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**Electrical Power Equipment
and Services**

**Canada's
International
Business Strategy**

1996-1997



Team Canada - Equipe Canada

Canada's International Business Strategy

is made up of an **Overview** highlighting Canada's international business development priorities, and a series of **Industry Sector Strategies**, which include lists of planned international activities.

The following documents are available:

- | | |
|--|---|
| Overview | 14. Forest Industries |
| 1. Advanced Manufacturing Technologies | 15. Information Technologies and Telecommunications |
| 2. Aerospace and Defence | <i>Overview</i> |
| 3. Agriculture, Food and Beverages | <i>Telecommunications Equipment and Services</i> |
| 4. Arts and Cultural Industries | <i>Software Products, Computer Services and New Media</i> |
| 5. Automotive | <i>Geomatics</i> |
| 6. Bio-Industries | <i>Computers, Peripherals and Instrumentation</i> |
| 7. Business, Professional and Educational Services | <i>Electronic Components</i> |
| 8. Chemicals, Plastics and Advanced Materials | 16. Medical and Health-care Products and Services |
| 9. Construction Products and Services | <i>Medical Devices</i> |
| 10. Consumer Products | <i>Pharmaceuticals</i> |
| <i>Apparel</i> | <i>Health-care Services</i> |
| <i>Textiles</i> | 17. Metals, Minerals and Related Equipment, Services and Technology |
| <i>Footwear</i> | 18. Oil and Gas Products and Energy Equipment |
| <i>Sporting Goods</i> | 19. Resource Equipment and Technology |
| <i>Pleasure Boats and Equipment</i> | <i>Agricultural Technology, Machinery and Equipment</i> |
| <i>Tools, Hardware and Housewares</i> | <i>Ocean and Marine Shipboard Technology</i> |
| <i>Residential Furniture</i> | 20. Space |
| <i>Business and Institutional Furniture</i> | 21. Tourism |
| <i>Giftware and Crafts</i> | 22. Urban Transit and Rail Equipment |
| 11. Electrical Power Equipment and Services | |
| 12. Environmental Industry | |
| 13. Fish and Seafood Products | |

For information on how to receive the Overview, or additional Industry Sector Strategies, please call: 1-800-267-8376.

All monetary figures in this document are expressed in Canadian dollars unless otherwise indicated.

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Aussi disponible en français sous le titre Équipement et services de production d'électricité.

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The Canadian electrical power industry is made up of companies that produce equipment and provide services for the generation, transmission and distribution of electricity. Subsectors produce a wide variety of products and services, including: equipment for hydro-, thermal- and nuclear-generating stations; power transmission and distribution equipment; electrical wire and cable products; power and distribution transformers; control and protection equipment; power-conversion equipment; electric motors; equipment for alternative energy from solar and cogeneration; standard and advanced technology batteries; and fuel cells. The industry encompasses equipment producers, provincial utilities and consulting engineering and software firms.

Canadian Position

- The equipment producer sector consists of more than 300 manufacturing establishments. Manufacturing production is highly concentrated, with the five largest firms accounting for about one-third of sales. The sector is regionally concentrated, with 90 percent of activity located in Ontario and Quebec. Larger firms produce a wide variety of products, while smaller firms tend to serve niche markets.
- In 1993, the sector employed approximately 35 000 persons and produced about \$6 billion in equipment and services, of which about \$2 billion were exports.
- In addition, more than 35 Canadian engineering consulting firms work in the power sectors of some 70 countries. Consultancy services in this field include expert services provided by Canadian utilities. About 20 percent of the revenues of engineering consulting firms are derived from the power sector.
- Canada's competitive sectors are those relating to generation, transmission and distribution equipment and services. Generation includes hydro, nuclear and fossil fuel as well as alternative energy (e.g. solar, wind and fuel cells). Canada is most competitive in highly engineered, high-technology specialty equipment, especially "one off" items such as large hydro turbine generators, power boilers, gas generators and nuclear reactors.
- However, research and development (R&D) activities have allowed Canadian firms to become competitive in many areas. Provincial utilities in Ontario, Quebec and British Columbia have well-equipped R&D facilities.
- Utilities have particular expertise in generation technologies for hydro, nuclear and conventional thermal power, and are world leaders in AC and DC transmission lines, and long-distance and high-voltage transmission.
- Subsectors involved in energy savings and improved system efficiencies are growing rapidly. Technologies for controlling emissions resulting from power generation are another emerging area of Canadian strength.
- A number of world-competitive products have been developed in Canada, by subsidiaries that have world product mandates. These include gas turbines, hydro turbines and generators, and high-voltage cold-climate SF-6 switchgear. Canadian subsidiaries have benefited from access to state-of-the-art technology developed in large U.S. and European R&D facilities. Other Canadian manufacturers have been able to develop their own advanced technologies directly and through international licensing arrangements and alliances.
- Product quality is a major strength of Canadian companies and has been key in competing against Japanese and European manufacturers in Third World markets.
- Canadian companies have done well in international markets over the last few years. For instance, Babcock & Wilcox has won contracts in China, Taiwan, Indonesia, Israel, Egypt and Venezuela. G.E. Canada has won hydro contracts in China and Venezuela. Westinghouse Canada has supplied gas turbines to China, India, Venezuela and Chile.

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- Priority markets in Asia are China, India, the Philippines, Indonesia, Singapore and Malaysia. Mexico, Chile, Venezuela and Colombia are important markets in Latin America. Saudi Arabia, Israel, Egypt and Turkey are significant markets in the Middle East.
- Near- to mid-term opportunities for CANDU nuclear reactor sales exist in Turkey, China and Korea.
- Most larger Canadian firms in the sector are subsidiaries of multinational enterprises (MNEs). Those with world product mandates are well established in export markets, but often require ongoing government support to identify and put together packages for bidding against international competition. Good value from diminishing government resources would be obtained by encouraging closer co-operation between the MNEs and Canadian small and medium-sized enterprises (SMEs).
- The Electro-Federation Canada Inc. is the main association of equipment manufacturers and represents over 175 manufacturers in the electrical and electronics industry. The Federation's principal activities are the international harmonization of electrical standards, statistics gathering and dissemination and government relations.
- The major players in the electric power industry have established the Round Table on Electricity, a forum at which chief executives meet annually with the ministers of Industry, Natural Resources, and International Trade. The objectives of the Round Table are to develop consensus on important issues requiring industry-government action, to act as a single point of contact with the federal government and to provide policy inputs into activities of the industry associations and subcommittees of the Round Table.

International Environment

- According to a recent Financial Times survey, aggregate global installed capacity for producing electricity is expected to increase by 651 000 megawatts (MW) by the year 2000 — up 23 percent from existing capacity. By the year 2010, an estimated 1 748 000 MW could be added, representing a 62-percent increase in existing capacity.
- Large potential new markets exist in Asia, which will experience a third of the world's total increase in capacity by the end of the decade.

The largest expansion in electrical systems will probably be in China, where capacity is growing at about 10 percent per year. Strong growth is also expected in India, Vietnam, Cambodia, the Philippines, Indonesia, Korea, Taiwan and Pakistan.

- Africa, Latin America and the Middle East need additional electric power, and capacity growth rate of 4.2 percent per year is projected.
- In the United States, the emphasis will be on refurbishing and upgrading existing power plants and transmission systems. A 2-percent annual growth rate is expected for the balance of this decade.
- Market growth will be slow in Europe, at about 1.8 percent per year until the end of the century. This nonetheless represents about a quarter of total growth worldwide. The greatest potential for Canadian participation will be in Eastern Europe, as the remainder of the European market is virtually closed to Canadian companies.
- Independent power producers (IPPs) will play an integral role in the expansion of world power generating capacity. In the U.S., such suppliers will build at least half of the 90 000 MW of expected capacity additions to the year 2000.
- IPPs have spread to Europe and Asia. In China and India, private power will play a significant role, and governments there are attempting to make the investment climate more attractive to foreigners. According to the World Bank, developing and newly industrialized countries will need to invest \$750 billion over the next 10 years for additional power capacity.

Main Challenges

The major challenges facing the electric power industry in addressing international markets can be summarized as follows:

Lending, Financial Structuring and Packaging

Power projects are increasingly being conducted on a private, or limited-recourse (build-own-operate, build-own-transfer [BOO/BOT]) basis. The independent power business is currently estimated to be worth US\$25 billion a year, and its share of the global power market is projected to grow from 10 percent to over 25 percent in the next four years.

To compete in this area, Canadian companies need more help from Canadian public and private financial institutions through:

- an expanded capability to lend (e.g. EDC [Export Development Corporation] needs to assume longer-term maturities);
- availability of higher-risk debt financing;
- expansion of EDC's Structured Financing Facility;
- facilitation of the partnering process (more involvement with multi-sourced export credit agencies (ECA)-supported projects); and
- development of interfaces with international financial institutions (IFIs).

International Financial Institutions

The IFIs represent a significant and stable source of business for the power sector and are often the catalyst for initiatives projects. Considerable amounts of money are lent directly to the power sector.

Canada's investment in the banks could be maximized through more focussed interdepartmental support for specific projects.

Small and Medium-sized Enterprises

There is a need to help SMEs enter the export market by making them aware of the services provided by EDC, the Canadian Commercial Corporation (CCC), and the Department of Foreign Affairs and International Trade (DFAIT).

There is also a need to ensure that SMEs are aware of the major projects being pursued by the larger companies so that they have an opportunity to participate as partners and/or suppliers.

Canadian Targeted Power Projects

There is a need to identify and select priority projects in the electric power sector's key international markets in Asia, the Middle East and Latin America.

These projects would then be given priority when considering trade missions.

Strategic Direction

Government, in co-operation with the electric power industry and, in particular, in partnership with the Round Table on Electricity, will:

Lending, Financial Structuring and Packaging

- work with the Export Committee of the Round Table to expand EDC and commercial bank lending, review EDC risk appetite and review capital flow impediments (DFAIT, Industry Canada [IC], EDC).

International Financial Institutions

- work with the Capital Projects Action Team (CPAT) to increase Canadian industry participation in IFI projects (DFAIT, IC, Canadian International Development Agency [CIDA]).

Small and Medium-sized Enterprises

- work to bring export-ready SMEs to international markets and to increase their participation in Canadian consortia bidding on international projects (CCC, EDC, IC, DFAIT).

Canadian Targeted Power Projects

- work to achieve greater focus and use of ministerial missions and visits to target sectors, clients and Canadian-led projects (IC, CIDA, DFAIT);
- prepare a list of projects where joint industry-government promotion could assist the industry in identifying and closing contracts (IC, DFAIT).

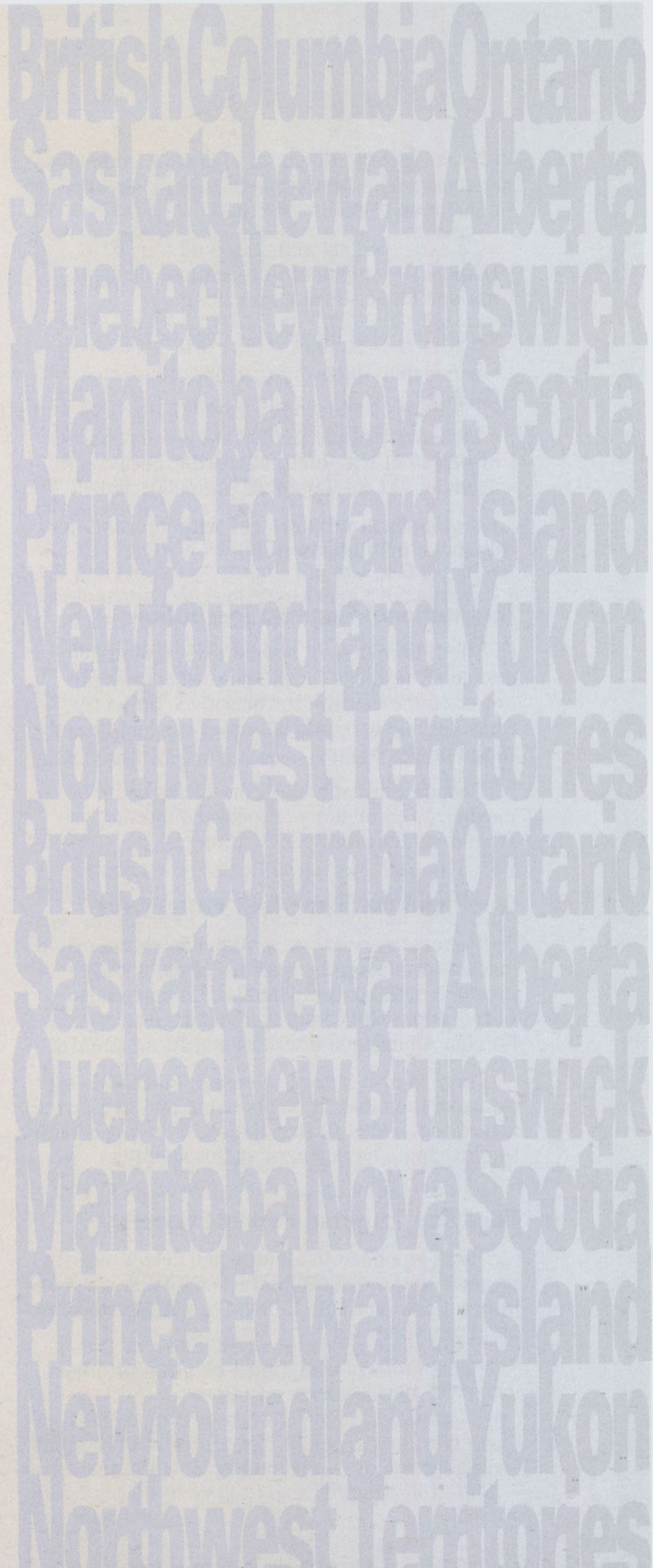
Trade Promotion

- increase international exposure of Canadian firms through targeted participation in trade fairs, missions and international conferences in priority markets (DFAIT, IC);
- prepare a capabilities directory consisting of "one-page" write-ups of manufacturers and consulting engineers in the electric power sector, which can be made available on-line (the Internet) and/or packaged for specific requirements (IC).

Contacts

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Trade Opportunities Division
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Fax: (613) 943-8820



ELECTRICAL POWER EQUIPMENT AND SERVICES

Activity	Date	Location	Dept.	Contact
Africa and the Middle East				
Technical Seminars on Energy	17-Feb-97	Casablanca	DFAIT	613-944-0396
Asia-Pacific South				
Saigon Electricity '96: Info Booth	20-Jun-96	Ho Chi Minh City	DFAIT	613-943-0897
Canadian Power Symposium	10-Oct-96	Bangkok	DFAIT	613-995-7662
East Asia				
Pakistan: Power Conservation Mission	30-Sep-96	Calgary/ Toronto/Montreal	DFAIT	613-992-0952
Electric Power China '96: Seminars	07-Oct-96	Beijing	DFAIT	613-996-6987
Canadian Power Mission	03-Nov-96	Delhi/Madras/ Hyderabad	DFAIT	613-996-5903
Canadian Hydro Power Mission	04-Nov-96	Lahore/Karachi	DFAIT	613-992-0952
Catalogue Show	05-Nov-96	Dhaka	DFAIT	613-992-0665
Latin America and the Caribbean				
Electricity '96: Mission from Peru	27-Apr-96	Montreal	DFAIT	613-996-4199
Canadian Power Mission	02-Jun-96	Caracas	DFAIT	613-996-5548
Power Equipment Technical Seminar	15-Jun-96	Santiago	DFAIT	613-996-4199
Powermex/TD World: Info Booth	04-Mar-97	Mexico City	DFAIT	613-995-8742
Brazil: Power Mission	13-Apr-97	Winnipeg	DFAIT	613-996-5549
Western Europe and the European Union				
Electricity '96: Mission from Austria	27-Apr-96	Montreal	DFAIT	613-996-1530
Electricity '96: Info Booth	01-Dec-96	Paris	DFAIT	613-992-7001

Note: Dates and locations are subject to change.

For up-to-date and detailed information on the activities in this document and those contained in other sectors, you may consult the CIBS Compendium. This on-line compilation of activities planned by the federal and provincial governments is continuously revised and is accessible via the Department of Foreign Affairs and International Trade World Wide Web site, at the following address: <http://www.dfait-maeci.gc.ca>

Acronyms and Initialisms used in Canada's International Business Strategy

(This list does not include sector-specific references.)

		DATE DUE DATE DE RETOUR
AAFC	Agriculture and Agri-Food Canada	International Business Opportunities Centre
ACOA	Atlantic Canada Opportunities Agency	
APEC	Asia-Pacific Economic Cooperation Forum	Industry Canada
ASEAN	Association of South East Asian Nations	International Development Research Centre
BBS	Bank of Montreal	International financial institution
BOOT	Build, Own, Operate, Transfer	International Standards Organization
BOSS	Business Operations Support System	International Trade Advisory Committee
CCC	Canadian Council of Ministers of the Environment	International Trade Centre
CIBS	Canada's International Business Strategy	Ministry of Agriculture, Fisheries and Food of Quebec
CIDA	Canadian International Development Agency	Multilateral development bank
CIS	Commonwealth of Independent States	Multinational enterprise
CSA	Canadian Standards Association	North American Free Trade Agreement
DEAIT	Department of International Trade and Development	North Atlantic Treaty Organization
DFO	Department of Fisheries and Aquaculture	National Research Council
DND	Department of National Defence	Natural Resources Canada
EC	Environment Canada	Natural Resources Canada — Canadian Forest Service
EDC	Export Development Canada	National Sector Team
EU	European Union	Organization for Economic Co-operation and Development
FITT	Forum for International Trade Training	Program for Export Marketing Development
FORDQ	Federal Office of Regional Development — Quebec	R&D research and development
FSU	former Soviet Union	S&T science and technology
FTA	Canada-U.S. Free Trade Agreement	SAGIT Sectoral Advisory Group on International Trade
GATT	General Agreement on Tariffs and Trade	SME small and medium-sized enterprise
GDP	gross domestic product	UNEP United Nations Environmental Program
GNP	gross national product	WED Western Economic Diversification
HRDC	Human Resources Development Canada	WTO World Trade Organization



Acronyms and i Business Strate

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AAFC	Agriculture and Agri-Food Canada	IBOC	International Business Opportunities Centre
ACOA	Atlantic Canada Opportunities Agency	IC	Industry Canada
APEC	Asia-Pacific Economic Co-operation forum	IDRC	International Development Research Centre
ASEAN	Association of Southeast Asian Nations	IFI	international financial institution
BBS	electronic bulletin board system	ISO	International Standards Organization
BOOT	build, own/operate, transfer	ITAC	International Trade Advisory Committee
BOSS	Business Opportunities Sourcing System	ITC	International Trade Centre
CCC	Canadian Commercial Corporation	MAPAQ	Ministry of Agriculture, Fisheries and Food of Quebec
CIBS	Canada's International Business Strategy	MDB	multilateral development bank
CIDA	Canadian International Development Agency	MNE	multinational enterprise
CIS	Commonwealth of Independent States	NAFTA	North American Free Trade Agreement
CSA	Canadian Standards Association	NATO	North Atlantic Treaty Organization
DEAIT	Department of Foreign Affairs and International Trade	NRC	National Research Council
DFO	Department of Fisheries and Oceans	NRCan	Natural Resources Canada
DND	Department of National Defence	NRCan-CFS	Natural Resources Canada — Canadian Forest Service
EC	Environment Canada	NST	National Sector Team
EDC	Export Development Corporation	OECD	Organization for Economic Co-operation and Development
EU	European Union	PEMD	Program for Export Marketing Development
FITT	Forum for International Trade Training	R&D	research and development
FORDQ	Federal Office of Regional Development — Quebec	S&T	science and technology
FSU	former Soviet Union	SAGIT	Sectoral Advisory Group on International Trade
FTA	Canada-U.S. Free Trade Agreement	SME	small and medium-sized enterprise
GATT	General Agreement on Tariffs and Trade	UNEP	United Nations Environmental Program
GDP	gross domestic product	WED	Western Economic Diversification
GNP	gross national product	WTO	World Trade Organization
HRDC	Human Resources Development Canada		



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