand for machinery for the extractive industries and agriculture. However, because Singapore is centrally located in the Association of Southeast Asian Nations, it is frequently used as a transshipment port for machinery required by ASEAN industries. As ASEAN develops its natural resource industries, logging equipment, mining and construction equipment, materials handling equipment, metal processing machinery, woodworking and sawmilling machinery, forest harvesting machinery, agricultural equipment, oil and gas equipment, will be the main items that Canadian manufacturers may be able to offer. As for the Singapore domestic market itself, demand for machinery is limited to supplying Singapore's infrastructure development projects and industrial plants, e.g., airport and road construction, mass rapid transit, petrochemical complex, ship repairing and building, public housing, hospital, hotel extension projects and university development. Government 1977 import statistics for four major machinery and equipment groupings are generators, power and electric Cdn. $233 million, other electrical machinery Cdn. $810 million, industrial machinery Cnd. $258 million, other machinery and equipment (non-electrical) Cdn. $572 million, (at least 40 per cent of these imports were re-exported to neighbouring countries).

In 1977, Canada supplied regional countries (through Singapore) with Cdn. $0.8 million of mining and construction equipment, and Cdn. $1.1 million of logging-handling equipment.

Singapore also plays a major support role in the exploration of oil and gas in regional South East Asia. There are presently over 300 local and foreign companies in Singapore providing logistics support to the offshore oil industry. Many established manufacturers of oil-field equipment produce a wide range of products in Singapore (i.e., wellhead assemblies, drill collars, suspension systems, centrifugal pumps, valves, control instruments, oil and gas separating/processing systems, water filters, fractionating columns and DeLong type piers.

In the oil tools sector, for instance, Singapore serves as a manufacturing base for prominent U.S. firms like Cameron, Hughes, FMC, Stewart & Stevenson, Hydril and Vetco. Cameron Iron is making both offshore and onshore equipment such as risers, valves and blowout preventers; Vetco Singapore specializes in offshore drilling items like buttress thread tool joints, squnch joints, and wellhead housing and guide base assemblies; FMC produces wellhead equipment such as casing hangars, adaptors, flanges, tubing heads and tubing hangars. Canadian technology could similarly be licensed in Singapore.

Import Policies
No duty or other restrictions

Export Opportunities
- Construction cranes
- Processing machinery (e.g. pumps, valves)
- Packaging equipment
- Materials handling equipment
- Metal cutting and forming machinery
- Road construction and paving machinery
- Earth moving equipment
- Pollution control equipment for industrial waste
- Hospital equipment
- Food preparation and service equipment

SRI LANKA

The Market
Most machinery items for agriculture, construction and industrial applications are not yet produced in Sri Lanka and must be imported.

Import Policies
Free foreign exchange is extremely limited in Sri Lanka and imports of machinery are controlled by the government through the issue of tenders. Funding is often supported by bilateral or multilateral aid.

Export Opportunities
The Mahaweli Development Project, funded partly by the World Bank and CIDA, will require ongoing supply of construction and earthmoving equipment. There are plans for expanding the sugar industry and for establishing a fertilizer plant. Forestry equipment also has a limited market. Tenders issued by the government often call for small quantities of a wide range of machinery. This market is therefore particularly suited to the trading house approach, although several Canadian machinery producers are represented in Sri Lanka individually and are doing quite well. The National Paper Corporation, the River Valleys Development Board, the Ceylon Transport Board and the National Milk Board all issue tenders for machinery. Manufacturers must register with these purchasers to be eligible for bidding.

THAILAND

The Market
Thai industry is not generally capital intensive. Although total demand for industrial machinery is not high, the nearly total lack of local machinery production necessitates imports of a broad range of equipment. Industrial development has slowed in recent years owing to a lack of investor confidence. This, in turn, has adversely affected demand for industrial machinery. Government efforts to promote investment in private industry now appear to be bearing fruit, and several large projects in the mining and pulp and paper sectors may be resuscitated.

Import Policies
Thailand has a liberal and non-discriminatory import policy. Foreign investment is encouraged; incentives are available. Foreign exchange is freely granted to importers. The market for machinery is extremely price conscious. New plants are often equipped with imported used machinery.

Export Opportunities
Opportunities for Canadian equipment suppliers exist in the forestry sector. However, recent announcements concerning restrictive measures to curb logging may result in a cutback in activity in this sector.

The exploitation of natural gas reserves will entail the laying of a 500 mile, 32 inch-diameter pipeline, about half of it undersea, to bring the gas from the Gulf of Thailand to Bangkok. The Natural Gas Organization of Thailand (NGOT) will let contracts for design, procurement of materials and equipment, and construction of this large project beginning in 1979. Some of the gas will be used to fire thermal generating units. Since Canadian firms have already participated in this sector, opportunities for sales of boilers and perhaps turbine generators appear good. The U.S. firm Fluor has been appointed project manager.

Agriculture, which employs 80 per cent of the Thai labour force, is under-mechanized and unlikely to change in the foreseeable future.

Construction equipment, some Canadian, has enjoyed a growing market in Thailand but the trend is toward cheap, used machines.

Plans to establish a second deep sea port may provide opportunities for the sale of materials handling equipment.

AFRICA AND MIDDLE EAST

ALGERIA

The Market

Equipment purchases amounting to more than $2 billion per year account for more than 40 per cent of Algeria's imports. The major economic sectors involved are petroleum and natural gas, petrochemicals, mining and metal products, engineering and electric power construction and building materials. Most of the contracts are of the "goods on hand" type, involving taking charge of a complete industrial project, including its financing and the training of professional staff. There is also considerable demand for agriculture and public works equipment.

Import Policies

The Algerian economy is highly nationalized. Imports are regulated, and about 20 state-controlled corporations, each enjoying a monopoly in a given economic sector, account for more than 80 per cent of the goods and services imported into Algeria. Exporters must contact the Algerian corporations directly; recourse to a middleman is out of the question. A large proportion of the goods are purchased by international, sometimes restricted, tender and major transactions must be made by contract. Currency transfers are controlled and may be made only with the approval of the Algerian financial authorities. Algerians tend to do business with foreign exporters who have shown serious interest, especially by visiting Algeria in person. All matters relating to international trade are conducted in French.

Export Opportunities

Opportunities in this economic sector are available only to Canadian companies that follow them up closely. The procedure for obtaining contracts is through submission of all-inclusive bids that require exporters of equipment and services to syndicate. The market for agricultural and public works equipment is closed to companies until they have provided information on the equipment they produce. Several calls for tenders have been made for medium-sized plants in such industries as plastics, building materials, wood products, electrical appliances and agricultural (food) products. The creation of a marketing network for food refrigeration equipment is anticipated. The petroleum and natural gas industries still provide large markets: construction of plants for processing and liquefying petroleum gas, for petrochemicals, and for a 7,000-kilometre pipeline system, is anticipated.

CYPRUS

The Market

Machinery imports in 1977 were approximately $67.6 million. A large part of machinery imports are for the agricultural sector. Industrial machinery imported is mainly for the clothing, footware, and metalworking industry.

Import Policies

There are no restrictive practices but competitive financing is a factor. Within the next few years, volume of machinery imports is likely to increase with the rapid expansion and diversification of the industrial sector and the implementation of turnkey irrigation projects.

Export Opportunities

None at the present time.

EGYPT, LIBYA, SUDAN

The Market

Egypt is reconstructing and expanding its secondary industries after many years of disinvestment, and requirements range from kilns to refrigeration equipment.

Egypt hopes for substantial industrial development during the next five years. The development plan includes 280 projects with a total investment of $9 billion of which more than half is foreign exchange. Projects include all types of industrial activities including sugar refineries, bottling factories, chemical plants, textile factories, building products, metallurgical products, etc. Many of these plans will only be enacted if a foreign investor can be found and in almost all cases financing will be required. Design, supply and installation contracts are used in this field.

Libya has a small industrial base and most new government industrial projects of which there are many, are contracted out on a turnkey basis. Emphasis is on import substitution industries such as foodstuff processing and construction materials. The five year development budget 1976-80 calls for government expenditure of $3.6 billion in the industry and mineral wealth sector and $2.1 billion for oil and gas exploitation.

Sudan has an even more limited industrial base and lack of foreign exchange limits development plans. However, there is a good market for farm implements, feed and grain processing equipment and construction equipment.

Import Policies

Imports are, at least unofficially, controlled in all of these countries. This takes the form of foreign exchange and letter of credit controls. Libya is moving quickly towards a tightly controlled, centrally planned economy with government companies often granted a monopoly on imports in particular sectors.

Egypt is moving in the opposite direction with the private sector becoming more and more active. Sales to government entities must now be done through a local agent.

Except for Libya, which has access to vast oil revenues, financing is often required. Egypt and the Sudan, however, are receiving assistance from oil rich Saudi Arabia and the Arabian Gulf states. In addition, a soon-to-be-finalized $200 million credit protocol between Eygpt and the Export Development Corporation will make Canadian commercial financing available to Egypt for use in purchase of capital equipment and related services. In general, sales should be made in all these countries on a confirmed letter of credit basis in hard currency.

Export Opportunities

Egypt: Overhead cranes, heat treatment furnaces, process equipment, oil and gas well equipment, machine tools, concrete products machinery, materials handling equipment, hoists, construction equipment, commercial refrigeration equipment, mining equipment, automatic bakeries.

Egypt, Libya, Sudan — Export Opportunities (cont'd.)

Libya: Oil and gas well equipment, lathes, drills, plastic industry extruders, farm elements, construction equipment, concrete products machinery, materials handling equipment, commercial and industrial air conditioning, commercial laundry and cleaning equipment, food and beverage processing equipment, auto services equipment, hand tools, hardware.

Sudan: Farm implements, feed and grain processing equipment, construction equipment, concrete products equipment, commercial refrigeration equipment.

ETHIOPIA, MADAGASCAR, SEYCHELLES, SOMALIA, TANZANIA, UGANDA

The Market

All of these countries are very much in the developing nations category, and are only in the beginning stage of industrialization, with little indigenous machine building industry and with a demand for modest quantities of a wide range of equipment.

Mineral resources are few and mineral-based industries consist mainly of cement factories which are established in all but the Seychelles, diamond mines in Tanzania, copper mines in Uganda, and semi-precious stones, graphite, mica, and chrome mines in Madagascar.

Forest resources are significant in Tanzania, Uganda and Madagascar but as yet little exploited. A large pulp and paper operation is planned for Tanzania and Canadian firms are actively involved. This project presents excellent opportunities for equipment suppliers. Agriculture is little mechanized but increased emphasis is being placed on agricultural investment by the various governments. A wide range of processing equipment is required for various import replacement and export industries.

Road building equipment finds a good market in all these countries.

Import Policies

All governments are investing in their manufacturing sector and investing more heavily than previously in agriculture. Labour-intensive equipment is emphasized and highly automatic equipment is discouraged. Exporters should ensure that adequate provision has been made for instructing the customer in the use of the machine and for adequate service and spares. Machinery is frequently misused and proper maintenance and repairs are often neglected.

Export Opportunities

The Tanzanian National Development Corporation, P.O. Box 2669, Dar-es-Salaam, will be constructing an integrated pulp and paper project in South West Tanzania in the near future. Invitations for prequalification of equipment suppliers were made in mid-1978.

Canadian forestry equipment should find markets in Tanzania and Madagascar.

IRAN

The Market

With the rapid expansion of the industrial base in Iran, the market for all types of machinery and machine components continues to grow substantially. Imports during the year ended March 20, 1977 were valued at about $2.4 billion, largest single category being construction machinery generally and roadbuilding equipment specifically. Industrial equipment has a growing market, especially in the petrochemicals sector.

Import Policies

To support indigenous industry, the government of Iran has instructed all ministries and agencies to purchase from Iranian sources where possible. Thus the market for heavy construction and roadbuilding machinery will dry up for imports as future purchases go to an Iranian company currently over-producing. Industrialization in Iran usually proceeds with a foreign partner, either in the form of a joint-venture, licensing arrangement or management contract. Thus Canadian firms which traditionally supply to consultants' specifications will find market penetration difficult.

Export Opportunities

In the petrochemicals sector, Canadians should renew their efforts in selling equipment to those leading international consulting engineering firms which are also active in Iran.

Canadian firms producing specialized industry machinery and which are capable of offering turnkey installations should contact the trade post to assess market opportunities in Iran. Food processing plants would be of interest to Iranians, woodworking and metalworking machinery for smaller shops could find a market, and tools and workshop equipment of all types are in great demand.

IRAQ

The Market

Iraq imported in 1975 some $960 million of non-electrical machinery. In addition to this, significant sums were spent on engineering services connected with turnkey projects. Large sums allocated to infrastructure, irrigation and drainage projects and industrialization mean strong demand for all types of machinery for these sectors. For instance, the 1977 investment budget allocates $1,318 million and $3,265 million respectively to agriculture and industrialization. In the industrial sector, the emphasis is on the light industry, food processing and basic building materials. Expansion of oil and gas exploration, production, transport, and further processing, plus expansion of electric power supply and urgently needed water and sewerage projects will all create many opportunities for manufacturers and engineering contractors.

Import Policies
Iraq is a socialist country, consequently nearly all imports are made by the state organizations and usually via secret tenders. The exceptions are private Iraqi contractors and large international contractors undertaking projects in Iraq who would import equipment directly. Many of the opportunities arise through turnkey projects and most projects are still carried out in this manner. Therefore a national or international consortium is often necessary to provide the range of expertise necessary to bid on such large projects.

Foreign (meaning non-Arab) investment as such is not permitted in Iraq, however licensing and production/assembly arrangements may be pursued as well as time-limited management contracts.

Imports are restricted or prohibited for products which are manufactured in Iraq.

ISRAEL

The Market
Machinery imports are approximately $430 million annually, of which 40 per cent are general purpose and 60 per cent are special industry machinery and equipment. Within the general purpose category, materials handling and boilers are prominent at $25 million each followed by pumps, compressors, heating/refrigerating and process equipment, all in the range of $10 to $15 million each. Filtration and packaging are in the $7 to $10 million range and others such as weighing, cleaning and spraying are at the $2.3 million level.

Within specific industry sectors, machinery imports for metal working are prominent at $25 million, textiles at $20 million, agriculture and farming at $13 million and food and drink at $10 million.

Import Policies
Aside from fiscal and/or monetary measures to generally restrain imports, there are no restrictive practices. However, government owned and/or operated utilities and resource industries take due cognizance of competitive financing and the potential for local content when purchasing capital goods.

Export Opportunities
Israel Electric Corporation is now giving serious consideration to erecting an additional thermal power generating plant to be on-line by 1985. The station would comprise two units generating 1100 MW with both oil and oil firing capability. Canada has supplied capital components to three new generating facilities during this decade and has achieved a significant and favourable position.

Israel's kibbutz industries, comprising some 300 diverse activities, are seeking licensing agreements for local production. Current plans call for an additional 50 enterprises in the near term. The kibbutz orientation is towards small (40-50 workers) medium to high technology operations with export potential. Complementing the licensing potential is the policy of sourcing machinery and equipment in the country where know-how agreements are made.

In industry as a whole, joint ventures are sought for machine tools, industrial instruments and pumps.

IVORY COAST

The Market
The Ivory Coast's solid economic growth has been largely due to its expanding agricultural sector. Until very recently, little real effort was devoted to the development of mineral resources. Machinery and equipment employed in these sectors are almost exclusively imported and in almost all cases from France. Recently, however, other countries with the correct financial packaging are securing interesting contracts which lead to the subsequent purchase of large amounts of equipment.

The Ivory Coast Government has expressed its desire to extend its traditional sourcing to include new trading partners. Canada enjoys the advantage of North American technology provided in the French language, a bonus in its favour.

New developments in the agricultural sector such as sophisticated irrigation systems and equipment, food handling equipment, refrigeration equipment and food processing mechanisms offer excellent opportunities. Similarly, the development of the fishing industry will require food-handling and processing machinery.

The Ivory Coast is also intent upon developing a pulp mill and its nickle and iron ore reserves. Given the correct financial and marketing arrangements, Canadian industry could find an excellent market for its expertise and equipment.

JORDAN, LEBANON, SYRIA

The Lebanese are not yet in the full swing of rebuilding their secondary industries and hotels damaged by the civil war.

Syria has ambitious industrial development plans and expanding oil revenues will help to finance them.

Jordan has a limited industrial base but service industry machinery finds a market there.

Import Policies
Imports are, at least unofficially, controlled in all of these countries except Lebanon. This takes the form of foreign exchange and letter of credit controls in Jordan and import licences in Syria.

Sales should be made in all these countries on a confirmed letter of credit basis in hard currency.

Export Opportunities
Syria: Overhead cranes, heat treatment furnaces, process equipment, oil and gas well equipment, machine tools, concrete products machinery, materials handling equipment, hoists, construction equipment, commercial refrigeration equipment, scientific and professional instruments, automatic bakeries.

Jordan: Drilling, excavating and mining machinery, refrigeration equipment, hand tools, concrete products machinery.

Lebanon: When peace returns, opportunities will be in a wide range of products.

KENYA

The Market
Kenya imported $300 million worth of machinery and capital equipment in 1977.

As only relatively small quantities of a very wide range of equipment are required domestically, local manufacture and assembly is usually not practical at present and unlikely to be in the foreseeable future.

Import Policies
The Kenya economy experienced real growth of 7.3 per cent in 1977 with some decline expected in 1978 due to lower coffee earnings. Agricultural incomes grew by 12.3 per cent at constant prices. Therefore, the demand for industrial and agricultural equipment is relatively high. The government encourages the establishment of local industries for import replacement and to serve the export market. Special industries are encouraged to be labour intensive due to high unemployment rates and a low wage structure.

Export Opportunities
- Forestry — Canadian firms have been successful in selling log handling equipment and pulp and paper mill machinery and should be able to continue these sales and also sell saw milling machinery.

Pan African Paper Mills, P.O. Box 30221, Nairobi, is an import customer.

- Mining/Cement — Although the mining industry is small in Kenya the following firms purchase various mining equipment.

Fluorspar Co. of Kenya Ltd., P.O. Box 30610, Nairobi, Kenya

Magadi Soda Co. Ltd., Post Office, Magadi, Kenya

Bamburi Portland Cement Co., P.O. Box 90202, Mombasa, Kenya.

East African Portland Cement Co., P.O. Box 40101, Nairobi

Special process plant manufacturing should find a market in the expanding manufacturing sector.

The agricultural machinery sector is quite small and very competitive with most equipment supplied from Western Europe. Local assembly and manufacture of farm implements under licence might be a possibility.

The Kenya Post Authority also presents export opportunities, especially for forklift trucks and container-handling equipment.

MALAWI

The Market
Malawi is a small, land-locked Central African country whose population of 4.8 million relies mainly on subsistence agriculture for its livelihood. Only approximately 250,000 people participate in the cash economy and consequently purchasing power per capita is extremely low — $150 a year.

The manufacturing sector in Malawi is very small by any standard. Exports of Canadian machinery have been restricted exclusively to those shipped under Canada's CIDA program. This will probably continue to be the case for the foreseeable future.

MOROCCO

The Market
Mining machinery is needed to double Morocco's phosphate production capacity to some 40 million tons by 1985, including open pit and underground operations. There are a range of other mining applications for copper, lead, zinc and salt.

Port equipment is required for seven new minor ports, the further development of Casa port and major port construction at Nador (a steel complex) and Jorf Loafar (phosphate/fertilizer). Cement mills are to be contracted at the rate of an additional one-million-ton capacity each year from 1978 through 1982. There will also be requirement for materials handling equipment for mining and agro-industry.

MOZAMBIQUE

The Market
The best that can be hoped for in the short-to-medium term economic situation in Mozambique is for stagnation at the current low level of activity. The country faces severe balance of payments problems. There is almost no commercial or economic infrastructure left. Imports are controlled by a licensing system which is restricted to essential requirements. Under these circumstances, the market for exports of Canadian machinery must be regarded as closed or very limited.

NIGERIA

The Market

Of the countries covered by the trade post in Lagos, only Nigeria and to a much lesser extent Ghana offer significant markets for construction, forestry, agricultural and other machinery. With the rapid acceleration of road and other construction in Nigeria good opportunities exist for related equipment (for road equipment, American companies dominate, holding about two-thirds of the market). Although important to the economics of both Nigeria and Ghana, forestry has tended to be inefficient and, with a few notable exceptions, rudimentary equipment is still the norm. Both countries are attempting to upgrade this sector and modern equipment for sawmilling, plywood production, pulp and paper facilities is required. With the renewed emphasis on agriculture in Nigeria, good markets exist for tractors, implements, and irrigation equipment. Although Nigeria is a major oil producing country, Canadian companies have had limited success in supplying equipment to this market. With the exception of off-highway vehicles and specialized drilling equipment few opportunities are seen. Industrial machinery is primarily related to the processing of agricultural products, the textile and leather industries and light secondary industry. Nigeria, however, is encouraging the establishment of heavy industries such as iron and steel and petrochemicals.

Import Policies

Nigeria's Third National Development Plan 1975-80 (recently revised upwards to $65 billion) will mean massive expenditures for machinery — $8 billion is scheduled to be spent on manufacturing and approximately $25 billion on construction of roads, housing, schools, etc. Virtually all machinery is now imported but progressively more assembly and manufacture in Nigeria is being actively encouraged. The Federal Ministry of Industries has made agreements with Fiat, Steyr and British Leyland for the local assembly of trucks and tractors, apparently to the exclusion of all others. Under the Government Indigenization Decree it will soon be necessary for heavy equipment distributors to be 60 per cent Nigerian owned.

Modernization of agriculture, including mechanization, is being actively encouraged in both Nigeria and Ghana. To meet the greatly increasing demands for wood and paper products Nigeria will spend approximately $1 billion on the forestry sector during the current Third National Development Plan period.

Export Opportunities

Good opportunities exist in Nigeria for construction equipment, such as tower and mobile cranes, vibratory compactors, concrete block machines, pumps, road graders, off-highway tractors, pavers and highway maintenance equipment.

Agricultural equipment requirements in Nigeria include tractors, combines, plows, harrows, sprayers plus processing equipment.

In the forestry and wood processing sector, opportunities exist for skidders, modern sawmilling equipment and machinery for furniture making. Although further joint ventures for the assembly of tractors appear to be precluded in Nigeria, opportunities exist for agricultural implements, pumps and perhaps compactors. For the other countries in this territory — Sierra Leone, Togo, People's Republic of Benin — various bilateral and multilateral financed road projects will require equipment, particularly for road maintenance.

SAUDI ARABIA

The Market

Completion of the ambitous five year plan calls for massive imports of all kinds of machinery. Imports of non-electrical machinery totalled $1,594 million in 1976. Huge oil and gas and petroleum refining projects, combined desalination and thermal power plants, major projects to expand highways, and water and sewer networks and a boom in private sector construction have all generated large requirements for machinery and equipment — especially construction equipment.

Import Policies

The market is wide open. Practically every industrialized country with the exception of the eastern bloc countries is competing in the Saudi market. The government is encouraging private Saudis to start light industries, and a number of factories to supply building materials have been set up.

Export Opportunities

Opportunities are available but competition is fierce. Many well-known brands have distributors here and are backing their distributors with maintenance personnel and spare parts. Apart from oil and gas machinery, much of which is bought by Aramco or the major project management/contractor firms from their American or European offices, manufacturers of construction, agribusiness (irrigation and sprayers), fast food service, auto service, tire retreading, woodworking and machine shop equipment should find Saudi companies interested in their products.

SOUTH AFRICA

The Market

The forestry section is of principal interest, particularly chain saws, forest harvesting equipment and sawmill machinery. The current economic situation limits imports but major companies and the State Forestry Department have made plans that wait for economic recovery. Demand for spare parts for repairs is expected to remain steady.

Increasing amounts of local manufacture will contine to affect imports of agriculture, construction and materials handling machinery but some revenue from licensing agreements should flow to Canada. Increasing Canadian costs have stimulated development of locally designed and manufactured machines, particularly in the agricultural field. Construction is at present virtually at a standstill due to economic conditions. There is little interest in South Africa in most other machinery, mainly because of local manufacture.

Import Policies

The South African government is at present enforcing restraints by both import licensing and by selective import surcharges on a wide range of products. The economic situation remains at a low ebb with little sign of an upturn other than temporary stimulation in certain areas. The increasing sophistication of the South African manufacturing industry, plus extensive public relations work on "Buy South Africa", is tending to reduce South African dependency on imported goods.

South Africa — (cont'd.)

Export Opportunities

The climate is reasonably good for licensing agreements, particularly in areas where the weight and/or bulk of the product contributes to high shipping costs. The South African engineering industry is sufficiently sophisticated to deal with a high standard of engineering but the market generally does not contribute to mass production techniques.

TURKEY

The Market

The continuing rapid development of Turkey's infrastructure necessitates large machinery imports and Canadian firms have been highly successful in supplying generators, industrial furnaces, drill bits, mining and construction machinery, chain saws, drilling rigs and other items. In addition, the local manufacturing industry is becoming increasingly sophisticated and requires complex machinery. In keeping with Turkey's industrialization drive, local manufacture of many types of machinery is planned, and as a result there could also be a potential for the licensing of Canadian technology. Most major machinery items are purchased by government or semi-government agencies through international tenders. In view of Turkey's present balance-of-payments situation it is imperative that financing offers accompany bids.

ZAIRE, GABON, CAMEROON, CONGO

The Market

In recent years, a very large proportion of international investment has been channelled toward industrial development within Zaire and its neighbouring fracophone countries. This led to a highly promising market for Canadian machinery and equipment before the recent Shaba invasion.

International financing agencies have to date given priority to the development of highway infrastructures which in return has opened an interesting market for construction machinery such as graders, and various sorts of earth-moving equipment. In time, it is believed that specialized paving equipment will also find a market in this region. It should also be noted that the development of the varied mineral resources in these countries should, given the right circumstances, provide excellent opportunities for Canadian interests with recognized expertise in the field of mineral exploration.

The forestry sector is, however, the most encouraging area for Canadian penetration. All of these countries are rich with abundant tropical hardwoods. The development of this sector will be, to some degree, a major step in the economic development of these countries by relieving the countries' economic dependence upon a single export industry.

CIDA has played a major role in the development of the forestry sector. CIDA together with a Quebec firm, has undertaken a project to catalogue the forests in the Central Basin of Zaire. A permanent forest inventory and development service has been created as well as a detachment of Canadian experts, the latter having the responsibility to report to the government. CIDA also intends to establish a training program for forestry engineers and technicians.

At a UNIDO-CIDA seminar in Montreal on May 2-6, 1977, several projects calling for foreign investment capital were set out:

1. A project for setting up integrated industrial complexes with a view to developing a 53,000 square-kilometre forest area, already inventoried, in the Central Basin. Products: rough timber, swan timber, peeled logs, veneer, plywood, particleboard.

2. Plants for making and creosoting railway ties with a view to meeting present and potential demand for this type of product on world markets. Products: bleached, lathed and creosoted ties. As the country has extensive stands of species suitable for such products for which present and potential demand is worldwide, Zaire would be in an advantageous position as a producer.

3. A feasibility study on various types of pulp with a view to the eventual production of usable pulp from the country's available cellulose resources.

4. A study on the paper products required for Zaire's own needs. Objective: to determine quality standards for pulp in terms of the characteristics of the paper products destined for the Zaire market.

ZAMBIA

The Market

Economic conditions in Zambia remain depressed. Copper prices, while recovering from their historic lows of 1974, have not rebounded to levels sufficient to provide both the revenue for Zambia's development programs and the foreign exchange to pay for the imports necessary to keep the economy functioning. The outlook for a sustained increase in copper prices in the near-to-medium-term future is not good. Copper sales provide 95 per cent of total national foreign exchange earnings. Consequently, prospects for export sales to Zambia remain limited.

Import Policies

To cope with the shortfall in foreign exchange earnings, the government has instituted a stringent system of import licensing and control. Licences are issued on a priority basis with emphasis on providing essentials for the populace and a few key industries. Another factor which inhibits access to this already restricted market is the payment situation. At present, the delay between payment for imports in local currency to a commercial bank and remittance of the equivalent foreign exchange by the Bank of Zambia ranges from seven to ten months depending on the currency involved and the priority of the imported goods in the pipeline. There are not many Canadian exporters able to do business on those terms.

Export Opportunities

Zambia does have a well developed industrial base and a small metal working industry centred around the mining industry on the Copperbelt. Most plant and equipment, including machinery, is of British or South African origin. Certain specialized items of mining machinery are supplied from Canada, although recent efforts to interest the mines in a broader spectrum of Canadian equipment under a CIDA line of credit failed for a number of reasons.

Since import licences for machinery are at present restricted in favour of raw materials and consumables, the market for exports of Canadian machinery is very limited.

UNITED STATES AND BERMUDA

ATLANTA

The Market
The Southeastern United States market for machinery is concentrated in the agricultural, textile and woodworking sectors; at the same time, there is a significant increase in the mining and food processing areas.

Textiles and apparel account for a volume in excess of $3 billion a year, with employment of 617,000, which amounts to 30 per cent of total employment in the United States in this sector. Agriculture is a billion dollar industry, with five of the seven states among the top ten in tobacco, cotton and egg production and four of the seven in the top ten in broiler production. Primary and secondary sections of the forest industry are concentrated in Alabama, Mississippi, North and South Carolina, and Tennessee.

Import Policies
There are no import restrictions on machinery.

Export Opportunities
The U.S. Farm Equipment Wholesalers Association will hold its annual conference at the Diplomat Hotel in Hollywood, Florida, November 26-30, 1978. Canadian manufacturers would be able to establish excellent contact by attending this conference.

BOSTON

The Market
This market over the years has offered possibilities for many types of industrial machinery made in Canada.

Import Policies
OSHA regulations apply in this sector.

Export Opportunities
The market for various types of machinery, specifically material handling, processing and industrial equipment and forestry equipment remains promising. The market for snow clearing equipment appears strong in the light of the heavy snowfall recorded in New England last winter. Regarding construction equipment, demand over the next year or two will probably take a turn upward. Food service equipment as well as packaging and printing machinery opportunities look positive. The market for snowmobiles, all terrain vehicles (ATVS) and agricultural machinery is limited. Steady activity is expected in the machinery sector.

BUFFALO

The Market
As one of the most industrialized areas of the United States, the Upper New York State area has probably the heaviest concentration per capita of heavy industry and production equipment manufacturers. With the exception therefore of certain specialized types of machinery (generally of a type or kind not made in Canada) and agricultural machinery, there is little opportunity for Canadian firms in this sector at the present time.

CHICAGO

The Market
With the exception of mining and forestry machinery and equipment, the Chicago territory would have to be considered as a vast potential market for all products covered by the Machinery Branch of Industry, Trade and Commerce. This is due to the great diversity of manufacturing and distribution categories found here — a far more diversified economic base than is found in many regions of the U.S. The qualifier "potential" has to be used, however, because this whole industry sector is very competitive and is dominated by well established domestic firms. There is no definite segment of it where products are not available or where imports have any discernible advantage. In most instances the factors of price, quality, features and service are paramount in establishing market penetration.

Import Policies
No restrictive policies.

Export Opportunities
In general, the most likely areas are packaging and labelling machinery, metalworking machinery, automotive service machinery and all varieties of agricultural equipment.

CLEVELAND

The Market
Machinery is one of the best sectors for export development by Canadian manufacturers. Canadian sales are excellent and have been expanding significantly during recent months, particularly in the agricultural and industrial fields. Replacement of obsolescent equipment is serving to further stimulate sales prospects. Major demands are emanating from key industrial sectors which characterize this territory: automotive, tire and rubber, woodworking, metalworking and machine tool manufacturers.

Import Policies
No restrictions

Export Opportunities
Packaging machinery, V-grooving and milling machinery, radial drills, hydraulic press brakes, fabricating shears, tire retreading, tire presses, tire recapping equipment, labelling machinery, pollution control equipment, case sealers and packers, chain ditchers, hollow chisel mortizers, band saws, automatic grade control systems plus components and spare parts. Bulldozer blades, propeller castings plus valves and fittings are also marketable.

The National Farm Machinery Show will be held February, 1979, Louisville, Kentucky, and the Ohio State Farm Science Review Show in Columbus, Ohio in September 1979.

DALLAS

The Market
The worldwide headquarters for the multi-billion dollar oil and gas and related equipment market are located in Houston with lesser activities centred in the Dallas, Tulsa and New Orleans areas. Most major products relating to this industry have the financial, technical and buying decisions controlled from here. As an example, two-thirds of all United States exports to the Middle East, perhaps the world's largest repository of disposable income, originate in Texas. Canadian exports of all machinery into Southwest are valued at more than $100 million annually.

This concentration of activities relating to the oil and gas industries continues to grow at an increasing rate. Buying activities from many of the foreign government-owned oil and gas industries have located their offices here to be near the technical decision-makers. Equipment suppliers are rapidly swelling the ranks to ensure that they have a highly visible presence in this oil and gas capital.

Export Opportunities
The major engineering/construction companies are now turning more to Canada because of financing requirements. Also, as these companies, along with their major equipment suppliers, become involved in the Canadian market, especially in the Arctic projects, there will be many more opportunities for Canadian manufacturers of machinery and related products.

DETROIT

The Market
The metalworking industries in the Trade Post's territory (Michigan, Indiana, and Toledo, Ohio), particularly Michigan, are extremely active and involved in supplying the automotive industries, which are tooling up for completely re-designed, smaller vehicles, to comply with the U.S. federal regulations in respect to fuel economy. Outlook good for Canadian machinery builders and sub-contractors in this region of the United States and interested Canadian firms should contact the Consulate for assistance.

Despite the title of Automotive Capital of the World, Michigan rates agriculture as its number one industry in importance. Sales of agricultural equipment and machinery in Michigan and Indiana provide Canadian suppliers, particularly those with short-line equipment, an excellent opportunity. One Canadian manufacturer has already established a warehouse operation in Lansing and others are considering depot stockings in territory.

Food processing and packaging machinery manufacturers have an excellent possibility in post territory. Three major pharmaceutical manufacturers, two major package cereal producers and several beverage, food and industrial producers are extremely good prospects for Canadian machinery manufacturers and exporters.

LOS ANGELES

The Market
Current market conditions indicate that this area is facing a large industrial expansion over the next few years. Capital spending on plant equipment in conjunction with a trend towards modernization and improved productivity bears great promise for interested and competitive manufacturers. Secondary industries as well as service industries will make great demands on manufacturers. A negative factor, so to speak, is the import situation where there's stiff competition from Japanese and German machine tool makers. Mining equipment will remain in good demand due to increased attention to exploitation of available resources.

A number of California-based design engineers and constructors are involved in projects in third country areas such as the Middle East, etc. It is through the intermediary of such engineering firms that Canadian capabilities find interesting applications whether they be in the United States or overseas.

Farm investment in all sectors has been slowed by the current drought, except wells and related irrigation items. Once the drought lifts, the California agricultural industry will continue to become more capital intensive and specialized. Agriculture continues to be California's number one industry and California leads the U.S in agricultural production.

Import Policies
State environmental standards and regulations, as established by OSHA, (Occupational Safety and Health Act) have to observed.

Most farm machinery enters duty free but items for agricultural use (irrigation valves, for example) sometimes pay duty.

Export Opportunities
Excellent opportunities for Canadian manufacturers to exploit are in the areas of environmental controls and equipment, in secondary industries such as materials handling and construction equipment, service industries equipment, and equipment related to power conservation and solar energy.

Generally speaking, the market for equipment is good where demand is continuous and growing provided the Canadian manufacturers are competitive and have the capacity to produce to meet the demand.

California agriculture is based on specialization, irrigation and elimination of labour input. Canadian equipment that meets these requirements should do well, especially if there is no local producer of equivalent items. The California Agricultural Equipment Show in Tulare in February is an excellent showplace to launch new Canadian entries to this market and for Canadian producers to observe what is already being sold here.

MINNEAPOLIS

The Market
Agricultural equipment is by far the largest machinery market in the upper midwest. After depressed sales due to droughts and low grain prices in 1976/77, sales of farm machinery showed a 15 per cent increase in 1978. Because of improved weather conditions irrigation equipment sales have levelled off.

In the northeast part of the territory, forest machinery and equipment for pulp and paper mills have a potential, while throughout all of this food producing and very environment conscious area there is a demand for processing/packaging machinery and pollution control equipment.

Import Policies
No restrictive policies.

Export Opportunities
The increasing size of farm units requires more farm machinery in the larger sizes. With many major food firms located in Twin Cities area (Green Giant, Pillsbury, General Mills, Land O'Lakes, etc.) new processing and packaging machinery to improve efficiency is always welcome. Contact can be made direct or via manufacturers representatives.

NEW YORK

The Market
While much of the work for this sector is carried out on a responsive basis at the behest of individual equipment manufacturers seeking distributors, agents and users, the diversity of the equipment offered and the varied applications to which it may be suited suggest that each line would best be evaluated on its own merit so far as export potential is concerned, rather than be considered part of an over-all industry capability.

Overseas market possibilities represent an important additional dimension for firms when considering the New York area.

PHILADELPHIA

The Market
Imports of special purpose machinery from Canada into the mid-Atlantic states (eastern Pennsylvania, southern New Jersey, Delaware, Maryland, Washington, D.C., and Virginia) exceeded $550 million in value last year and are rising. Most promising areas for doing business are in oil field and mining machinery, construction farm machinery ($18 million last year) and materials handling equipment ($8 million) with sales of construction, mining, amd metal working machinery running about $13 million a year.

Export Opportunities
With economic conditions in the United States continuing to improve, the demand for capital equipment of all types is expanding steadily. Canadian machinery manufacturers wishing to expand their sales into this heavily industralized part of the United States can obtain the names of potential customers or suitable representatives from the Canadian Consulate, Three Benjamin Franklin Parkway, Philadelphia, PA. 19102.

SAN FRANCISCO

The Market
The Canadian Consulate General in San Francisco covers three distinct market areas. The largest of these is Northern California, and the San Francisco Bay area is its commercial hub. Its population of eight million people is about that of the Province of Ontario and its residents among the most affluent in the world, with the result that the area is also a world leader in per capita retail sales. The next largest market area is the Rocky Mountain region which has a population of 3.5 million people centred around Denver, Colorado, and Salt Lake City, Utah. This area is now experiencing an unprecedented population expansion and economic boom based on rapid development of its energy resources, as well as the quality of life in the region. The third area, the Hawaiian Islands, has a resident population of less than one million people, but its unique economy based on defence, specialty agriculture, and hundreds of thousands of high-spending visitors (many of them Canadian) creates an interesting pocket-market.

Northern California has a broad economic base which includes a strong and diversified agricultural sector, food processing, electronics, transportation, forestry, mining, and tourism. As a result, the region offers a major market for many types of machinery for agriculture and industry. The food service industry provides a good example of prospects for growth in the region. Projections for 1985 indicate a populafion increase of one and one half million people and a per capita income increase of 25 per cent in real terms. As a result, food industry officials are predicting that more than three million meals daily (33 per cent of all meals) will be eaten in fast food and regular restaurants by that year.

Projections on the state's machinery industry indicate a significant growth in capability to produce many types of machinery locally in future years, thereby creating demand for components, but also requiring a selective approach to the market.

The need in the U.S. for rapid expansion of domestic energy sources is adding a major impetus to the economy of the Rocky Mountain region which is rich in coal, oil, gas, and uranium and, in turn, is creating a heavy demand for machinery to be used by the energy industry.

The Hawaiian market for machinery is small, and yet offers some special opportunities. The sugar plantations, for example, are now undertaking a major attempt to diversify into other lines of agriculture which will require new machinery of various kinds.

World-scale engineering and contracting companies are based in all three regions of this post's territory. The six largest of these firms, for example, signed contracts with a total value of $4.2 billion last year. A substantial percentage of that money was spent on purchases of machinery and major mechanical components for use in projects in North America and around the world.

Competition in all of these market areas is primarily based on factors such as reputation, quality, financing and delivery time, with price always an important but not dominant factor.

Import Policies
Tariff and import regulations, and the approvals required for electrical equipment, food service and food processing equipment are the same as those which apply elsewhere in the U.S.

Export Opportunities
Demand is strong for machinery used in the resource extraction, benefication, handling and transportation industries, and oilfield equipment. Development of new technology to open up shale oil reserves will create new opportunities in the future.

The requirement for machinery and equipment for engineering and construction projects controlled by firms in this territory has not been fully tapped by Canadian machinery producers. These U.S.-based firms are eager to buy from Canada in order to have a favourable status with Canadian decision-makers when large Canadian projects are available. Machinery required is as varied as the projects undertaken which include pipelines, petrochemical plants, thermal generating plants, pollution control systems for heavy industry, mining/refining projects, transportation and many others.

Rugged agricultural machinery for use with four wheel drive tractors has good sales potential in Hawaii. As Hawaii is a research centre for tropical agriculture, sales to Pacific rim nations may also result.

SEATTLE

The Market
The total Northwest machinery market is estimated as being approximately $4.2 billion and the import market is estimated to be in excess of $130 million. The dominant industries are forest, aerospace, primary metals, power, and agriculture with the emphasis on field crops, while in Alaska, the dominant industry is oil. These give rise to the primary machinery requirements.

In 1977, Canada shipped some $64 million of machinery to the Northwest and $11.3 million of agriculture machinery. In the long term, prospects for both these industries are bright. However, greater immediate potential probably lies in the forest industries as agriculture prices and growing conditions are depressed. On the other hand, much of the forest products market, particularly lumber and plywood has recovered and mill operators are optimistic.

Concentrated mineral exploration efforts are under way in Alaska. The environmental restrictions are so severe that only well financed groups have the resources to explore and develop the mines.

Native claims companies in Alaska are into what can be termed as the second round of business investments, proceeding at a more deliberate pace. The Pacific Northwestern forest products industry is in the process of shifting from old timber logging to highly sophisticated computer-age, continuous tree farming. Construction of the U.S. Navy's huge Trident missile base is in full swing. Two nuclear power plants are being constructed in the State of Washington. Work is continuing at a strong pace at the Hanford Nuclear Power Complex and the (Argone) Idaho National Engineering Laboratories. The major aerospace firms are busy filling military and commercial orders. Design finalization of several new commercial aircraft is imminent. The heavy truck and railroad car construction industries continue to be strong.

Export Opportunities
The Alaska Gas Pipeline will require a second round of equipment investment. A new degree of sophistication that takes advantage of the lessons learned in building the oil pipeline can be expected. New large scale mining equipment will be needed for Alaska. The key to success is demonstration of the economics of extraction, concentration and transportation. The major forest products firms are seeking equipment suitable for efficient, continuous, second generation tree farming. The aerospace firms will selectively purchase sophisticated process machinery, i.e., for advanced composite material processing and for processing high strength, lighweight alloys. Boeing is increasing its plant capacity by one-third. The Trident missile base will require general purpose machinery for its service shops. A broad spectrum of custom equipment and machinery continues to be required for the nuclear power industry. The agronomical outlook of the Pacific Northwest has brightened over the depressed conditions of 1977. There are many similarities between agriculture in the Pacific Northwest and Western Canada, consequently there are great opportunities in agricultural machinery. In 1977, shipments of $19.2 million included $2.8 million of soil preparation and fertilizing machinery, $4.8 million of combines, $7.1 million of tractors and another $4.5 million of miscellaneous agricultural machinery. Opportunities will continue in all areas of agricultural machinery.

Some oilfield equipment is being bought out of Alaska by the majors, however the limits and conditions depend very much on the individual company. Exploration, particularly offshore exploration, is taking place and opportunities exist either in Anchorage at Alaska regional headquarters or in the national headquarters of the corporations. There are the beginnings of a petrochemical processing industry in Alaska.

BERMUDA

The Market
Bermuda depends totally on imports for the basic needs of its 55,000 inhabitants and the 500,000 tourists who visit the island each year.

In 1976, Bermuda's imports from all countries totalled $165 million. In 1977 imports from Canada (the third largest supplier) totalled $11 million. Canadian exports to Bermuda include food (40 per cent of our exports), apparel, textiles and footware, electrical goods, machinery, paper products, furniture, etc.

Although Bermuda is a small market, it is perfectly tailored for the many small and medium size Canadian manufacturers. The trade post has established and maintains close contacts with Bermudian importers.

The lower priced Canadian dollar and the slowdown in the rate of inflation in Canada should contribute to increased competitiveness of Canadian products in Bermuda.

CENTRAL AMERICA AND CARIBBEAN

COSTA RICA

The Market
Latest Costa Rican figures show imports in this sector from all sources in 1975 totalled $82,189,000 (Comercio Exterior: Costa Rica 1975. Publisher: Direccion General de Estadistica y Cenos Ministerio de Economia, Industria y Comercio). Latest Statistics Canada figures show that our exports in 1977 totalled $449,095 in this sector to Costa Rica.

The major machinery user in Costa Rica is the Instituto Costarricense de Electricidad (ICE), the government-owned, autonomous power and communications company. ICE's power system expansion has been handled under a series of four or five year programs, financed partly by loans from international development banks, coupled with substantial amounts of internally generated funds, and some commercial bank loans. The current five year period, 1974-1979, represents a planned investment of some $22 million.

The Boruca hydro-electric power project is combined with aluminum mining and refining operations in southwestern Costa Rica. The hydro plant, with 800,000 kw installed capacity, will cost an estimated $700 million by 1983, with the aluminum operations requiring about the same investment.

Because of the magnitude of the project, ICE is looking for a consortium of aluminum producers and is now negotiating with Harvey Aluminum (St. Croix, the Virgin Islands) and Martin Marietta.

In 1975, the Inter-American Development Bank extended a $21.3 million loan for development and improvement of fishing facilities on Costa Rica's Pacific coast. Included in the loan disbursement is construction of new permanent port facilities, for which a Canadian firm has won the contract. The executing agency for this project is the Consejo Nacional de Produccio (Apartado Postal 1515, San José, Costa Rica). Eventually, purchases of mobile sale equipment and freezers, cold storage show cases, etc., will be required. The executing agency for the IADB loan in total is the Banco Angelo Costarricense, Apartado 8600, San José, Costa Rica.

Improvement of facilities at the Port of Limon is being financed from Germany, and the new port of Caldera by Japan, reducing opportunities for Canadian equipment suppliers.

Farm machinery currently accounts for the majority of Canada's exports to Costa Rica. As the agricultural industries improve and expand, this market can be expected to follow suit. The world's major suppliers are all in Costa Rica, supported by local representatives and distributors who can provide parts and service. Canadians wishing to enter the market must choose a capable representative with these facilities.

CUBA

The Market
Cuban domestic manufacture and expertise in the machinery sector is limited, although some agricultural machinery assembly plants are now operating and more are planned over the next few years.

Import Policies
Imports of machinery are usually handled by the state trading agency Maquimport, although other agencies such as Tractoimport (agricultural equipment) and Construimport (construction equipment) also are involved.

Export Opportunities
Cuba requires significant quantities of replacement parts and basic hardware for plants and machinery of U.S. origin.

The potential for machinery sales to all export-oriented industries is good, particularly for tobacco harvesting equipment, mining equipment and equipment for the sugar industry such as speed-reducers, centrifuges, boilers, furnaces and gears.

Tourism is a priority sector in Cuba's development plans and Cuba looks to Canada as an important source of supply for all hotel/restaurant food preparation and service equipment.

Cuba has a substantial requirement for all types of construction equipment.

The national Institute for Reforestation Programs (INDAF) has expressed interest in all types of Canadian forestry equipment.

EL SALVADOR

The Market
The market for imported machinery in El Salvador has grown steadily; the dollar value of imports increased at a rate of 14 per cent a year during the period 1971-75. Growing public investment and government policy directed towards increasing industrial growth indicate that machinery imports should continue to increase.

As aggressive industrial expansion continued in the private sector, sales of Canadian machinery increased substantially to $395,000 in 1977.

Competition is intense with the United States, Germany and Japan dominating the market. Competitive pricing, good agents, and active promotion from Canada are necessary to take advantage of the increasing opportunities for exports of machinery to El Salvador.

Import Policies
The government imposes no quantitative restrictions on the import of agricultural, mining, industrial machinery and spare parts. Tariffs range between 10-25 per cent under the Central American Common Market system. The government is currently active in attempting to promote industrial growth and expansion.

Export Opportunities
Industrial machinery opportunities should expand significantly with the recently implemented government Five Year Plan concentrating on accelerated industrial development as a priority.

GUATEMALA

The Market
Machinery imports have represented approximately 15 per cent of total imports into Guatemala during the 1970's: 75 per cent industrial equipment and 25 per cent agricultural machinery.

Machinery imports will increase as the country continues its industrial diversification and expansion.

Canadian machinery exports in 1977 were Cdn. $2.6 million dominated by industrial process, metal and wood working and mining machinery.

The United States dominates the machinery import market; Germany and Japan also have a substantial share of the Guatemalan market.

Import Policies
The government imposes no quantitative restriction on the import of agricultural, mining, industrial machinery and spare parts. Tariffs range between 10-25 per cent under the Central American Common Market System.

The government follows a policy of encouraging and promoting industrial growth and expansion.

Export Opportunities
The opportunities for a wide range of industrial, agricultural and materials handling machinery have increased substantially through increased involvement by the trade post and Canadian companies in some 22 active projects in Guatemala. These projects offer some U.S. $200 million in prospective equipment materials exports.

HONDURAS

The Market
Machinery imports represent approximately 20 per cent of total imports into Honduras in recent years. The bulk of imported machinery is supplied by the United States, the principal trading partner of Honduras; Japanese and West German suppliers are also well established but to a lesser extent than U.S. companies.

To date Canadian firms have captured only a small share of this market with 1977 sales to $351,000 dominated by $102,000 in mining and drilling equipment.

The creation of CONADI, an institution to promote industrial growth, along with efforts by the government to expand and diversify the industrial base of the country offer growing opportunities for machinery exports to Honduras.

Import Policies
The government recently created the National Investment Corporation to promote industrial growth and is currently in the process of revising the Honduras industrial incentives legislation. Because of the lack of extensive fiscal incentives the private sector has hesitated to invest.

However, the forthcoming legislation should alleviate this difficulty.

The government has given highest priority to the development of the country's forest resources and this will offer substantial opportunities to Canadian suppliers of forestry, sawmill and pulp and paper equipment.

Export Opportunities
The Honduras program for further development of the forest industry offers an excellent opportunity for Canadian suppliers. Opportunities also exist for sales of agricultural machinery. Those product areas in which Canada has made exports in the past should continue to provide a market for competitive suppliers. Some specific opportunities include the following:

(a) The Olancho sawmill will offer some U.S. $8 million in sawmill and logging equipment for equipment suppliers pre-qualified in 1978.

(b) The COROCITO sawmill and plywood plants are still at the feasibility study stage but are expected to be on the scale of $50 to $20 million.

(c) The materials handling equipment for Puerto Castilla are expected to be tendered for approximately $5 million in contracts late in 1978.

(d) The turbine and generator tenders for the 400 Mw. El Cajon hydro project should be issued early in 1979, followed by the intake bulkhead gates, cranes and accessory mechanical equipment tenders.

JAMAICA

The Market
Imports of capital goods only reached an estimated total of approximately U.S. $145 million in 1977, however the allocation for 1978 has been set at U.S. $208 million. Jamaica faces difficult choices in distributing this allocation. Funds are required to revitalize the construction sector as well as to establish new production facilities in order to increase output and employment. However, certain public and private projects already on stream must be given the highest priority and cutting back on their budgets or postponing them might be either impractical or impossible.

High priority will also have to be accorded to spare parts for machinery since it is essential to maintain capital stock in good working condition for the production drive. On the other hand, high priority cannot be given to the renewal or expansion of plant or machinery where there is either excess capacity or the goods to be produced are accorded low priority.

Import Policies
Some of the items currently appearing on the list of banned imports which could be classified as machinery are: showcases and store display units, platform trucks, hand trucks, pallet pullers, metal pallets, drum handling equipment, utility carts, cranes, road rollers and earth moving equipment.

Export Opportunities
Private companies have been reluctant to purchase new or additional capital goods in view of the current Jamaica economic climate. The market in this sector will likely remain confined to spare parts and ancillary equipment in the immediate future.

Some opportunities for the sale of capital goods could arise out of multilaterally funded projects.

NICARAGUA

The Market
Latest Nicaraguan figures show imports in this sector from all sources in 1976 totalled \$67 million. Latest Statistics Canada figures show our exports to Nicaragua in this sector in 1977 totalled \$754,464.

Opportunities for Canadian machinery suppliers are good as Nicaragua authorities turn their attention to large scale power and forestry projects. After more or less shelving the COPALAR Project recently, Nicaragua is now turning towards smaller projects in the energy field. Geothermal energy and the Rio Britto hydro-electric project are the major projects for the coming years. Canadian suppliers of related machinery stand a good chance as the projects unfold.

According to the Ministry of Public Works of Nicaragua this country will invest some \$83.9 million in construction equipment up to 1980 including: \$22.4 million for highways, \$8.1 million for railways, \$25.9 million for ports, and \$27.5 million for airports.

The executing agencies for these projects are: Ministerio de Fomento, Km. 5 1/2 Carretera Norte, Managua, Nicaragua, Ministerio de Obras Publicas, Km. 5 1/2 Carretera Norte, Managua, Nicaragua.

PANAMA

The Market
Latest Panamanian figures show imports of machinery from all sources in 1974 totalled \$145,416,000. Latest Statistics Canada figures show Canadian exports to Panama totalled nearly \$12 million in 1977.

After a long period of rapid expansion in the 1960's, the Panamanian economy began slowing down in 1974, affecting every sector of industry and commerce. The result was a sharp decrease in private investment and an increase in public investment as the government responded to the situation with short and long-term investment incentive programs. On the long-term, a number of large infrastructure projects have been identified, exploiting various aspects of Panama's potential for providing services to international trade and others to develop the country's natural resources.

The Panama Canal treaty is expected to provide a boost to manufacturing investment by late 1979, as the government develops its policy for industrial development of the lands it will be taking over in the Canal Zone.

The key project in the government's five-year development plan is the Cerro Colorado copper mine, estimated to be capable of producing 75,000 metric tons per year. The first phase of the project involves only copper production; the second phase would add a phosphate fertilizer plant using sulphuric acid from the smelter.

In July 1978 EDC expressed interest in providing up to \$1 billion in financing for the purchase of Canadian consulting services, construction and equipment. Major feasibility study conducted by the Texasgulf Inc. is substantially complete and in the fall of 1978 Texasgulf and its Panamanian government partner, CODEMIN, will attempt to complete the financing package with EDC and complementary sources. Canadian firms should express their interest to EDC and to: Jaime Roquelbert, Technical Director, Proyecto Cerro Colorado, CODEMIN, Apartado 008, Zona 5, Panama, Republica de Panama.

The large container and Ro/Ro port project at Colon financed by EDC is moving forward again after the Panama Canal treaty permitted a more convenient site. The project is being executed by Swan-Wooster and Dillingham Corporation, and the EDC financing will offer opportunities for Canadian manufacturers of port equipment.

Power generation now offers equipment suppliers the biggest market: the national power company, Instituto de Recursos Hidraulicos Electrificacion (IRHE), is planning distribution equipment purchases of some \$41.7 million in their current five-year program. Interested companies should contact the post for further information, or write direct to IRHE, Instituto de Recursos Hidraulicos y Electrificacion (IRHE), Apartado Postal 5285, Panama 5, Republica de Panama.

The Panamanian government is negotiating a World Bank loan of \$7.5 million for construction of five shrimp trawlers and ten anchovie purse seiners. The loan will also be applied to the purchase of equipment and materials for the rehabilitation of vessels and inland fisheries. The executing agency for this loan is the Banco Nacional de Panama, Apartado Postal 1320, Panama 5, Republica de Panama.

Through a \$3.5 million Inter-American Development Bank loan, the Panamanian government is planning to construct docks and buildings for the fishing co-operative program. The trade post was informed that local contractors will be engaged for the projects, so that interested Canadian firms should negotiate joint ventures with Panamanian companies. The executing agency for this loan is the Banco de Desarrollo Agropecuario, Apartado Postal 5252, Panama 5, Republica de Panama.

Agriculture is less important in Panama than in other Latin American countries, with only about one-third of the labour force active in agro-industries. However, the government has several improvement schemes which will eventually require equipment, for some 700 co-operative rice and vegetable farms, sugar processing and livestock upgrading.

PUERTO RICO

The Market
Sales of Canadian machinery to the territory (includes Dominican Republic, Haiti, British and U.S. Virgin Islands) have been traditionally hampered by several factors including shipping costs, sourcing by multinationals through headquarters in the United States and the tendency for smaller firms to buy used equipment, mostly from the southeastern United States.

Canada's share of the market was \$2.5 million in 1977 and \$1.2 million in the first four months of 1978. The market is huge with Puerto Rican imports alone reaching about \$240 million. As the number of capital projects in Haiti and the Dominican Republic increases and industrial development incentives are expanded, opportunities for greater Canadian participation should arise.

TRINIDAD AND TOBAGO

The Market
Efforts by Trinidad and Tobago to utilize surplus petroleum funds to develop secondary industries will continue to provide opportunities for the sale of Canadian machinery. Many projects are in the pipeline at the present time out of which a methanol plant and an aluminum smelter project will eventually provide opportunities for equipment suppliers.

Port development now underway in Trinidad and Tobago and Barbados will create specific opportunities for on-shore equipment. The upgrading and expansion of airport facilities in Trinidad and Tobago, Barbados and Surinam also hold good prospects for equipment sales.

CIDA's loan to Guyana for the purchase of forestry equipment will make available specific opportunities for logging and sawmilling equipment.

Import Policies
As the opportunities mentioned in the machinery sector emanate from government-controlled bodies in the various regions they are not subject to import restrictions, but selective tendering and prequalification is the normal procedure.

Export Opportunities
For details, interested companies should contact the trade post in Port-of-Spain.

Project Title	**Financing**	**Cdn. $ Value**	**Comments/Description**
Port Authority — Development Program	Govt. of Trinidad and Tobago	$10 million	New onshore cargo handling equipment
Re-Development of Piarco Airport Trinidad and Tobaco	unknown	unknown	Passenger and cargo handling equipment
Methanol Plant - Trinidad and Tobaco	unknown	unknown	Substantial input of heavy equipment will be required.

LATIN AMERICA

ARGENTINA

The Market

Argentina has developed a considerable machinery industry which accounts for 15 per cent of the GNP. There are over 200 machine tool manufacturers in Argentina and a wide range of industrial process, agriculture, road equipment and construction machinery manufacturers. The Argentine machine tool industry is highly advanced. However, some types of equipment such as turret milling machines and numerically controlled transfers are imported.

In general terms, Argentina imports a wide range of machines and parts. In most cases the imported machinery is of special design, forming part of an industrial process such as industrial ovens and food preparation and materials handling equipment. Large capital projects require imported machinery of the type and design that is not profitable to develop in Argentina. This category includes large boilers, special types of pumps, steel lamination equipment, dredging and port handling equipment.

Import Policies

The Argentine Government has virtually eliminated the very strict capital goods import regulations that were in force for almost ten years. The change in import requirements reflects the country's greatly improved balance of payments position and high level of foreign reserves.

Export Opportunities

According to the present Argentine oil policy which has the goal of achieving self-sufficiency, substantial sums will be invested in this sector in the next five years. Argentina produces very little oilfield machinery, consequently most will have to be imported.

Opportunities will exist for: sawmill equipment, logging equipment, oil drilling equipment, mining prospecting equipment, off-road vehicles, pulp and paper equipment, wood based panels machinery, steel mill equipment.

BRAZIL

The Market

Brazil's large industrialization, infrastructure and resource development projects continue to offer opportunities for imported machinery, although the country's own expanding capabilities and import restrictions tend to limit the range of import requirements. Currently, machinery and equipment imports for major projects are limited to about 25 per cent of the over-all equipment requirements, the remainder being supplied by the domestic industry. Projects in the steel, pulp and paper, mining, sawmill, hydro-electric and resource processing sectors offer the best opportunities.

Import Policies

Generally only equipment and machinery destined for high government priority projects, and not manufactured in Brazil, and supported by supplier credits, are imported. Applicable tariffs are generally high and machinery imports are subject to the prior deposit scheme. However, the prior deposit is waived for government-approved projects having five-year supplier financing and for imports of equipment destined for the energy sector, including hydro-electric equipment and oil exploration and processing machinery. The policy of maximizing Brazilian content prevails but within this policy, a potentially interesting change may be in the offing. It would be a modification to the application of the Law of National Similars. If the new government pursues its proposition in this respect, instead of identifying specifically all the equipment that must be bought in the country, the new regulation of importation for government-approved projects would only specify the percentage of total value to be acquired in Brazil. This would give greater flexibility in bargaining to the buyer and offer the possibility for the Canadian exporter to compete on the basis of price, quality and delivery.

Export Opportunities

Brazil currently imports a range of heavy machinery from Canada including hydro-electric turbines and generators, crushing and milling equipment, pulp and paper machinery and mining apparatus. These imports should continue in the near term although, whenever possible, Brazil will push for increased local content. Canadian firms pursuing this market may have to undertake to license, joint venture, or otherwise incorporate Brazilian content into their products. In the hydro-electric sector, specific sales opportunities should exist with the various operating subsidiaries of the federal electrical utility holding company Eletrobras. Sales opportunities for mining and milling equipment are offered by Albras/Alunorte's alumina/aluminum complex. Rio Tinto's proposed bauxite mine, Sergipe's potash project, METAMIG's proposed zinc project, the Carajas iron ore development (which has been delayed temporarily) and other projects. Two new steel projects, Acominas and Mendes Junior, offer some potential for Canadian equipment sales although British firms have the inside track on the former project. Sub-contracts may, however, be possible. Brazil's currently largest steel mill, USIMINAS, is undergoing an expansion program which again could offer some opportunities. In the pulp and paper area, the Jari Project has already ordered some Canadian equipment for its pulp mill, and could utilize Canadian equipment for a paper plant.

As Brazil may experience a shortage of cement next year, the industry is expected to expand rapidly. This could offer possibilities for some Canadian manufacturers.

The hydro-electric plant of Tucurui, one of Brazil's largest hydro-electric projects, slated to begin operations in 1981, may offer export opportunities for over one hundred Canadian skidders, which would be used in land clearing work.

For information on specific industrial opportunities, contact the trade posts in Sao Paulo, Rio de Janeiro and Brasilia.

CHILE

The Market

Chilean industry produces a very small part of the country's capital equipment requirements. Traditional suppliers are American and European, particularly West German. Total equipment and machinery imports (excluding transport equipment) for 1977 were U.S. $262 million, up from $217 in 1975. In most cases financing for purchases of capital equipment is a definite necessity.

Import Policies

There is no impediment to the import of capital equipment. In fact when such imports are destined to increase production for export there are provisions to write-off the import duty over a seven-year period. Import duties are being reduced, particularly for equipment and primary materials directed to manufacturing operations. By July 1979 the rates of import duties on all imported products will be reduced to 10 per cent ad valorem. The existing rate of duty for each product is being reduced on a monthly basis from present levels ranging between 20 and 35 per cent, and on July 1, 1979 all rates of duty will be stabilized at 10 per cent. The only exception will be automotive imports for which the rates of duties will remain at 115 per cent. Foreign exchange is readily available.

Export Opportunities

The trade post considers the order of priority to be mining, forestry and pulp/paper, fisheries, and agro industry.

COLOMBIA

The Market

Colombia imports approximately $270 million a year of all types of machinery and exports $32 million. In 1977 among the major components of these imports were wheeled tractors, construction equipment and machinery for the plastic industry. With relatively modest local manufacturing capacity, Colombia presents excellent marketing opportunities for a wide range of machinery including that for mining, forestry, power generation, petroleum industry and agricultural applications.

Opportunities for mining equipment within the next few years are bright as three major mining projects — El Cerrejon (coal), Carbocol (coal) and Cerromatoso (ferronickel) — get under way. At the present time Colombia imports about $3 million in mining machinery, mostly from the United States, Brazil and France.

Import Policies

Duties vary extensively on machinery depending on whether or not competing products are manufactured locally. However, items not manufactured locally and destined for designated industrial sectors, on application to Incomex, can be exempt from sales tax. The sectors are mining and metallurgy extraction; exploration, exploitation and production of hydrocarbons; heavy chemicals; steel and power generation and transmission. Most items of machinery do not require an import licence.

Most of the entities which will purchase major capital goods will be public, and therefore will purchase by public tender. In order to submit a bid, a foreign company must have a local agent/representative duly appointed and be registered.

Export Opportunities

Opportunities exist for:

- Mining machinery
- Chain saws
- Woodworking machinery
- Four Pelton turbines and spherical valves for the Chivor II Project (see also Electrical and Electronics booklet in the World Market Opportunities series)
- Four vertical axle generator units for San Carlos project (see Electrical and Electronics booklet)
- Water and sewage plant design and equipment
- Certain size pumps, valves, compressors
- Agricultural equipment
- Construction equipment
- Refrigeration parts
- Hospital equipment
- Special hardware such as special locks, fittings for cars, gas and oil lamps, mining lamps and soldering tubes
- Metalworking machines
- Plant process machinery for textiles, plastics, rubber and pharmacuticals and food
- Materials handling equipment

ECUADOR

The Market

The potential Ecuadorian market for all types of machinery is approximately $130 million a year. The exact size of the market will depend on the realization of the more than $2 billion in major projects, planned between now and 1981: the Selva Alegre Cement Plant, the pipelines, the petrochemical complex, the refineries, the steel industry, highways and eventually airport construction and other planned industries. There are no major items of machinery produced in Ecuador.

The United States and West Germany are by far the major sources of all types of machinery but it is interesting to note that Spain, Italy and Switzerland and Britain are also substantial suppliers of specific equipment such as textile machines and machine tools.

Import Policies

Industrial development is a major priority in Ecuador. In order to encourage investment, the Ecuadorian government has enacted laws to facilitate foreign investment and thereby strengthen its industrial capability. Machinery for major projects will be purchased by government bodies through international tenders. To present a bid to a government agency a company is required by law to have a local agent. Duties will not be a problem for any equipment not made locally (i.e., most machinery).

Export Opportunities

Opportunities exist for:

- Woodworking and wood products machinery
- Chain saws
- Cement mill machinery
- Engines, turbines, small generators and small motors
- Process equipment
- Oil and gas well equipment
- Mechanical power transmission equipment
- Water treatment equipment
- Metalworking machinery in general
- Tractors and plows
- Construction equipment
- Industrial trucks and fork lifts (competition strong), also conveyors and hoists
- Food and beverage processing equipment
- Auto services equipment
- Scientific and professional
- Fire control equipment
- Some hand tools

MEXICO

The Market

Despite the high degree of industrialization, Mexico is an enormous importer of machinery and equipment. In order to further develop its industrial base the government has a major program to develop its capital goods producing industry. There are opportunities for joint ventures and licensing arrangements for almost all types of equipment and an attractive series of incentives is available for companies producing equipment locally.

The machinery manufacturing sector in Mexico is in continuous expansion. A number of the most important foreign equipment manufacturers are established in this country and they supply a wide range of industrial machinery. These companies have a decided advantage over their competitors since their Mexican affiliates are in most cases permitted to import required equipment which they do not make in Mexico.

Expansion programs in the natural resource sector will require imports of specialized equipment for the pulp and paper, cement, oil and gas and mining industries. The state oil company Pemex has a $15 billion development program underway, while the mining sector expects to spend $4 billion in new projects on plant expansion up to 1982. Further expansion of the steel industry is unlikely to take place until current operations and logistical problems are overcome. The agriculture and fisheries sectors will require imported equipment to meet their production targets.

Import Policies

Import licensing exists for a very wide range of capital equipment. Obtaining an import licence in most cases is contingent on whether (a) the equipment is available from domestic manufacturers, (b) whether the Mexican manufacturer has the capacity to supply on time. The Ministry of Commerce is responsible for making the decision to grant or decline an import permit. Mexico is moving to an import system which will replace the import permit requirement with selective higher tariffs.

If no import licensing exists, import procedures are much easier. Offers are made more attractive if Mexican content can be incorporated into a company's bid through subcontracting to a Mexican company. If the Mexican authorities anticipate a continuing requirement for a certain type of product, the only way in which to participate in those requirements may be through joint ventures or licensing agreements.

Export Opportunities

A series of market booklets covering key sectors which will require imported equipment is available from the Commercial Division, Canadian Embassy, Mexico City. Sectors covered include oil, gas and petrochemicals, forestry, mining, fisheries and electrical power generation.

It should be noted that export opportunities for Canada are extremely limited (or practically nil) for the vast majority of service industry machinery such as heating and plumbing equipment, food preparation and service equipment, mechanical products and tools.

PARAGUAY

The Market

All machinery used in Paraguay is imported. The main suppliers are: West Germany, Brazil, the United States, Argentina and Italy.

Import Policies

General Customs duty of 15 per cent plus charges and fees. A local agent is essential.

Export Opportunities

Machine tools, metal shop (small) machines, welding equipment, basic construction machinery and equipment, hand tools, sawmill machinery.

PERU

The Market

Significant opportunities exist for the sale of Canadian machinery and equipment in Peru. In the mining and mineral processing sector, many Canadian manufacturers are already well-established, and in view of the tremendous expansion plans of the two state mining corporations Minero Peru and Centromin, greatly increased sales of Canadian equipment can be expected.

In other sectors, prospects continue to look favourable for forest harvesting, sawmilling, road maintenance, petroleum industry, and airport equipment.

Import Policies

The importation of a wide range of products is prohibited, primarily luxury goods and anything now being manufactured in Peru which can meet domestic requirements both in quantity and quality. In addition, a prior licensing requirement for all imports of the private sector has been established but imports are subject to the availability of foreign exchange.

Export Opportunities

The expansion of Centromin's Cobriza copper mine, already the most mechanized underground operation in South America, is now underway. International tenders will be called this fall for a broad range of rock drilling, mining and ore processing machinery and electrical equipment. This U.S. $160.9 million project is being financed by the World Bank and the Inter American Development Bank.

URUGUAY

The Market
Most machinery must be purchased from foreign suppliers, as the country's industry mainly manufactures consumer products.

Import Policies
Government supports industrial expansion, but limits imports to actual requirements. Local agent is necessary.

Export Opportunities
Construction, materials handling, agricultural, industrial (food processing and textile) machinery.

VENEZUELA

The Market
Wtih its expanding steel industry, Venezuela is aiming for increased local manufacturing of industrial and commercial machinery. But this is still far away, and Venezuela is importing most of its machinery. Statistics for 1975 show imports of approximately $2.5 billion of which Canada's share was around 2.3 per cent. This market has been dominated by the United States and also the European countries. Canada is only beginning to make itself known.

Import Policies
Whenever local production exists government sets heavy custom duties on imports to protect its national industry. But Venezuela is still almost completely lacking in capital goods manufacturing and imports will be coming in for the next decade.

Export Opportunities
They exist in almost every field. Of special importance is the petroleum sector, mineral processing equipment, the pulp and paper industry. The market for industrial machinery will increase as investments in this sector continue, with the trend to local manufacturing of goods. Important areas are metalworking equipment, agricultural equipment, cement mill machinery, food processing equipment, and small/medium sized manufacturing plant equipment.

REGIONAL OFFICES

IF YOU HAVE NOT PREVIOUSLY MARKETED ABROAD, CONTACT THE NEAREST REGIONAL OFFICE OF THE DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE IN YOUR AREA.

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Government of Canada	Gouvernement du Canada

Industry, Trade and Commerce	Industrie et Commerce

Ottawa, Canada, 1978

(aussi publié en français)