March, 1994

The Structuring and Financing of International Capital Projects

TCI *Toronto Consultants International Limited*

For:
Industry Canada and the Department of Foreign Affairs & International Trade

It is important to note that the views and findings reflected in this report are those of TCI Management Consultants and do not necessarily represent the opinions of the steering committee members or of Industry Canada or DFAIT.

FINAL REPORT

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Table of Contents

EXECUTIVE OVERVIEW

I. Introduction

This report was prepared by Toronto Consultants International (TCI) for Industry Canada, and the Department of Foreign Affairs and International Trade (DFAIT). Valuable input to this assignment was provided by a steering committee which included representation from Industry Canada, DFAIT, Golder Associates Limited, the Association of Consulting Engineers of Canada, Export Development Corporation (EDC), the Canadian Construction Association, Monenco AGRA, CIDA, Canadian Commercial Corporation, Ellis-Don Construction Limited, Canadian Power Systems Export Promotion (CAPSEP), Royal Bank and Babcock & Wilcox. Appendix B contains the names of the steering committee members.

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The executive overview section of this report comprises seven sections, including this introduction. The second section addresses the background to the report and emphasizes the factors that readers should take into account in interpreting the information and findings. An overview of capital project implementation activity is set out in the third section. It provides the context for the fourth section which deals with ways of doing business, with special emphasis on selected European competitors. The fifth section deals with the critical success factors in the international marketplace as determined from five case studies which we undertook. The sixth section covers financing activities and sources of finance. Our conclusions are brought together in the final section.

The overall purpose of the report was to examine the trends in the implementation of international capital projects in light of the changing world environment and to identify a set of critical strategic marketing issues which must be addressed by Canadian firms and by the government, to effectively capture a fair share of projects that fit Canada's capabilities.

Developing information from scratch was quite limited simply because of the scope of our mandate. Nonetheless, the information on which this report is based stems from an extensive review of published material and a significant interview program (given the scope of our work) with a cross section of over 100 knowledgeable players in the international capital projects market including sub-contractors, consulting engineers, contractors, engineering contractors, equipment suppliers, competitors, and government agencies; and, discussions with international agencies, international commercial banks, experts on the structuring of international capital projects, and others.

"Competitiveness" has a special meaning in the international capital projects market because conditions under which business is conducted are not necessarily those of a "level playing field". Certain projects may be "tied" business and in other cases, it is

almost impossible to determine how much of an advantage is provided to those firms whose home bankers are extensively engaged in the syndication of international loans, or who are under their own government's control or have been able to achieve a large scale of operations as a result of domestic government support provided over many years. Such government support could either occur through privatisation projects undertaken at home, through lines of credit available for funding exports or the home government's willingness to bring to bear non-financial pressure and support on behalf of its firms. Accordingly, this report gives consideration to both the use of government policy instruments and the private sector measures needed for success.

II. Background to and Interpretation of the Report

As shown in this report, the international capital projects marketplace is very dynamic and has been undergoing dramatic changes in the past two years. Projects are increasingly proceeding with a **blend of public and private sector support and financing**. In keeping with our mandate, the report focuses on the realities of the marketplace and in so doing provides an overview of the many complexities and interactions that must be taken into consideration in order to be considered as a credible player. Furthermore, the report reflects the issues most predominant in the feedback we received from knowledgeable players both domestically and internationally.

In completing this assignment, we have undertaken considerable due diligence in cross-checking the feedback we received. In spite of this and although our interviews were carried out with knowledgeable respondents, the reader of the report will need to take into account the fact that the feedback we obtained is heavily influenced by several factors. These include: i) the kinds of transactions that have taken place to date in different countries; ii) the accelerating trend toward public-private partnerships (both within home countries and abroad); iii) the on-going shifts occurring in the global economic and investment climate; (iv) the reality that many host governments are faced with sizable deficits and cannot afford the kinds of sovereign guarantees extended in the past nor can exporters expect to receive increased levels of project developmental assistance from their home governments; and, (v) respondents often tend to highlight the perceived gaps in the support they receive from their home country and accordingly, areas where improvement is needed may be predominant in their comments.

It is clear that in order for projects to proceed in this marketplace, players must increasingly demonstrate that they have the skills to identify and address the complex issues associated with gaining agreement among many different stakeholder groups. The structuring and financing of the deal has become prominent in the various transactions undertaken to date and insight into this challenging activity is the subject of our report. *It is particularly evident that the achievement of a sustainable "equilibrium" position among the different stakeholders is a demanding and frustrating task and may take in excess of one year.*

Moreover, as negotiations proceed, deals have unraveled for a variety of reasons and seldom is there a clear cut formula for quickly arriving at a "zone of agreement". We emphasize that professional input from a variety of specialists and innovative use of the various risk mitigation "tools" is needed to be in the play and that definitions of various

terms are less important than gaining a good understanding of the way in which business is being transacted and what is needed for participation in the market.

Experienced players realize that they must be able to deal effectively with a sizable number of stakeholders in the host country and as well, secure the support of their home country governments. Furthermore, players are increasingly finding that they may need to be part of multi-disciplinary cross-border teams and bring home government support as well as access to financing (proportionate to the rewards that they receive). Accordingly, financial matters and perceptions of the lack of home government's willingness to meet competition are particularly predominant in the feedback we received.

It is also clear that despite five months of work during which considerable information was gathered on a variety of issues from many sources, it was simply outside of the scope of the work to outline and analyse the various Canadian government support programs in any depth nor was it possible to comment on the effectiveness or efficiency of the variety of support measures. Nonetheless, although in the international capital projects marketplace, project by project differences make it difficult to generalize, we have attempted to focus on differences in approaches (in both the private and public sectors) in order to present a set of basic principles that can serve as an introduction to the complexities of the structuring and financing of deals.

In writing our report, we have also attempted to be as brief as possible while still conveying important realities. In this regard, we wish to emphasize that the realities should not be taken out of context; they are mainly intended to highlight areas for improvement some of which are long standing such as the desire to have seamless and coherent government support mechanisms and some of which are emerging as integral to success, such as the formation of multi-disciplinary cross-border teams. Accordingly, the focus on apparent differences needs to be interpreted with this in mind and is best viewed in the context of advantages and disadvantages that key players encounter in participating in their chosen markets.

III. Capital Projects Implementation Activity

Main Driving Forces

The trends taking place in the international capital project market are shaped by three main driving forces, namely, competition for scarce risk capital, privatization, and heightened competition for launching of projects that are aimed at putting in place new infrastructure as well as replacing decaying infrastructure. As host governments deal with the realities of dwindling financial resources, privatization has become an important feature of their economic policy. This approach is being widely endorsed well beyond countries such as the UK, France, the United States, Argentina, Chile and Malaysia, who were among the first to move forward with financed projects. Some 20 different countries are currently interested in undertaking privatisation projects.

While the aggressiveness of various international suppliers to seize privatisation opportunities appears to have accelerated the growth of projects in the pipeline, it is clear that for these projects to move forward, project sponsors need to be able to attract appropriate financing. Yet, because industrial sectors and the location of the new projects tend not always to match the risk appetite of many capital suppliers, there is an undersupply of capital in certain industries and geographic markets (e.g., Asia and Latin America). Moreover, on the demand side relatively more projects, particularly outside the OECD, are competing for the available pools of funding than in previous years.

Some of the implications associated with this demand and supply situation include: i) an increase in project financing appetite by traditional sources; ii) changes in risk assessment by traditional sources of capital; iii) further entry of non-traditional sources of capital (e.g., private capital and pension funds); iv) greater marketing efforts by project sponsors to attract capital, particularly in middle income developing countries; and, v) greater reliance on non-recourse and limited recourse projects (see glossary and material below for definition of these terms).

Associated Trends

There are a number of trends associated with these driving forces. These trends are highlighted below and relate to the fact that additional risk sharing participants are required in order to secure financing for projects.

The most significant trend can be seen in **the increasing proportion of capital projects being completed in design-build, turn-key and limited recourse modes.**

The terms design-build and turn-key generally relate to the **scope** of project management responsibilities, while limited recourse projects refer to how a project is **financed.** These issues are discussed below.

The design-build model is a construction delivery system where one entity signs a single contract **accepting full responsibility for both the design and construction phases** of a project. The industrial sectors where design-build has been more prevalent include petro-chemical facilities, power generation projects and steel mills. Relatively fewer projects with civil works components have followed the design-build model. The advantages to the buyer of design-build can include lower project costs ("team approach" savings), and often faster more efficient delivery of services and a shorter contracting period. Suppliers add value by providing construction management, cost management, approvals, some financing, some extended warranty, and some operation of the facility.

Turn-key projects have also experienced significant growth as an approach to international infrastructure project management. In rough terms turn-key projects can be viewed as design-build projects with the **added responsibility of procurement of equipment and commissioning of the project.** Consequently turn-key projects offer "total solutions" to the host government, and can reduce or eliminate the integration problems that can plague traditional projects. In this context buyers require that the contractor or project manager take responsibility for building a complete plant and

ensure that the individual systems (the "islands") work together as designed. The advantages to the buyer of the turn-key approach include faster more efficient delivery of services and the transfer of implementation and operating risk to the supplier. Suppliers add value by providing construction management, cost management, approvals management, commissioning, operations and some financing options.

In reality the terms, design-build, turn-key and Engineer/Procure/Construct (EPC) are used loosely in the market, and oftentimes there is really no contractual difference between them. In both design-build and EPC, a single firm or consortium takes responsibilities for delivering a completed plant with performance guarantees. Turnkey is considered as the same although some people use the term where financing (interim or long-term) is provided.

Limited recourse capital projects are those in which full sovereign financial guarantees for political and commercial risk are not available and must be assumed by some other entity. Thus, financing for limited recourse projects could be 95 percent guaranteed or 5 percent guaranteed by the host government. A key test is that **the financial guarantee** (if any) of the host government **does not cover 100 percent of the financing** and that the private sector must fill part of the financial void to move the project forward. Consequently some limited recourse projects blend public sector guarantees with private sector financing, and are, therefore, regarded as public-private partnerships. (Within a limited recourse project governments **can** also guarantee **non-financial** activities, such as a commitment not to block the export of foreign exchange, or any number of other non-financial commitments. The litmus test for non-financial commitments is that they do **not show up as direct liabilities** of the host government and have **no impact on the level of national debt**).

Over the past ten years, as a result of credit constraints worldwide, countries have been looking for innovative new ways to slow or reduce the growth of their national debt, that is, reduce the frequency and scope of guaranteeing the *foreign exchange costs* of the entire capital project. One set of such limited recourse techniques is the "Build, Own, Operate" (BOO), "Build, Own, Transfer" (BOT), and Build, Own, Operate, Transfer" (BOOT). These terms describe very similar transactions. The underlying approach involves a group of equity investors (including contractors and equipment suppliers) assuming a portion of the risk of design, construction, financing, completion, start-up and operation of a project. In addition, the cash flow generated by operating the project over a number of years is the source of cash for repayment of investment and loans necessary to construct the project, as well as for capitalised interest during construction and start-up, plus a margin for safety and profit.

Since under limited recourse financing, the project itself forms a sizable portion of the security offered to lenders, it follows that *the perceived viability of the project is critical.* The deal is more attractive to lenders if the host government guarantees non-financial risks (e.g., appropriate rate tariffs for power projects, or commitments not to block the accumulation of off-shore foreign exchange) and if the project is promoted by respectable credit worthy sponsors together with operators demonstrating good track records. Thus, the packaging and structuring of the deal is of particular importance and significant "concurrent front end" activity is required to gain credibility with lenders and others. For the most part, acceptable allocation of risk must be readily shown at the

outset in order to secure the needed financing and as explained later in this report, such "front end" work is very difficult to finance from external sources of funds.

Financier comfort with the underlying project economic and project sponsors rests on a strong legal framework, since the only recourse lenders and equity suppliers have is to the legal documents that set out the obligations of all parties in a project. These legal issues can be daunting, particularly where a host (project) country does not have a legal system that provides for an understanding of contract law, a system of litigation to adjudicate contract disputes or lien laws for taking security interests. It appears that the legal costs to complete these types of projects have reached the point where they are considered as a significant "front end" burden.

The number of completed deals in the past ten years points to the growth in limited recourse financing. Approximately US$30 billion in private, user fee supported infrastructure projects were financed from the mid 1980's to 1992 (the Chunnel accounted for a large proportion of this). Moreover, over the period October, 1992, to October, 1993, US$25.7 billion in debt and equity funding commitments provide further evidence of the **substantial growth of private investment in public infrastructure.**

Such growth is expected to continue. For example, Public Works Financing International cites some 358 private-public infrastructure projects in the planning stages. These BOT/limited recourse projects are valued at US$280 billion. **Rail, toll road, bridge, tunnel and airport projects represent the largest share** with power projects being the next largest. In fact, **power deals account for the bulk of top project finance arrangers' (such as Barclays) deals.** Other deals reflect the sectors that have been previously privatised in developed countries such as the UK and France. Thus, **water/wastewater projects are also prevalent**, but, the total size of these deals is well behind those in the transportation and power sectors.

Mitigation of Risks

As might be expected there is also a **range of geographic risk** that market participants must bear. In particular, Western European and Asian (mostly China and Hong Kong) BOT's account for almost 40% of the value of planned limited recourse projects. Furthermore, the privately sponsored infrastructure market is in the process of completing a number of exceptionally large projects such as the Chunnel and Hub River in Pakistan. Industry sources regard these large projects as having been exceptionally complex technical efforts as well as being difficult projects to complete politically. One reaction by project sponsors, governments and financial players is **anticipated to be an increase in small and medium projects** which are generally viewed as being more manageable.

Addressing the increased risks that are inherent in private sector financings have resulted in a number of **important trends in financial engineering** (which essentially deals with how risk is managed in relation to the expected return) and project finance. Such trends include: i) increased equity in projects; ii) new risk assessment skills required in light of the differently receptive political and economic operating environments; and, iii) new roles and challenges to International Financial Institutions

(such as the World Bank) and Export Credit Agencies. These are discussed in the sixth section of this executive overview.

It is also clear that host governments often view the construction of a major capital project as an opportunity to promote 'offset arrangements', or the participation of their own service and goods suppliers in a project. This practice has led to **an increasing amount of work being conducted by local firms** in collaboration with the foreign contractor, equipment supplier or design engineer. Some of the goals of this collaboration include technology transfer to the host country, training of local resources, and greater local employment.

Implications of the Key Trends

The implications of the global trends developing in international capital projects suggest that the business prospects for players in this marketplace are such that the demonstration of both technical and commercial capabilities is becoming more commonplace. Firms that can bring an understanding of the "front end" associated with a deal (particularly the project finance dimensions) appear to be gaining an advantage and stand the chance of earning better remuneration for their efforts. In addition, business prospects are also influenced by the kind of government support that is provided to the players (including undertaking privatised infrastructure projects in the home market).

Finally, with more and more projects shifting away from full sovereign guarantees, there is a greater urgency to pass off some of the risk and responsibility that was traditionally the buyers, to other parties involved in the project. Despite the tendency of Canadian firms to avoid the undertaking of such associated project risks, it is clear that to increase their level of participation in the future, Canadian firms will need to offer financing to potential buyers or become members of consortia or joint ventures. This means that it will be important for Canadian firms to demonstrate capital project risk analysis skills and to be in a position to judge how best to manage and mitigate risks.

IV. Ways Others Do Business

Key competitor approaches to the international capital project market consist broadly of two components: government policy approaches and private sector approaches. In this sub-section, Government policy approaches are described first and private sector approaches are treated next. The material presented must be interpreted in light of the limited scope of this assignment together with the study mandate which was to concentrate on selected European countries. Further, it is important to keep in mind that each international capital project is often unique and as well, timing may have a critical impact on the success of the particular approach undertaken.

Government Policy Approaches

A wide variety of measures is used by foreign governments to support their players. Domestic policy instruments (e.g., privatisation at home); national coordination abilities (i.e., integration and coordination among government departments and agencies); Export Credit Agency (ECA) project finance assistance (e.g., mitigating certain risks and local cost support) and foreign aid approaches (geographic concentration and industrial sector focus) are among the main policy instruments most commonly used.

There is no weight of evidence to show unequivocally that any particular means of support for participation in international capital projects is more effective than others. What does seem evident is that those who have encouraged privatisation projects at home (e.g., the UK and France) are in a strong position to export this knowledge and experience. Those who focus efforts on a few sectors tend to do better than those who try to support everything (e.g., the Netherlands). Where there is close cooperation between government and industry, as in France, government support appears more effective.

Furthermore, strong coordination and integration among federal agencies and ministries and effective management of these interactions at various stages of the life cycle of a capital project, has characterized the approach used by aggressive competitors (e.g., Germany). In addition, some competitor nations appear to have engaged in influential state intervention in capital projects. This manifests itself in formal and informal practices. Formal practices includes mixed credit and tied aid. Informal practices include a liberal interpretation of OECD Guidelines to lending as well as informal tied aid mechanisms.

The findings also suggest that the availability and nature of export financing and insurance in capital projects is a potential point of difference between competitor nations. However, it should be noted that international capital projects differ on a deal by deal basis. Consequently, Export Credit Agencies strive to tailor their financial offerings to match the specifics of the each project. Within the differing mandates of ECA's, financial packages are offered to potential clients that reflect different risk analysis procedures, different funding constraints, different arrangements mixed credits, and different coverages and services. What one ECA may seek to accomplish through a particular product or approach can sometimes be accomplished through other mechanisms. Consequently, there is considerable interpretation about the impact of the real and perceived differences between the ECA's.

Some of the real and perceived differences in ECA activity associated with capital projects include: participation in completed project finance deals, local cost support, and construction risk/completion risk coverage, local content requirements, risk appetite, processing times, exposure fees, and insurance to name a few.

Project finance is newer to some ECA's than others and is a potential source of difference between nations. Differences could arise from the intensity of experience with project financing since those ECA's with noticeably higher demand (for project financing) from the private sector are likely to develop more experience and higher

levels of comfort with this type of activity. In terms of the actual provision of project finance, EDC is considered to have fewer dollar commitments to project financing than Eximbank (United States), COFACE (France), and JEXIM (Japan). This tends to reflect lower "market demand" for EDC to provide this kind of financing relative to other ECA's. Moreover, EDC is perceived as providing relatively strong support to international capital projects with regard to domestic content requirements, but may be relatively weaker in providing local cost financing.

It is also worth noting that countries such as the UK realise that they cannot continue to have their players fight each other to the delight of the competition. The UK tends to provide less coordination in major export projects than does its continental competitors. Accordingly, a reorganization of the Overseas Project Board (in 1993) was aimed at redressing this perceived gap. New sector groups within the Board will be headed by business people and will pinpoint UK national champions, identify priority export markets, and seek joint ventures in infrastructure projects.

Private Sector Approaches

The important players in the international capital project market include contracting firms, equipment suppliers, financiers, design engineers, project developers and consultancies. Firms in Europe, Japan and the United States distinguish themselves in a number of ways, including their size and breadth of operations, their overseas work experience, their attitude to risk and their packaging capabilities, to mention a few features and approaches.

European and American equipment manufacturers supply a full range of industrial equipment, including industrial process, petroleum and petrochemical, transportation, building, power and other sectors. Consequently, many competitor nation firms have developed extensive international networks in numerous equipment supply categories relevant to international capital projects. This breadth of supply capability is a distinguishing feature compared to Canadian supply capability.

Financing often represents the most important element of an international capital project. Without appropriate financing even the most technically appropriate project solution will likely not be selected. Consequently, although it is difficult to quantify, there is widespread agreement that the links between the industrial groups and home financiers foster greater activity and, possibly support.

European, American and some Asian financial institutions have considerable experience in the international capital project market. This experience provides them with a strong base to critically assess market opportunities, better evaluate political and commercial risks, develop strong relationships (including those of an equity nature) to support repeat customers who are internationally active, and become more familiar with indigenous firms in the project country, to mention a few benefits. In general, Canadian financial institutions have not benefited from developing client relationships, either in Canada or abroad, that would generate the international capital project market experiences and benefits of competitors.

Europe and the United States have produced a number of project developers; individuals and groups who are adept at bringing the various components of the capital project together in a timely fashion. This capability is driven by a number of factors including high skills levels, considerable experience in a variety of markets, risk attitudes and corporate contacts. While there are a few Canadian firms and individuals with these skills, their numbers are far fewer than those of our competitors.

In summary, various European players appear to be in a position to take advantage of the specific edges they have developed over the years in doing business in international capital projects market. These edges include:

- the scope and scale of activities of corporate operations. In particular, the large international contracting firms in Europe are very strong in marketing their capabilities and have the in-house skills and external credibility needed to lead consortia;
- a track record in consortia development and joint bidding on export related work (e.g., firms in The Netherlands);
- some companies have the potential to take advantage of their relationships with shareholders who themselves are wealthy or are governments (e.g., bank investment in contractors and manufacturers: France, Germany);
- overseas investments, international networks and local partnering. Deep involvement in the local social and business fabric allows some European firms to identify opportunities at an early stage. Familiarity with local manufacturers and contractors as required, improves partnering capabilities. Consequently, governments and firms in prospective project countries are aware of Bouygues (France), NEDECO (the Netherlands) and like firms and they are recognised as credible project competitors;
- relatively healthy balance sheets and commensurate financial strength allowing use of internally generated funds as a source of project equity (particularly among French, German and some British firms);
- various kinds of government support as identified earlier in this report;
- successful experience in privatisation in their home markets (e.g., the United Kingdom); and,
- a perception by various host governments in the project countries that many European firms are among the most credible companies "in the play."

Summary of Differences Between Canadian Approaches and those of Key Europeans

Differences between Canada and key competitors relate to difference in both the public and private sectors.

The differences in public sector support are the greatest when compared to the past record of France and, to a lesser extent, Germany. Public sector support differences with The Netherlands tend to be less striking. It should also be noted that the results of Helsinki V accord are anticipated to narrow the existing differences in public sector support.

The effectiveness of Canadian support is generally regarded as low to moderate. Political pressure and economic tools are believed to be more widely used by some competitors although tangible evidence is difficult to obtain. In general Europeans are the most adept at mounting this kind of support. Canada does not have as many political or economic weapons at its disposal, and we are generally more reluctant to make the fullest use of those that we do have.

Private sector differences relate to scale and scope of operations, financial strength and related risk appetites, international networks, export orientation and outside perceptions of firm capability. Some segments of the Canadian capital project market face reasonably comparable competitors (consulting engineers),while other segments face competitors with much greater experience, contacts and strength (contractors).

Turnkey international capital projects require strong individual firms to create a strong team, and since the Canadian team has relative weaknesses, the "Team Canada" approach can only be used selectively. Furthermore, the opportunity of Canadian teams to find equivalent Canadian substitutes (should one drop out) for consortium members is generally perceived to be limited. Simply put, a buyer may find greater comfort from the perceived depth of supply (and associated finance) from European or American teams.

Consequently, the need for Canadian firms to partner with strong foreign firms is becoming more critical. This requirement is appreciated and practised by Canada's internationally oriented capital project firms, however it would appear that other Canadian firms are only slowly beginning to appreciate the new realities.

In summary, although Canadian service firms have the technological capabilities for successfully competing in certain sub-sectors of the international capital project market, the lack of strategic linkages and integration among Canadian firms that offer relevant capabilities are hindering Canada's participation in these projects. The type of government support provided to Canadian firms is also relevant, particularly since other governments tend to be more strategically focused. Nonetheless, Canadian service firms have demonstrated the capability to respond to these challenges and initiate the actions needed to adapt to the changing competitive environment. Furthermore, the market and competition is resulting in "consulting engineers" and "contractors" integrating and becoming EPC contractors. Several of the large "engineering" firms , such as Monenco AGRA, SNC-Lavalin, and Simons are moving in this direction.

V. Critical Success Factors

Five in-depth case studies were compiled in this assignment. The difficulties encountered in securing appropriate case studies for this work highlight the fact that few projects which have started out as BOT's have progressed satisfactorily. As well, many firms are reluctant to talk about their projects in depth because of competitiveness concerns and potential sensitivities on the part of their clients.

The case studies presented in this report illustrate various situations. **The Geheyan Hydro power project** (in the People's Republic of China) exemplifies a major capital project undertaken by a consortium of Canadian equipment suppliers working with federal and provincial government officials and agencies in a "Team Canada" approach. **The Mihaly International Canada Ltd.** case study exemplifies the entrepreneur-led approach to the limited recourse, major capital project market. The entrepreneurial approach tends to be characterized by a small group of project developers who bring together and manage contractors, equipment suppliers, financiers, lawyers and others in the pursuit and execution of an electric power project in Sri Lanka.

The third case study involves the design, financing, construction, leasing and operating of a new Terminal at **Prague International Airport.** The facilities are scheduled to be in place by 1997. The joint venture was structured on a public sector-private sector basis and the private sector partners were led by Armbro Enterprises Inc., a Canadian based property developer and contractor. The original consortium was headed up by Armbro and brought together architects, project management and civil engineering specialists, financiers, lawyers and others in the pursuit and execution of the project. The latter two case studies illustrate the difficulties project sponsors face in securing financing (as well as other relevant issues).

The remaining two case studies are projects undertaken by players from other countries. One of these cases is **K&M's Mamonal** energy project in Colombia (US$70 million). It illustrates a number of important points that are central to pursuing and concluding major capital projects. The project demonstrates how relatively small firms (with relevant experience) can successfully participate in the limited and non-recourse market in a developing country. The fifth case is the **Tate's Cairn Tunnel** project in Hong Kong. The facility cost about HK$2.15 billion (US$265 million). The project shows the importance of identifying key decision makers in the host country, addressing privatisation issues and undertaking flexible packaging of the deal. The ability of players to address risk, financing issues, structuring techniques, and legal packaging for stakeholders is also illustrated.

The case studies amply indicate the many problems and difficulties associated with the packaging, financing, and structuring of international capital projects. Furthermore, although each project is unique, there are some general principles and practices that may apply to the various stages in the project cycle. These include:

Initial Planning and Evaluation Phase

- There should be a high need for the project in the host country. Also issues such as compliance with environmental standards should be reviewed at the outset.

- A high degree of political will to utilize the private sector to help finance, build and operate the project is important. Personal contacts in the host country particularly with relevant decision makers in the local government are quite important.

- For BOO projects the sales price of the product output (e.g., unit power cost, highway toll fees, etc.) must support the private sector returns, risks, etc. This is not recognised in many countries who expect privatised projects to compete at existing government subsidized rates. This is a serious constraint in many areas.

- The host country's legal system should also be sufficient to effect the deal. The ultimate security for the lender is the legal documentation which is designed to protect the lender from default. Consequently the legal system must provide for an understanding of contract law, a system of litigation to adjudicate contract disputes and lien laws for taking security interests.

- Government to government interactions should be handled at an early stage. A political champion both in the host country and in the home countries of key consortia players can help gain some leverage. Also, players in international consortia may provide cover from their ECA's.

- The proposed members of the consortium must have a credible track record and should be willing to enter a contract with firm price and completion terms and conditions. They should also be prepared for long project and development periods of high risk. A high degree of cooperation and flexibility is needed among members most of the time and this argues for working with players who know each other. The consortium should be led by a calculated risk taker. Finally, the host country will gain comfort if it can be shown that the project developer will stay with the project from "cradle to grave".

- The project should be considered as financable by experts who are familiar with limited-recourse deals. Likely operating criteria and output pricing schemes should be identified. If the deal is considered to be worthwhile, IFI involvement (if relevant) should be secured at an early date and advisors with close working relationships with these institutions may be helpful. Equity participation should be secured from credible members of the

consortium such as equipment suppliers and contractors who offer good financial strengths. The legal aspects of the project should also be outlined. The tax environment and its implications must also be ascertained and evaluated in terms of its potential impact on the project.

Promotion and Development Steps

- The technical competence of the players in the consortium should be unquestioned and contractors should be lined up at an early stage. The technical solution should reflect the special features of the bid.

- The consortia should demonstrate superior project management capability. Construction costs must be reasonably low.

- The joint venture or consortium method that contractors desire to use should be appropriate for the risk profile of the project and for the financial strength of the members of group. The structuring of the deal must address how the financial institutions are represented , what the independent engineer does and substitution provisions (i.e., the right to substitute other suppliers). As well, it is important to agree (at an early stage of the project) on an arbitrator for resolution of disputes that may occur in the course of the project.

- Exclusive negotiations with the host government may only occur after competitive bidding. During negotiations the consortium must demonstrate the ability to undertake risk and cost/benefit assessment quickly and to respond to the demands of the host government promptly. Governments should be willing to accept some project risks and provide some resources. At the same time, players often find it hard to justify bidding on major BOT projects involving multiple bidders. The smart developer therefore looks for opportunities that involve unsolicited projects (i.e., attempts to negotiate a sole source agreement). However, this strategy becomes difficult to put in place if there is significant Government financing of the project.

Implementation Steps

- Early formalizing of the project company and its key shareholders.

- Motivate contractors with penalties and bonuses for cost and time performance.

- Finalise project financing structure.

- Economic use should be made of various types of insurance.

VI. Financing of Projects

Project financing is immensely difficult to arrange for and particularly so for projects of a limited recourse nature. This situation stems from the increasing reluctance of governments to guarantee political, exchange rate and other risks. Many governments are simply not in a position to add to their liabilities or contingent liabilities. Consequently the financial solution, or part of the financial solution, must come from the private sector. And the solution can appear to be quite daunting: investors and suppliers of debt are often faced with the prospect of investing or lending in a project in return for the cash flow of the project, which may be for twenty or more years.

Should the project collapse or be threatened by collapse the prime security for the investors or lenders rests in the legal documents of the project, which may be of little, if any, comfort. Few companies and financiers are willing to accept these risks. **Fewer are willing to accept this risk in developing nations** where many of these projects are contemplated.

If the **non-financial players in the capital project market can bring in equity to the project a major hurdle is cleared.** However, if financial strength is not an option or cannot be mustered, then an alternative is to be in a position to identify the financial players who can bring financial muscle to a project and to understand how to manage these sources of capital. This outside financial muscle often comes with high costs - either in up front fees, or through equity sharing (and the related control implications).

These realities of the international capital project market highlight the need for players in the market to develop realistic options for their participation. Developing and arranging appropriate financing structures and risk management mechanisms is a central issue in international capital projects and involves the application of financial engineering.

Risk Management and Innovative Financing

Risks in capital projects relate to financial risks (such as currency convertibility, exchange rate changes, interest rate fluctuations), risks during the actual construction of a project (construction delay, cost overrun, design risk), and risks that relate to the project once it is completed and in use (production capacity risk, supply/offtake risk, government intervention). These risks are usually viewed from a variety of different perspectives, depending on one's position as a stakeholder in a project. Stakeholders often include those who are investors of equity, suppliers of debt, project contractors and consulting engineers, or the buyers or partial guarantors of the project. Given the different types of risks and the different players involved, **the issue of allocating risk is central to the structuring of capital projects.**

In the end, the allocation of risk is accomplished by using various financial instruments and is supported by legal agreements. Since risk allocation is central, **the need to**

develop appropriate financial structures that adequately reflect the risk appetite of various players is essential. These financial structures must address the concerns of the participants, for example, by providing financial flexibility for some participants, while at the same time providing comfort to those who are more interested in greater financial certainty. Consequently, financial structures employ a mix of the full range of financial instruments (several of which are under continuous development), and include trade financing instruments, derivative products (such as "swaps", "futures", "puts" and "calls") and other project financing instruments.

In limited recourse projects, **all the risks identified in the previous paragraphs need to be assessed by potential investors at the front end of the project**, since investor participation is often required for the full cycle of a project. However, many of these risks cannot be easily assessed at this stage. Consequently, sophisticated and innovative financing instruments are required to satisfactorily manage the variety of numerous risks at this early stage. As a result, financial frontiers are ever expanding and the international capital project market represents one of the most active fronts of innovation.

To participate in this risk environment the continuing challenges for participants is to be innovative and to:

- *appear* willing to participate in the equity and/or debt components of a limited recourse project;
- share risks in a fashion that is related to future potential rewards; and,
- manage the changing nature of financial risk throughout the critical phases (pre-construction, construction and post-construction) of a project and, if desired, pass on a risk, or a number of risks, to those with the appropriate risk appetite.

All of these financial and risk management skills and capabilities are not within the grasp of all players. For those without the requisite skills or the networks to provide this innovative financing and risk management, the challenge is acute.

Main Sources of Financing

Sources of international project financing include IFI's, commercial and merchant banks, Export Credit Agencies, securities firms, project sponsors, contractors and equipment vendors, leasing firms, pension funds, and private investors.

Each of these sources of financing tends to have a special interest in a particular stage (pre-construction, construction, or post-construction) of the project financing cycle. Pre-construction finance is the most risky and is most often supplied by government aid agencies (feasibility studies), IFI's, (feasibility studies and detailed capital studies), or private sources of finance, contractors and other "sweat equity" sources (i.e., investment of labour costs, such as a consulting engineer feasibility study performed in-house without security of remuneration). Construction financing is frequently provided by

contractors, project sponsors, some commercial and merchant banks, IFI's, ECA's and private equity sources. Post construction financing is the least risky in relative terms (since the project is operating and providing cash flows with, hopefully, some predictability) and tends to be supplied by equipment suppliers, pension funds, project sponsors, leasing firms and others.

In summary, the trends in financing point to fierce competition for limited funds and higher levels of equity from project sponsors. IFI's are also aware of the need for them to play a greater part in private sector project development and are likely to move toward guaranteeing political risk in developing countries and to putting in place bond insurance schemes. Finally, ECA's are also taking steps to deal with reduced sovereign guarantees, and have signalled their intent to play a greater role in the financing of projects that are more in the realm of private/public partnerships.

VII. Conclusions

Canadian firms have maintained a reasonable presence in international capital projects markets given the relatively (by European standards) low level of privatisation projects at home and the lack of access to trade related aid monies. Specific weaknesses of Canadian players of course vary by individual firm. However, the weaknesses that many exhibit, stem from their lack of financial resources and their associated scale of operations.

Competition in many sectors that they serve (both at home and abroad) is fierce and this lack of financial resources is likely to be a continuing problem. This means that Canadian firms are often not able to readily pursue limited recourse projects (by bringing equity to the table) which of course have significant "front ends" or projects in many developing countries (where access to financing is more acute), nor are they able to be credible bidders on large projects (this is based on the perception of clients).

Canada's implied strategic objectives are to maintain a presence in the international capital projects markets and to encourage development of our firms toward sustained employment levels. Consequently, the trends set out in this study suggest that should existing government support be reduced, Canadian firms will be further disadvantaged vis-a-vis their main competitors who already are a lot larger in size and have good credibility with their clients.

While Canada cannot hope to match the level of support provided by others, it can do a number of things to make its expenditures more effective. First, it can concentrate its expenditure on particular strategic sectors so that the assistance will be somewhat closer to that of competitors. Second, it can encourage its players to overcome their disadvantages by helping forge both Pan-Canadian and international alliances. Third, Canada will need to ensure that Canadian firms are able to maintain and build on existing relationships with IFI's. Fourth, closer cooperation between industry and government will be needed to ensure that Canada's government to government levers are being used to the best extent.

It is also clear that Canadian firms need to take advantage of their technical competence by working together in consortia and by undertaking paradigm shifts toward the "disciplined" entrepreneur culture. The implications here are that more Pan-Canadian and international alliances are needed so as to be part of the emerging design build and limited recourse marketplace. In order to be viewed as credible, Canadian firms will also need to demonstrate that they understand the complexities of structuring deals and can work with others in upgrading marketing intelligence (getting in on bids earlier) and providing innovative solutions.

It should be noted that some Canadian firms are already involved in alliances and that certain pools of capital have emerged to address privatisation opportunities. Yet, there is room for improvement particularly in light of the fact that Canada is apparently perceived by host governments as having its best chance of success by being a niche player.

The future role of government in this context would be to work out how it might encourage Canadian firms to appoint a "prime contractor" on major projects, giving due consideration to marketplace dynamics (i.e., without unduly slowing the bidding process with the end client or adversely affecting the flexibility of other Canadian firms to join competing alliances). Some independent process might be established to identify which Canadian firms would have the best shot at a particular project, and the strategic support that is provided would carry certain obligations. The government could also improve the interface between private sector firms and the many agencies and departments that these firms have to deal with in order to address the capital projects marketplace.

Furthermore, consideration should be given to providing specific support for international alliances particularly where there may be the potential for on-going relationships, or where Canadian firms can take advantage of opportunities to further hone their technological edge or improve their marketing "reach".

Canadian firms also lack access to pools of capital for specific activities such as market development or equity participation or adding in-house project financing capabilities or maintaining their technology leadership. A vigorous joint industry-government effort could make this happen somewhat sooner.

1.0 INTRODUCTION

This report was prepared for Industry Canada, and the Department of Foreign Affairs and International Trade by Toronto Consultants International in late 1993 and early 1994.

Many Canadian companies and those in government associated with international capital projects provided a great deal of information and other assistance in connection with the study which we gratefully acknowledge. Special thanks go to the companies who allowed us to complete the case studies contained in this report and to the Steering Committee whose on-going comments were most helpful. The conclusions of the report are Toronto Consultants International's.

The report is organized into nine parts. Following this introduction, we briefly discuss the purpose of the report and the methodology used. An overview of capital project implementation activity provides the context for subsequent examination of ways of doing business, which (at the request of our client) has a special focus on selected European competitors. The ways of doing business are covered in two sections, one dealing with public sector activity and the other with private sector approaches. The next part deals with the overview of the main approaches used by the Canadian government and Canadian firms. This is followed by an overview of the financing activities and sources of finance. Finally, five case studies which illustrate the realities of the international marketplace are presented and lessons to be learned are outlined.

Conclusions are also drawn from the information presented and these are shown in section 7. Finally, potential opportunities for Canadian firms are discussed in section 4.2.

2.0 PURPOSE OF THE REPORT

The overall purpose of the study was to examine the trends in the implementation of international capital projects in light of the changing world environment and to identify a set of critical strategic marketing issues which must be addressed by Canadian firms and by the government, to effectively capture a fair share of projects that fit Canada's capabilities.

Specific objectives of the work include:

- A review of the international trends in project implementation such as design-build, turnkey, BOOT and BOO in selected international market segments;
- An examination of the arrangements made by key international competitors particularly those in the UK, France and the Netherlands (included in this examination was the contrasting of alliances of these competitors relative to those of Canadian suppliers);
- Preparation of five case studies illustrating the realities of the marketplace including alliances and the legal aspects of structuring a team;
- An examination of possible sources of financing for international capital projects and trends in the financing of these projects (giving consideration to innovative financing and the likely impact of EDC's pending mandate); and,
- Identify the main implications for strategy (for Canadian industry and government) resulting from the new realities in the international capital projects marketplace.

Part of the purpose of the report was to provide a document which industry associations could use to create awareness (among their members) of the realities and challenges associated with participation in international capital projects. In addition, a brief "procedural guide/checklist" highlighting the key questions a firm should ask itself prior to pursuing these kinds of projects was to be prepared (see Appendix D). This was also to be made available in slide format for presentations.

3.0 METHODOLOGY

It is worth noting that in this assignment, developing information from scratch was quite limited, simply because of the scope of our mandate. Nonetheless, the information on which this report is based was developed from an extensive review of published material and a significant interview program (given the scope of our work) with players in the international capital projects market including sub-contractors, consulting engineers, contractors, engineering contractors, equipment suppliers, competitors, and government agencies; and, discussions with international agencies, international commercial banks, experts on the structuring of international capital projects, and others. On-site interviews were conducted in Ontario and Québec, as well as in Washington, DC, London (England), and Paris. Telephone interviews were carried out in BC, Alberta, Québec, the US, the UK, and the Netherlands.

As agreed with the Steering Committee, the primary emphasis of our information collection was on sectors where there is significant activity and on selected European competition. Such information was also supplemented with our own knowledge of Canadian service firms in the capital projects market and our experience from previous assignments completed in the international capital projects market.

While there is a lot of material published on international capital projects, there are significant shortcomings in much of it. This is particularly true of preferred information relating to key competitors and reflects the special attributes of the business in that many projects are unique. As might be expected, the larger companies do not reveal the composition of their revenues (from areas of interest to this study) nor do they routinely identify their alliances for capital projects or discuss their financing arrangements. Accordingly, consistent information is not readily determined.

Furthermore, the word "competitiveness" as it applies to international capital projects market needs to be interpreted with caution. The World Competitiveness Report issued annually by the International Management Development Institute and the World Economic Forum defines business competitiveness as the "ability to design, produce and market goods and services, the price and non-price characteristics which form a more attractive package than those of competitors". This definition works well in markets which are open and not distorted by various types of government intervention and where governments themselves are not among the main decision makers.

In reality, the conditions under which business is conducted in the international capital projects market are not necessarily those of a "level playing field". Certain projects may be "tied" business and in other cases, it is almost impossible to determine how much of an advantage is provided to those firms whose home bankers are extensively engaged in the syndication of international loans, or who are under their own government's control or who have been able to achieve a large scale of operations as a result of domestic government support provided over many years. Such government support could either occur through privatisation projects undertaken at home or through lines of credit available for funding exports or the home government's willingness to bring to bear non-financial pressure and support on behalf of its firms.

Good cooperation was received from those interviewed, particularly in light of the fact that the assignment was conducted at a time when many respondents were busy preparing bids on various major projects, participating in country visits and addressing their own financial difficulties.

In addition, an important part of our task was to prepare a number of case studies illustrating market realities. We worked closely with the Steering Committee responsible for this study to define cases of interest and a great deal of time and effort was spent in trying to secure and develop preferred cases with Canadian players.

However, for a variety of reasons including proprietary considerations, end client sensitivity, potential negative impact on existing negotiations and the like, we were unable to "showcase" a number of the case studies that were of greatest interest. Moreover, in the case studies that were completed some players were able to respond more fully than others. The information presented in this report represents the most that could be revealed while protecting confidentiality of the respondents' business position.

4.0 CAPITAL PROJECTS IMPLEMENTATION ACTIVITY

This section describes the various implementation activities that are taking place in the international capital project market. These activities are described within the context of the driving forces and trends that are currently helping to shape and direct this market. Three driving forces are described that help to subsequently explain a number of important trends for this market. These driving forces and trends help to establish the background against which possible opportunities for Canadian firms are outlined.

4.1 Driving Forces and Trends in International Capital Projects

4.1.1 Key Driving Forces

The trends taking place in the international capital project market are shaped by three main driving forces: competition for capital, privatization, and heightened competition. These driving forces are outlined below, followed by an examination of the trends affecting the international capital project market.

The competition for capital is a driving force shaping how projects are being developed and financed by governments, international financial institutions, commercial and merchant banks, private sources of capital and others. The competition for capital is driven by the demand and supply of capital.

On the demand side relatively more projects, particularly outside the OECD, are competing for the available pools of funding, than in previous years. These new project opportunities are taking place in Latin America, and Asia and to a lesser extent in Eastern Europe.

The supply of capital remains relatively high, reflected by the liquidity of commercial and merchant banks, and the rapidly expanding base of equity in world stock markets. Paradoxically, the industrial sectors and location of the new projects tend not always to match the risk appetite of many capital suppliers. Consequently, there is an undersupply of capital in certain industries and geographic markets.

Some of the implications of this demand and supply situation include: i) an increase in project financing appetite by traditional sources; ii) changes in risk assessment by traditional sources of capital; iii) further entry of non-traditional sources of capital (e.g. private capital and pension funds); iv) greater marketing efforts by project sponsors to attract capital, particularly in middle income developing countries; and, v) greater reliance on limited recourse projects

Privatization is a phenomenon which has become an important feature of countries' economic policy. Many governments have concluded that protected public entities do not maximize productivity, efficiency or service and that a competitive environment is more conducive to foster these objectives. In addition these governments face new constraints to their financing activities which place a limit on the role of government.

The impact this has on traditional international capital projects is profound. Most importantly, governments are trying to keep their contributions and commitments off their balance sheet, leaving scarce resources for other activities. This implies that others are being encouraged to assume certain risks.

Privatization efforts have become a feature of many governments, including the United Kingdom, France, Malaysia, Argentina and Chile. These efforts have been aimed at a number of traditional capital project sectors including, energy generation and distribution, transportation (including toll roads, bridges and airports), environment (including waste water management and water supply), and financial services.

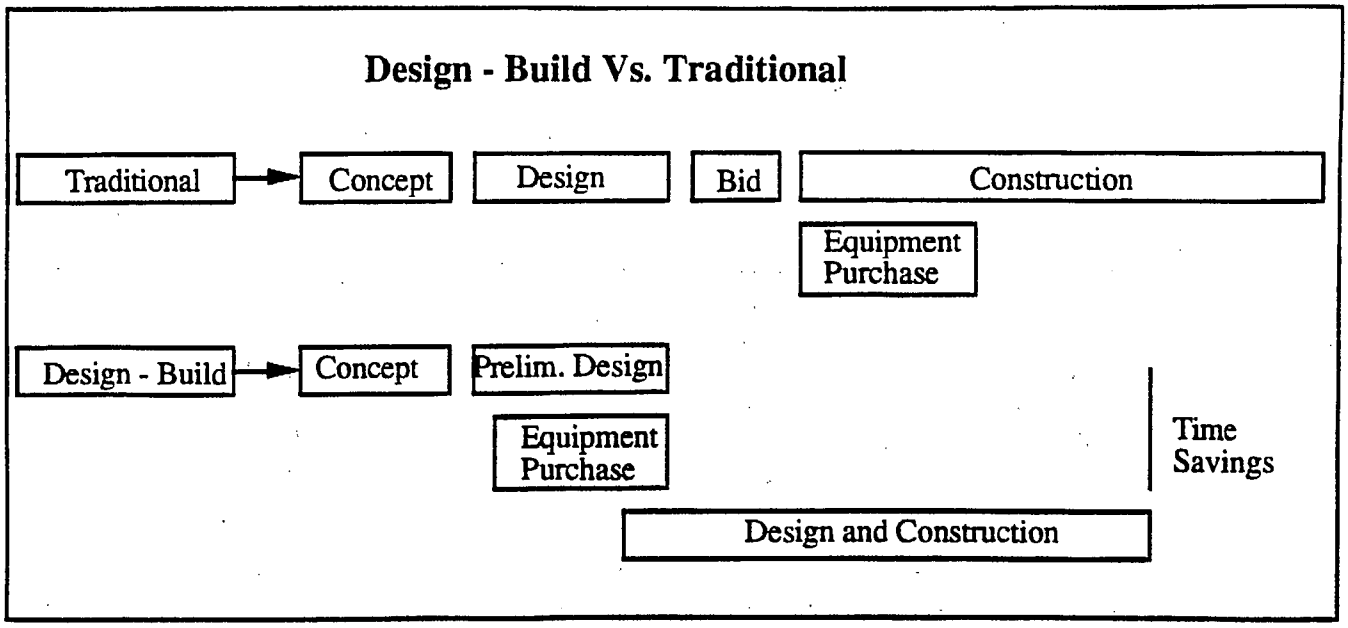
Heightened private sector competition is a driving force in the international capital project market. Competition is increasing as a result of new (and often indigenous) competitors in project countries, increased efforts from traditional competitors, a higher concentration of geographic opportunities (particularly in Latin America and Asia), accelerating technical innovation, and new competitor risk sharing, financing and packaging capabilities.

The new competition is emerging in non-traditional segments of some infrastructure sectors, including power generation (Indian manufacturers), transportation (Malaysian highway contractors), and other sectors. Traditional competitors have also intensified their major project export efforts. For example, the UK. recently announced that it plans to double its export earnings from major project exports, from the current level of approximately £10 billion to £20 billion by the year 2000.

Competition is also increasing in terms of the risk attitudes and abilities of private firms. Private sector firms in major capital projects are being pressured into facing and accepting these new risks, or bring in risk-sharing partners. This changing risk environment is leading to both an increasing number of joint ventures and more complex consortia arrangements. Attractive consortia partners are those who can supply a mix of the key competitiveness components, including advanced technology, an international network of subsidiaries or partners, access to financing, a strong balance sheet and income statement, a packaging capability, or familiarity with government and private sector in the project country. Increased competition requires a heightened ability to distinguish each potential project participant along one or more of these dimensions.

4.1.2 Trend Towards Design-Build and Turn Key Projects

Capital projects are increasingly being completed on a design-build and turn-key model compared to the traditional design-bid-build delivery system. The design-build model is a construction delivery system where one entity signs a single contract accepting responsibility for both the design and construction phases of the project. The traditional and design-build systems are contrasted below.



According to figures compiled by Engineering News Record, almost half of the work completed in international markets follows the design-build model. This proportion has been increasing over the past decade and the general assumption is that the share of projects completed on the design-build model will continue to increase. The industrial sectors where design-build has been more prevalent includes petro-chemical facilities, power generation projects and steel mills. Relatively fewer projects with civil works components have followed the design-build model.

Turn-key projects have also experienced a significant growth in international infrastructure projects. In rough terms, turn-key projects can be viewed as design-build projects with the added responsibility of procurement of equipment and commissioning of a project. Consequently, turn-key projects offer "total solutions" to the host government, and reduce or eliminate the integration problems that can plague traditional projects. In this context, buyers require that contractors or project managers take responsibility for building a complete plant and ensure that the individual systems (the "islands") work together as designed.

The Canadian construction, design engineer, architect, and manufacturing communities have tended to rely more on traditional approaches to international capital projects. Consequently, the design-build market is somewhat less familiar to many Canadian firms. Turn-key projects represent a further step away from the experience of Canadian firms and consortia. And, finally the specialized BOT/BOO projects represent new territory for virtually all Canadian firms and consortia. However, it is clear that this situation is changing as Canadian firms adjust to market realities.

4.1.3 Increased Interest in, and Completion of, Limited Recourse Capital Projects

Limited recourse capital projects are projects where full sovereign financial guarantees for political and commercial risk are not available and must be assumed by some other entity.

Over the past ten years an increasing number of limited recourse capital projects have come to market and have been financed. In the early and mid - 1980's limited recourse capital projects were limited to a few developed countries, and even fewer developing countries. Many early BOT/BOOT projects either stalled or were unable to secure the necessary support to proceed. More recently, however, there are a number of signs which point to an increase in the BOT/BOOT, or limited recourse, approach to capital projects. These signs include the actual number of completed deals and the expanding pipeline of anticipated deals.

Completed Deals According to *Public Works Financing International* (PWFI) approximately US$30 billion in private or mixed private/public, user fee supported infrastructure projects were financed since the mid- and late-1980s. Half the dollar total was the Channel Tunnel (The Chunnel) between the United Kingdom and France.

However, during the October 1992 - October 1993 period approximately US$25.7 billion in debt and equity funding commitments were announced. These include construction of privately sponsored infrastructure projects in 16 countries on four continents. These recent figures underline the growing important of limited recourse infrastructure projects.

Some of these projects include a US$70 million energy generation plant in Colombia, the US$2 billion Hub River project in Pakistan, the North-South Highway in Malaysia, the US$1 billion Hopewell Energy project in the Philippines, the US$60 million BECOL project in Belize, numerous toll roads in Mexico, and power plants in the United States to mention a few.

Pipeline of Deals As of October 1993 PWFI identified 358 private or mixed private/public infrastructure projects that are planned and are valued at approximately US$280 billion. This contrasts with October 1992 figures of 100 projects with capital costs of approximately US$160 billion. The significant increase in the pipeline of deals reflects both accelerating growth in the number of deals seeking finance as well as an improved PWFI survey.

Europe represents the area of most activity, with over US$75 billion currently planned, followed by Asia at US$70 billion, North America at US$42 billion and Latin America/Caribbean at US$26 billion. Transportation projects account for 70 per cent of planned projects, the power sector for 25 per cent of planned projects and the balance in the water sector.

4.1.4 Shrinking Size of Projects

Some industry experts anticipate that the average dollar size of limited recourse capital projects will shrink in the short and medium term.

The privately sponsored infrastructure market is in the process of completing a number of exceptionally large projects such as the Chunnel and Hub River in Pakistan. Industry sources regard these large projects as having been exceptionally complex technical efforts as well as being difficult projects to complete politically. One reaction by project sponsors, governments and financial players is anticipated to be an increase in small and medium projects which are generally viewed as being more manageable.

The move to small and medium sized projects will go some distance to: i) help players limit their time exposure to projects; ii) improve financial risk and exposure through project diversification; and, iii) allow small and medium sized economies to test this approach to infrastructure development.

4.1.5 Emerging Financial Trends

There are a number of important trends in the financial engineering and project finance. These include: i) changes in financial innovation; ii) increasing project demand for limited funds; iii) increased equity in projects; iv) new risk assessment skills required; and, v) new roles and challenges to International Financial Institutions and Export Credit Agencies. Section 8.1 of this report provides further insight into these trends.

4.1.6 Risk Sharing Changes

Risk sharing is one of the key aspects to successfully designing a BOOT/limited recourse project. The nature of risk sharing is changing in a number of important ways. These include: i) new private sector financing sources assuming new and/or additional risks; ii) equipment suppliers appear to be assuming additional risks, often in the form of equity participation in major projects; iii) international contractors are assuming additional risks often in the form of equity participation in major projects; and, iv) some project developers are managing projects for the long term and are, therefore, assuming operating risks.

4.1.7 Legal Issues and Changes

Legal issues are central to international capital projects, particularly those of a limited recourse nature. These issues are central for financiers, project sponsors, goods and service suppliers, and buyers. Without the appropriate legal agreements and arrangements it is unlikely that prospective stakeholders would be involved. The legal issues that need to be dealt with include international commercial law, adjudication of contract disputes, lien laws, joint and several liability issues, and contract law, to name a few.

The financing of limited recourse capital projects hinges in large part on the financier's comfort with the legal aspects of a project, since the only recourse lenders and equity suppliers have is to legal documents that set out the obligations of all parties in a project. These legal issues can be very daunting too, particularly where a host (project) country does not have a legal system that provides for an understanding of contract law, a system of litigation to adjudicate contract disputes or lien laws for taking security interests. In these instances the required legal effort to create the necessary framework can be exceptionally high and very expensive. In some cases a satisfactory legal framework cannot be developed and project developers can be left with only the legal costs.

A number of international law firms are developing this experience and are very active in selling these services to the various parties involved in international capital projects. Furthermore, it appears that the legal costs to complete these types of projects have reached the point where they are considered as a significant "front end" burden.

4.1.8 Industrial Sectors and Countries of BOOT/Limited Recourse Activity

The transportation sector has accounted for the bulk of activity (70 percent) in the BOOT/limited recourse market and this is expected to continue in the medium term. These projects include rail, motorway, bridge, tunnel, and airport projects. Many of these projects are planned in Western Europe (approximately $55 billion), Asia ($53 billion) and North America ($33 billion). Many of the Asian projects are slated for Hong Kong and China, with the attendant risks that these markets pose relative to other OECD countries. Consequently there is a range of geographic risk that suppliers are being exposed to in this market.

The power sector accounts for approximately 25 per cent of planned projects, and include hydro, thermal, and co-generation projects. Asia represents a slightly larger market than Europe for market-oriented power. The United States has been and continues to be an important market for private power.

Projects in the private water/wastewater sector account for approximately five per cent of the BOOT/limited recourse market.

Telecommunications projects with private sector orientation are also in the planning stage, and some projects in Thailand have been financed. However, compared to other sectors there are relatively few projects in this sector.

4.1.9 Shrinking Public Sector Influences of Competing Countries

OECD governments are facing resource constraints. Consequently the marketing and financing efforts of governments in international capital projects are being challenged. In some cases, foreign aid funds are decreasing, including funds for mixed credits. Contributing to this trend are agreements such as Helsinki V, which are, in part, designed to place additional limits on non-market forces. Similarly government marketing funds

tend to be shrinking and more creative approaches are being developed to try and maintain or improve effectiveness and efficiency.

The reduction in public sector influences appears to be taking place in a few important OECD competitor nations. For example, in France, Banque National de Paris has been sold to the public and it is unclear whether the traditional assistance of this firm in international capital projects will be sustained. Similarly, there appears to be a general pull-back in German international capital projects due in part to the focus on the infrastructure requirements of the new country.

4.1.10 Local Partnering

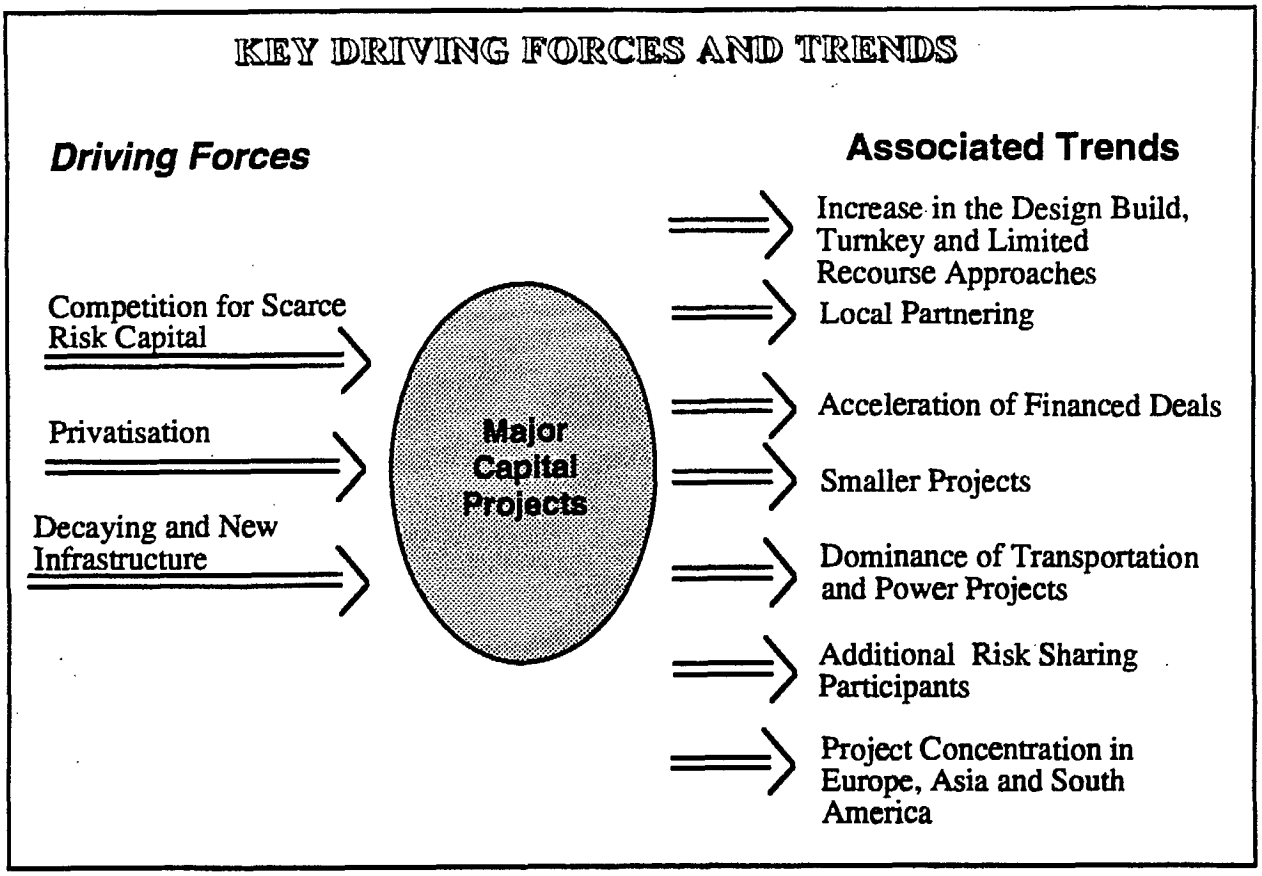
Local partnering in the project country is a practice which is increasing. This trend is developing as a result of host government "offset arrangements", improving supply capabilities in the project country, and in some cases, improved local funding capabilities.

Host governments often view the construction of a major capital project as an opportunity to promote "offset arrangements", or the participation of their own service and goods suppliers in a project. This practice has led to an increasing amount of work being conducted by local firms in collaboration with the foreign contractor, equipment supplier or design engineer. Some of the goals of this collaboration include technology transfer to the host country, training of local resources, and greater local employment.

Local partnering is also stimulated by the improved technical capabilities of local firms. If host country firms are able to meet the technical challenge at a relatively low price, then consortia developers and turn-key operators will source these firms to help lower the total cost of the bid.

Finally, the inclusion of a local partner may open the opportunity to access local currency financing. This is, of course, dependent on the availability of local capital as well as the local firm's borrowing strength. Since local currency financing is often important in a project, the local partner and their connections can be attractive from this perspective.

The diagram shown on the next page summarizes the main driving forces and associated trends.



4.2 Potential Opportunities for Canadian Firms

The implications of the global trends developing in international capital projects suggest that the business prospects for players in this marketplace are such that the demonstration of both technical and commercial capabilities is becoming more commonplace. Firms that can bring an understanding of the "front end" associated with a deal (particularly the project finance dimensions) appear to be gaining an advantage and stand the chance of earning better remuneration for their efforts. In addition, business prospects are also influenced by the kind of government support that is provided to the players (including undertaking privatised infrastructure projects in the home market).

Furthermore, while domestic and international alliances will help Canadian companies, it is clear that involvement in privatisation projects in Canada will provide an additional drawing card in terms of enhancing their image overseas. Moreover, while several of Canada's firms are recognised for their specialized expertise and have served as a sub-contractor to larger international firms, there is an increasing tendency on the part of the prime contractors to favour firms who may be in a position to assume risks (e.g., even "sweat" equity participation: the investment of labor and associated costs without any certainty that these costs will be recovered) commensurate with the scale of work undertaken by the sub-contractor.

The implications of the trends will clearly have an impact on which specific opportunities are available to Canadian firms. Accordingly, the reputation of Canadian firms (and the scale of operations of current players) suggests that the potential opportunities will include:

- continued involvement in transportation projects including bridges, tunnels, public transit, and airports. Canadian firms have developed significant expertise in these areas (including the mix of skills needed to package these projects) and have served as leaders of consortia as well as specialised sub-contractors and are also becoming advisors to host governments interested in carrying out these projects. As indicated earlier many host governments continue to favour transportation projects and recent domestic activity in Canada has allowed Canadian firms to hone their expertise;

- the energy sector is another area in which Canadian firms have honed their expertise. This area has continued to grow and is favoured by the larger international commercial banks. Canada has had a number of consortia (including contractors and equipment suppliers and international partners) who pursue such projects on an on-going basis. Nonetheless, while prospects are good, the market has become increasingly competitive and innovative financing and/or government assistance will be needed to win prime contracts (particularly in newly developing countries). Furthermore, in spite of the existence of a pool of private sector Canadian capital, (at the time of writing of this report) the size of the available coverage is considered as quite modest;

- pulp and paper projects in developing countries such as Asia and South America. Canadian firms have successfully formed consortia with international firms from several countries and are experienced in leading these projects. To capture a reasonable share, potential Canadian suppliers have required on-site representation and have formed cooperative arrangements with other international players to spread the risk, workload and financing availability. Yet, at the present time, despite the opportunities in the marketplace, many of these projects remain unsigned after several years of negotiations;

- environmental projects that are financed through sovereign guarantees, CIDA assistance and limited recourse means. A number of Canadian firms have specialised expertise in this area as well as offer proprietary technology. It is also worth noting that marketing consortia of Canadian firms have been active in pursuing environmental projects by maintaining an on-site presence in Asia;

- many firms (particularly Canadian consulting engineers) participate in international capital projects as a result of their successes in establishing relationships with International Financial Institutions such as the World Bank, the Asian Development Bank, etc. These opportunities are expected to continue; and,

- selected opportunities in various sectors in Asia, South America, Eastern Europe, and Russia. Many Canadian firms are looking at possibilities for business in various projects (e.g., pipelines, mining, telecommunications, hotels, oil and gas, industrial). However, with more and more projects shifting away from sovereign guarantees, there is a greater urgency to pass off some of the risk and responsibility that was

traditionally the buyers, to other parties. Despite the tendency of Canadian firms to avoid the undertaking of such associated project risks, it is clear that to increase their level of participation in the future, Canadian firms will need to offer financing to potential buyers or become members of consortia or joint ventures. This means that it will be important for Canadian firms to demonstrate capital project risk analysis skills and to be in a position to judge how best to manage and mitigate risks.

A major motivation behind Canadian companies engaging in joint ventures or strategic alliances is simply to ensure that a piece of work will go to them. Canadian firms currently appear to offer their partners the benefits of political acceptability in certain countries and although they have been reluctant to work in partnership with large companies from other countries, this reluctance is diminishing simply because of the dynamics of the marketplace. It appears that even though certain Canadian players offer distinctive technical skills they may be frozen out of key plays unless they can find consortium partners who offer an inside track with the client or access to financing or other attributes.

Opportunities to be involved in strategic alliances and joint ventures while promising also sometimes hinge on the ability (or lack thereof) of Canadian firms to access domestic government support (e.g., EDC financing). Furthermore, among the downsides to consortia is the fact of life that the joint venture partners simply may not win the bid. The alternative for niche Canadian firms offering superior technology is to have the end customer specify this preference to bidders, but this approach is also risky and is only likely to be applicable in a portion of major international projects.

5.0 APPROACHES USED BY SELECTED COMPETITORS - PUBLIC SECTOR

Key competitor approaches to the international capital project market consist broadly of two components: government policy approaches and private sector approaches. In this section, Government policy approaches are described. Private sector approaches are treated in the next section, i.e., Section 6. The material presented must be interpreted considering the limited scope of this assignment, together with the study mandate that was to concentrate on selected European countries. Further, it is important to keep in mind that each international capital project is often unique and as well, timing may have a critical impact on the success of the particular approach undertaken.

5.1 Competitor Government Policy and Institutional Approaches

Foreign governments under consideration for this study manage a number of policy instruments that can be used to affect outcomes in the international project market. This sub-section outlines the use of a number of these instruments that include:

- domestic policy instruments;
- national coordination abilities;
- Export Credit Agency capital project support (including project finance);
- tied aid and mixed credits; and,
- development assistance focus (commercial versus other) in certain countries.

5.1.1 Promotion of domestic policies that creates learning, experience and exportable skills

Domestic policies often contribute to both the shaping of the commercial environment and the external competitiveness of a country. Privatization was identified as one of the driving forces in the international capital project market. Consequently, those countries that have encouraged these policies domestically often are in a strong position to export this knowledge and experience. Britain is one example with the transportation and power privatization efforts of the past decade. These policies have encouraged private power developers, airport and rail operators, and a number of other international capital project players to hone their skills for subsequent offshore semi-private market opportunities.

5.1.2 More Integrated, Coordinated and Planned Approach During the Early Marketing and Financing Cycle

A substantial degree of integration and coordination among federal agencies and ministries characterizes the bilateral approach of most European nations under study.

For example, at the selection and planning stage German bilateral assistance relies on an informal consortium of relevant ministries that is responsible for planning and selecting loans or projects (e.g. ministries of foreign affairs, economic cooperation, trade and investment). KfW (an official German agency which, as described in its Annual Report, is "a bank with functions of a politico-economic character") acts primarily as an implementation *agency* (although KfW, after the Ministry of Economic Cooperation's initial pre-selection of projects, does produce detailed project appraisals to assist other ministries in their final project selection). In France, the coordination tends to occur more at the financing stage than at the planning and selection stage. For example, in 1990 over one third of Caisse Centrale de Cooperation Economique's projects were funded through collaborative arrangements with other French agencies, particularly the organization responsible for financing donor procurement - FAC, or Fond d'Aide et de Cooperation. This degree of integration and coordination is a distinguishing feature of the European approach.

The coordinated and strategic approach of many competitor nations is exemplified during the various stages of the typical life cycle of a capital project, as described below.

Stage One: During this stage the various information gathering networks (public and private) of supplier countries attempt to identify potential interesting projects in offshore markets. Interest may be guided by the commercial sector of activity, the geographic region or country, or a myriad of other considerations. At this early stage there is no certainty that a project will go ahead in the country, since the identifiable project pipeline is typically a mild indication of preferred projects at one point in time. Furthermore, these project pipelines often tend to represent the "wish list" of various departments/agencies of the host government, and have limited (and sometimes very limited) support from the national project approval bodies. Nevertheless, competitor nations such as the Japanese, focus considerable effort at this stage to refine their potential project support list. The pipeline of projects is typically examined by important Japanese stakeholders, including trading houses, parastatals, JEXIM, OECF and JICA.

Stage Two: During stage two meetings are convened between supplier country stakeholders and government officials in the project country. At this stage suppliers and their government officials hope to both gain an appreciation of the "real priorities" in the project country and assess these priorities. Financing questions are also raised: Might the project qualify for financing by a supplier country's bilateral aid agency? Will the project be presented to an International Financial Institution for financing/ co-financing consideration? Will the project be financed from available or borrowed foreign exchange? Will the project be project financed? (BOT, BOO, etc.). Exchanges of project intelligence is required at this stage by the stakeholders, including various government players in both the project and supplier country (foreign aid agencies, commercial officers, financing officials, and other national champions) to gain a preliminary idea of the importance of the potential project to both the host and supplier country interests. The stakeholders from France and Japan are often reported to be active during this stage of the project cycle.

Stage Three: With stage two and additional marketing information well organized, supplier countries can be in a position to begin their assessment of a projects importance. If the project is regarded as being in the strategic interests of the country, say France,

then a transportation project in Francophone Africa might be carefully considered for marketing and financial support These assessments should trigger a number of important determinations: Should the project be formally slotted for significant, marginal, or no bilateral aid assistance? Is it reasonable to supply part of, or the entire pre-feasibility and/or feasibility study and/or detailed capital study? Or should the project be given more passive support, if at all? If there is a desire to conduct the pre-feasibility and/or feasibility and/or detailed feasibility study, one of the rationales is to secure the procurement associated with the project. Consequently, at this stage there is some indication as to whether there is a supplier government interest or leaning to provide the necessary investment (often financing) to compete for the real prize: the downstream procurement.

This process takes a great deal of understanding, open communication and coordination between the various supplier government departments/agencies. Consequently those competitors who can effectively manage this process in a timely fashion are typically in a stronger position to compete in the international capital project market. It would appear that this process is relatively well conducted in European countries and in Japan.

5.1.3 Competitor Countries Channel Available Development Efforts Into Key Infrastructure Sectors

Development assistance resources represent a policy lever which all donor countries, to greater and lesser extents, use to further their commercial interests in poor and medium income countries. Some donor countries chose to focus their development assistance on infrastructure development, while other donor countries chose to focus on projects in other sectors to achieve their development assistance objectives. If the focus is on infrastructure then firms from that country will gain access to infrastructure decision makers in both the public and private sectors in the poor and medium income recipient country, develop relationships with suppliers and other partners and will open an avenue to showcase their capabilities to potential future buyers. If the focus of development assistance is less commercial, then fewer opportunities will arise in this regard.

Consequently, the focus and perceived focus of development assistance can ultimately contribute to the competitiveness of firms in the international capital project market, including projects that are public-private partnerships. This does not imply that any one approach to development assistance is better than another, however, it should be pointed out that the vehicles to achieve policy ends has an impact in the donor country.

Commercial/Infrastructure Sector Focus

According to OECD data (1989-1992), competitor European nations channel proportionately more development assistance on a percentage basis into key infrastructure sectors than does Canada. The activity levels in these infrastructure sectors can reasonably be regarded as proxies for activity in major capital projects.

Within Europe each country has commercial sectors of interest and donor countries of interest. France appears to concentrate more of its bilateral spending on transportation

and telecommunications sector compared to European countries, while Germany focuses on energy and agro-industry projects. The perception of many Canadian firms (based on research undertaken in this assignment and previous focus group research conducted by TCI Management Consultants) is that Canada tends to focus on areas such as human resource development, women in development, and good governance. Accordingly, the perception is that Canada has designed its foreign aid policies to be less commercially oriented than those of the larger European competitors. While this does not imply that overall Canadian aid is less "tied" to Canadian procurement, this CIDA policy does limit our ability to derive strategic commercial advantage from this Official Development Assistance (ODA) investment. This perception extends to the executing agencies in recipient countries and some of the international financial institutions.

5.1.4 Europeans Actively Use Informal "Tied Aid" Practises

Formal tying practices refers to publicly announced tied aid, while informal ways refer to unannounced practices. Europeans are relatively active in their use of informal tied aid in capital projects.

In terms of formal practices competitor nations have informed the OECD of their amounts of tied aid offers. The following figures (US$ millions) refer to cumulative tied aid offers between 1988 and 1991: Germany - 11,390; France - 9,244; UK. - 5,546, Canada - 2,667; United States - 1,861, Netherlands - 1,023. These figures represent offers of financing; actual financing - the most important measure - was not readily available for all countries for this study. These offers of financing (Canada Account offers) suggest that formal tied aid offers from Canada exceeded those of competitors in relative terms.

Conversely, according to many industry players in both Canada and the United States, competitor nations exploit at least three informal tied aid avenues: i) a liberal interpretation of OECD Guidelines to Lending; ii) the use of funds not subject to the Guidelines; and, iii) untied aid mechanisms.

OECD governments have established rules, the OECD Consensus Guidelines, which are aimed at restricting and disciplining the use of tied aid. The Guidelines do, however, permit the use of tied aid in certain circumstances. For example, the Guidelines do not restrict the use of tied aid to middle income countries (often those countries where competition is greatest) where the concessionality or grant element is above 80% of the export package. This makes it extremely expensive and possibly prohibitive for a country to buy the project.

The Guidelines further provide that tied aid may be offered for projects in middle income countries which are "commercially non-viable" (i.e., "when the project lacks capacity with appropriate pricing determined on market principles, to generate cash flow sufficient to cover the project's operating costs and to service the capital employed"). In these instances the concessionality level must be 35% at a minimum of the export package. Since the test of commercial viability is applied through a consultation process, it is subject to interpretation (although work is ongoing to refine the process). Lastly, the OECD Consensus Guidelines do permit countries who wish to proceed with

a tied aid offer despite its ineligibility to derogate; there is an established procedure of ministerial level correspondence to the OECD Secretary General to explain the non-trade national interest reasons why a country chooses to ignore the Consensus Guidelines. Although this practice is viewed as a serious breach of commitment to the Guidelines that all the participants have agreed to adhere to, it can be used by those intent on achieving their commercial policy goals.

A few industry sources have also indicated that European Community (EC) members may have access to funds to make national project bids more competitive. These funds are apparently not subject to the OECD Guidelines. The existence and extent of this activity has not been verified. If it is true, some EC members could use this mechanism to be more aggressive in selected tied aid situations.

Another practice, often regarded as informal tied refers to the linking of consulting engineering services with subsequent equipment supply. For example, developing country governments might choose a specific donor country to develop the specifications for a capital project, knowing that this country would provide concessional finance in the future. The project would be "competitively" bid, but there may be a high probability that the country that developed the specifications and provided the necessary finance would win the contract.

For example, the Japanese International Cooperation Agency (JICA) reportedly awarded grants for some 500 feasibility studies per year at a cost of approximately US$4 billion in 1992. While these numbers seem excessive (translating into an exceptionally high US$8 million per study!), it does provide an insight as to why many competitors are concerned about Japan's ability to pump money into strategically interesting projects.

At the other end of the grant-giving spectrum is the United States Trade and Development Agency. In 1992, the Agency funded a relatively modest 79 feasibility studies for approximately US$25 million (US$320,000 per study).

5.1.5 Perceptions of Approaches in Export Credit Agency Capital Project Support

International capital projects differ on a deal by deal basis. Consequently Export Credit Agencies strive to tailor their financial offerings to match the specifics of the each project. Within the differing mandates of ECA's, financial packages are offered to potential clients that reflect different risk analysis procedures, different funding constraints, different arrangements mixed credits, and different coverages and services. What one ECA may seek to accomplish through a particular product or approach can sometimes be accomplished through other mechanisms. Consequently, an extensive and detailed analysis would be required to cover the realities of how ECA's achieve their ultimate goals, and which is beyond the scope of this paper. What is provided is a review of some of the differences in ECA approaches pertaining to capital projects (including project finance issues) as perceived by private sector firms considered to be "in the play."

The availability and nature of export financing and insurance in capital projects is an important potential difference between competitor nations. Some of the perceived

differences in ECA activity associated with capital projects include: participation in completed project finance deals, local cost support, and construction risk/completion risk coverage, local content requirements, risk appetite, processing times, exposure fees, and insurance to name a few. Some of the more important differences, as expressed by many capital project exporters, are provided below.

Project Finance

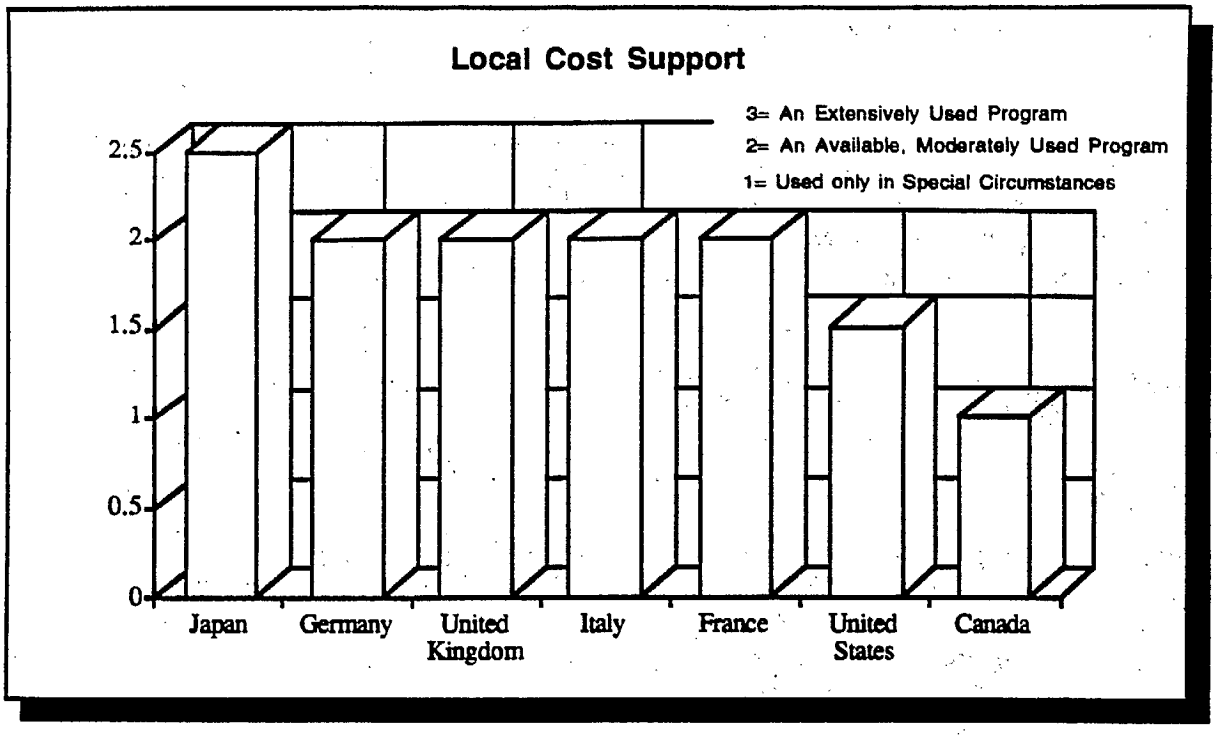
The provision of project finance refers to financial participation in limited recourse finance projects and/or to the provision of equity participation. Project finance is newer to some ECA's than others and is a potential source difference between nations. Differences could arise from the intensity of experience with project financing: those ECA's with noticeably higher demand from the private sector for project financing would likely develop more experience and higher levels of comfort with this type of activity. For example, Eximbank in the U.S. claims to be in a position of being asked to analyse over 30 project finance deals worth approximately US$8 billion dollars. It is possible that Eximbank will use this experience to future benefit, particularly if the number of completed or financed deals accelerates.

A number of ECA's claim to have concluded deals on a project finance basis, however, different definitions of "project finance" amongst the ECA's may complicate these claims. ECA's with a project finance portfolio include: **U.S. Eximbank** - Hub River, Pakistan; Pagbilao (US$172.39 million) BOT power project in the Philippines; and, approval (but not financed) of the US$2.4 billion Cilacap project in Indonesia; **Japanese Export Import Bank** - Northwest Shelf LNG Project in Australia in 1988; the Metor Methonol Project in Venezuela, and the La Candelaria Copper Mining Project in Chile, both in 1993); **COFACE of France**; and, the **Export Development Corporation of Canada** - Chile's Escondida copper mine in 1989 (US$25 million), and Venezuela's RESILIN plant (US$53 million). In terms of the actual provision of project finance, the EDC is considered to have fewer dollar commitments to project financing than Eximbank, COFACE, and JEXIM. This tends to reflect lower market demand to EDC to provide this kind of financing relative to other ECA's.

Local Cost Support

According to some international contracting and consulting engineering firms the provision of local cost financing (the financing of local currency costs) by ECA's can be important to the successful conclusion of a contract.

According to an Eximbank report (based on their face-to-face interviews with other ECA's in 1993) there are differences between various ECA's in terms of local cost support. These differences are illustrated in the chart shown on the page following. The Japanese are viewed as being the most aggressive, followed by European ECA's, Export-Import Bank of the US and Canada in that order. However, it should also be noted that this financing may be effectively substituted by other types of financing. Consequently, this issue could be further investigated to better evaluate the net impact of this type of support and the practical implications that are raised.



Source: Export-Import Bank, *1992 Report to the U.S. Congress on Export Credit Competition and the Export-Import Bank of the United States.*

Completion Risk Coverage

Completion risk is an important risk which a number of ECA's are unwilling or reluctant to cover. Consequently, it is one dimension which represents a point of differentiation. According to a November 1993 survey conducted on European ECA's by Eximbank, there are instances when completion risk has been provided to facilitate major capital projects that are deemed to be in the national interest. Apparently, COFACE (France), and SACE (Italy), and JEXIM (Japan) have, on an exception basis, accepted elements of completion risk. Strictly speaking, EDC does not cover these risks, however, other approaches can be contemplated to provide exporters with broadly similar levels of support.

Local Content Requirements

ECA's support for exporters is contingent on minimum levels of locally produced goods and services. Some ECA's allow for lower minimum content levels than others. For example, most ECA's require a minimum of 60% "local content" (a term which can be interpreted in different ways), however, the Dutch have a provision to lower this minimum to 30% for offshore construction projects. EDC is generally considered to be flexible in its local content requirements. In many instances their approach is considered to be responsive to the realities of Canadian supply capabilities.

5.2 Specific European Government Policy and Institutional Approaches

European nations have a variety of policies and approaches to the international capital project market. These policies and approaches are addressed in this sub-section. The overviews presented herein are based on published information as well as the perceptions of private sector players interviewed for this assignment. Selected verification of the material has been undertaken with various overseas respondents.

5.2.1 France

General

France has a relatively larger number of favourable policies which helps its firms in the international capital project market. These policies include limited taxation of corporate income abroad, favourable taxes on personal income earned abroad, relatively low enforcement of corrupt practices act, the provision of bid and performance bonds and guarantees, and the relatively generous use of cost subsidies, bonuses and tax credits for foreign projects.

Marketing Assistance

France is one of the more aggressive countries in providing marketing support to major capital projects. This approach is typified by centralized and coordinated interdepartmental export promotion, focused efforts in infrastructure sectors in a particular range of countries, high level political support, and early market identification efforts.

Most functions are consolidated under one organization - the Ministry of Economic Affairs, Finance and Budget. The ministry formulates the French government's positions on trade policy as well as manages overseas trade promotion. This consolidation have the effect of bringing the various trade interests under one roof which appears to smooth the coordination effort. It should also be noted that France's coordinated approach is also a function of its culture, traditions and structure of government.

Within the ministry, the Direction des Relations Economiques Extérieures (DREE) is the main policymaking agency for export promotion and credit activities. DREE overseas the activities of other agencies that provide domestic and overseas export assistance, such as the Centre Français du Commerce Extérieur (CFCE).

Financing Assistance

France's approach to the major capital project market is relatively more aggressive than the other countries in this study. This approach is typified by relatively greater amount of concessional funds and/or mixed credits, liberal interpretations of the OECD Guidelines, ability to provide financial commitments to projects at an early stage, experience in project finance, creative approaches to funding pre-feasibility and feasibility studies.

The French government tends to use a formal planning approach by entering into bilateral agreements with foreign governments which specify available funds for major development projects. Often these agreements establish the aggregate amount and financing terms available to the recipient country for multiple projects.

The project financing cycle for France is summarized below:

Pre-feasibility & Feasibility	Architect & Engineer Design	Project Finance (loans)	Technical Assistance (grants)	Export Credits	Export Insurance Guarantees	Investment Promotion (finance and insurance
Direction des Relations Economiques Extérieures, Caisse Francaise de Developpement	Direction des Relations Economiques Extérieures, Caisse Francaise de Developpement	Caisse Francaise de Developpement	Caisse Francaise de Developpement	Banque Francaise du Commerce Exterieur	COFACE	Banque Francaise du Commerce Exterieur and COFACE

CFD serves primarily as a development bank that makes both loans and grants for capital projects. CFD works in 44 countries, including 36 in Africa and the Indian Ocean, seven in the Caribbean, and one in the Pacific. CFD makes market rate loans for higher income developing countries (about 20% of its total loans), concessional rate loans for middle income developing countries and grants to the least developed countries. It derives most of its funds through national and international capital markets (which carries a government guarantee) and from budgetary allocations from the French Treasury.

The large majority of CFD's project support is in the capital goods sector. According to CFD's 1990 Annual Report its project distribution was as follows: Electricity, 20%; Water, 18%; Transportation, 14%; Telecommunications, 8%; Mining 5%; Industry 5%; Other 31%. This contrasts significantly with Canada's project distribution.

5.2.2 *Germany*

General Approach

Germany appears to have the second most supportive public policy framework in Europe for its firms in the international capital project market. These policies include limited taxation of corporate income abroad, favourable taxes on personal income

earned abroad, relatively low enforcement of corrupt practices act, and the provision of bid and performance bonds and guarantees.

Marketing Assistance

German marketing efforts are distinguished in two ways: the degree to which export promotion activity is handled by private sector entities (which receive some government assistance) and the significant degree of coordination in the identification and support of major capital projects by the German government.

In terms of public sector coordination, there are a number of Ministries that are in close contact. These include the Economics Ministry, the Foreign Ministry, the Ministry of Economic Cooperation and the Ministry of Finance. The Federal Ministry of Economic Cooperation directs the German development assistance program, with the assistance of the Reconstruction Loan Corporation and the German Agency for Technical Cooperation. The Corporation assists the Ministry in project identification and makes loans and manages capital project planning and implementation on the government's behalf. The German Agency for Technical Cooperation provides technical assistance, including training.

In terms of export promotion, the chambers of commerce are the main players in Germany, with 69 domestic chambers and in excess of 100 overseas chambers. These chambers pursue and conduct much of the offshore marketing work. The German Embassies are not active in commercial work or export promotion.

Financing Assistance

The project financing cycle for Germany is summarized below:

Pre-feasibility & Feasibility	Architect & Engineer Design	Project Finance (loans)	Technical Assistance (grants)	Export Credits	Export Insurance Guarantees	Investment Promotion (finance and insurance
Kreditanstalt fur Wideraufbau (KfW), GTZ	Kreditanstalt fur Wideraufbau, GTZ	Kreditanstalt fur Wideraufbau	Kreditanstalt fur Wideraufbau, DEG	AKA	Hermes Truarbeit	DEG

KfW appears to concentrate its developing country efforts (through the program "Financial Cooperation with the Developing Countries") in a relatively narrow band of activity: electricity, transport and mining and manufacturing. In 1990 these sectors accounted for 87% of KfW's project activity. However, KfW does not concentrate its interests in specific geographic markets to the same extent as France. In 1990 KfW commitments were 50% to Africa and 39% to Asia. Since then commitments to these regions have decreased in response to increased commitments to Eastern Europe.

KfW has yet to orient itself towards supporting private sector financing. KfW works most frequently with governments and, therefore, almost entirely on public sector capital projects. KfW does not extend any loans to the private sectors of developing countries.

Aid grants are provided by the Bundesministerium fur Wirtschaftliche Ausammenarbeit (BMZ) and when combined with KfW and or Hermes export credits form tied aid credits. In terms of publicly announced offers of tied aid, Germany has been the most active OECD country during the 1987-1991 period.

5.2.3 United Kingdom

General Approach

In general the United Kingdom has fewer supportive public policy instruments than its European competitors. Policies that are of benefit include limited taxation of corporate income abroad, moderate enforcement of corrupt practices act, and the provision of certain bid and performance bonds and guarantees for overseas contractors (depending on the market region).

Marketing Assistance

The British government's export promotion program is the responsibility of the British Department of Trade and Industry (DTI). Within the DTI, the Overseas Project Board advises on international trade and guides the government's export promotion program, including policy, financing, and overseas projects. The UK tends to provide less coordination in major export projects than does its continental competitors, however, a reorganization of the Overseas Project Board in 1993 was aimed at redressing this perceived gap. New sector groups within the Board will be headed by business people rather than government people and will pinpoint UK national champions, identify priority export markets, and seek joint ventures in infrastructure projects. According to the trade minister the change will "provide focus and strategy and administrative structure to back winners and stop us murdering each other to the delight of our competitors." This change forms part of a wider plan to boost UK earnings from large contract exports from an approximately £10 billion in 1993 to £20 billion by the year 2000. Not surprisingly, the first two sector groups that have been formed are those in the Electric Power sector and the Water sector, both of which are areas where Britain's utilities are quite healthy as a result of privatisation of the home market.

Financing Assistance

Financing assistance in the UK differs from other European countries. The UK is relatively more market oriented and less inclined to intervene in major international capital projects. This tendency is reflected in the orientation of the Exports Credit Guarantee Department (ECGD), and the size of the concessional loans for British

projects in developing countries. Consequently financing assistance, particularly in situations where tied aid is present or suspected, is reactive.

Matching other countries aid support is conducted by the Aid and Trade Provision program (ATP) which is a relatively large committee of public stakeholders. Apparently ATP can assist firms to secure contracts even where there is no strong indication that other governments will offer aid support.

The project financing cycle for the UK is summarized below:

Pre-feasibility & Feasibility	Architect & Engineer Design	Project Finance (loans)	Technical Assistance (grants)	Export Credits	Export Insurance Guarantees	Investment Promotion (finance and insurance
Aid and Trade Program		Aid and Trade Program, Export Credits Guarantee Department	Overseas Development Administration	Export Credits Guarantee Department	Export Credits Guarantee Department	Commonwealth Development Corporation Export Credits Guarantee Department (Investment Insurance Credit Scheme)

ECGD distinguishes itself in the ECA community by providing "additional political risk coverage" which apparently goes beyond the political risk coverage typically offered by other ECA's. This augmented coverage has been used for a number of British bids. An example of this ECGD "Option 2" coverage can be found in the ASETCO Polypropylene project in the former Soviet Union (Constructor was John Brown with Union Carbide as long-term offtake partner).

5.2.4 The Netherlands

General Approach

The Netherlands offers a number of support mechanisms that assist firms in major capital projects, however the general level of assistance is proportionately less than in France and Germany.

Marketing Assistance

The promotion of The Netherlands' export interests, particularly its capital project interests, is effected in a coordinated fashion. This coordination is effected by a number of State Committees for various financing and marketing activities. Furthermore the marketing task is facilitated by industry which is organized in cooperative entities (consortia, joint venture, strategic alliances) to work with government and to capitalize on available opportunities.

Marketing assistance is also provided by government through state-funded university and other institution participation in the NEDECO consortia. Other efforts include the development of strategic marketing documents by various ministries which provide early indications of project development in various countries.

Financing Assistance

The project financing cycle for the Netherlands is summarized below:

Pre-feasibility & Feasibility	Architect & Engineer Design	Project Finance (loans)	Technical Assistance (grants)	Export Credits	Export Insurance Guarantees	Investment Promotion (finance and insurance
Department of Development Cooperation	Department of Development Cooperation	Limited to commercial bank activity	Department of Development Cooperation	Private Banks (Interest Subsidy Scheme: Export Finance Facility)	Nederlandsche Credietverzekering Maatschappij NV (private) -(NCM), or the Central Bank	The State Committee for Export, Import and Investment Guarantees

The Netherlands provides modest amounts of money for pre-feasibility and feasibility studies in association with major capital projects. Furthermore, the government has established trust funds both at the World Bank and the Asian Development Bank and which are partially tied to Netherlands companies. In terms of export credits, the Export Finance Facility provides interest subsidies to Netherlands companies under certain conditions. This scheme can be used for the financing of mixed credits. Dutch content for these transactions must be at least 60 percent, however, for construction the content level is reduced to 33 percent. This reflects the relative importance that the government places on the overseas construction industry.

The other source of mixed credit monies is the Development-Related Export Transactions program (abbreviated in Dutch to ORET). This program was targeted to twenty four countries in 1992. Furthermore, projects must be developmentally relevant and relevant to the Dutch economy (as determined by the Ministry of Economic Affairs). Consequently it appears that Dutch efforts are relatively focused. Approximately Cdn.$150 million/year was available in this envelope during the period 1988-1990. Thus, it would appear that the Netherlands government is relatively active in supporting the export efforts of companies, including major capital projects.

5.2.5 The United States

General Approach

Compared to UK/European policy support the United States public entities tend to provide far less assistance than the countries under study. Corporate and personal income from abroad is taxed, the Corrupt Practices Act is enforced and bid and performance bonds and guarantees are not available. The strong market orientation of

the United States tends to limit public sector involvement or intervention compared to most of its competitors.

Marketing Assistance

The U.S. approach to international capital projects is fragmented among several executive branch agencies. Consequently, the level of support and the type of activities that each agency contributes tend not to be well coordinated compared to the European countries. (Realizing that U.S. export promotion is so fragmented a new export strategy was announced in late 1993 that attempts to address some of the relatively poor public sector coordination.)

Financing Assistance

The project financing cycle for the United States is summarized below:

Pre-feasibility & Feasibility	Architect & Engineer Design	Project Finance (loans)	Technical Assistance (grants)	Export Credits	Export Insurance Guarantees	Investment Promotion (finance and insurance
Trade Development Program	limited, some U.S. Agency for Interntional Development	Eximbank	Agency for International Development	Eximbank	Eximbank	Overseas Private Investment Corporation

Like Britain the U.S. tends to be reactive to perceived or real tied aid situation. In general the amount of tied aid support is relatively low. Despite annual appropriations of between US$110 million and US$150 million between FY 1987 and FY 1992, only an average of US$35 million/year was utilized. In FY 1991, the amount jumped to US$145 million but declined to US$5 million in FY 1992.

One U.S. public entity with programs that distinguishes itself from competitors is the Overseas Private Investment Corporation (OPIC). OPIC finances projects in developing countries which have equity participation by an American firm. OPIC assists investors with investment finance in the form of loans, loan guarantees and growth funds. In general OPIC does not finance "infrastructure," however, the Corporation has financed telecommunications facilities and provided insurance for both telecommunications and power projects. With authorized loan levels of US$30 million and guarantees of US$500 million in 1993, OPIC can represent an important partner in the limited recourse markets. For example, in the case of the K&M Colombian power project OPIC was one of the key players in the deal. OPIC participated in US$35 million of the commercial loan (for a 12 year term) and provided political risk insurance.

6.0 APPROACHES BY KEY EUROPEANS - PRIVATE SECTOR

Integral to an assessment of Canada's competitiveness is an understanding of our key private sector competitors and their approach to the international capital project market. The focus of this section is on key European competitors, however, reference to others is made where appropriate. An overview of competitor approaches is described in the first sub-section followed by a more detailed examination of our European competitors.

6.1 General

The important players in the international capital project market include contracting firms, equipment suppliers, financiers, design engineers, project developers and consultancies.

Firms in Europe, Japan and the United States distinguish themselves in a number of ways, including their size and breadth of operations, their overseas work experience, their attitude to risk and their packaging capabilities, to mention a few features and approaches. A summary of these features and approaches is provided in the following paragraphs and further developed in the sub-sections below.

European and American equipment manufacturers supply a full range of industrial equipment, including industrial process, petroleum and petrochemical, transportation, building, power and other sectors. Consequently, many competitor nation firms have developed extensive international networks in numerous equipment supply categories relevant to international capital projects. This breadth of supply capability is a distinguishing feature compared to Canadian supply capability. (Canadian equipment manufacturing is not as broad, and neither supplies or effectively compete in all segments of the chemical and petro-chemical equipment markets, certain forestry equipment, certain construction equipment to mention a few areas of capital goods supply activity.)

Financing often represents the most important element of an international capital project. Without appropriate financing even the most technically appropriate project solution will likely not be selected. European, American and some Asian financial institutions have considerable experience in the international capital project market. This experience provides them with a strong base to critically assess market opportunities, better evaluate political and commercial risks, develop strong relationships (including those of an equity nature) to support repeat customers who are internationally active, and become more familiar with indigenous firms in the project country, to mention a few benefits. In general, Canadian financial institutions have not benefited from developing client relationships, either in Canada or abroad, that would generate the international capital project market experiences and benefits of competitors.

Europe and the United States have produced a number of project developers; individuals and groups who are adept at bringing the various components of the capital

project together in a timely fashion. This capability is driven by a number of factors including high skills levels, considerable experience in a variety of markets, risk attitudes and corporate contacts. While there are a few Canadian firms and individuals with these skills, their numbers are far fewer than those of our competitors.

6.2 Relative Competitiveness of Key European Players

Various European players appear to have developed specific edges, including:

- the scope and activities of corporate operations;
- an orientation to consortia development and bidding. (The Netherlands);
- ownership (e.g., bank investment in contractors and manufacturers: France, Germany);
- overseas investments, networks and local partnering;
- relatively healthy balance sheets and commensurate financial strength (particularly among French and German firms);
- varied levels of government support as identified in sections 5.1 and 5.2;
- significant experience in privatisation (United Kingdom); and,
- a perception by the governments in the project countries that many European firms are "in the play."

Some of these factors and key approaches used by the private sector are described below.

6.2.1 Size and Scope of Operations

International contracting firms in Europe and the United States are exceptionally large by Canadian standards. The relatively large size of competitor contractor firms has an important impact on competitor abilities in overseas projects, particularly in terms of sustaining an overseas marketing effort, establishing local links, bringing equity into a project, and being perceived as an active and credible supplier in project countries.

For example, according to *Engineering News Record* the largest French contractor, Bouygues, issued US$2.9 billion in international billings in 1992. The corresponding numbers for the largest U.S., British, German and Dutch firms were $15.1 billion (Bechtel Group), $10 billion (John Brown/Davy), $2.7 billion (Phillipp Holsmann), and $1.9 billion (HBG). The largest Canadian contractor during the 1989-92 period was reported to be SNC - Lavalin with approximately $150-$200 million in billings/year - one tenth the size of the top Dutch firm, or one fifteenth the size of the top French firm. This represents a significant difference in scope, scale and related financial capacity.

Many European engineering design firms, and/or their consortia, can also be quite large, even by Canadian standards. For example, in The Netherlands, NEDECO and Nethconsult are significant forces. In 1991 and 1992, Nethconsult was 6th and 7th largest in the world (based on reported billings), according to Engineering News Record.

NEDECO, a consortia of ten member groups, was 15th and 16th respectively. In terms of scope of operations, NEDECO reportedly managed over 535 projects in 86 countries in 1993. This level of activity and geographic coverage is higher and broader than the operations of any Canadian engineering design firm. These activities can provide NEDECO with a strong financial position which sends important signals to potential buyers, suppliers, consortia partners, financial institutions and other sources of capital.

6.2.2 Export Focused

Many competing European firms distinguish themselves by the degree to which they are oriented to the export market. In the design engineering field, firms like NEDECO are focused exclusively on overseas opportunities. There is no firm with that kind of export concentration in Canada, although as an industry, Canadian design engineers are the most internationally oriented industry group (in Canada) in international capital project activity.

In the contracting segment, German firms such as Bilfinger & Berger conduct between fifty and sixty percent of their work offshore. We understand there are no Canadian contractors that focus so heavily in offshore markets.

Finally, there are numerous European equipment manufacturers active in international capital projects, such as ABB and Alcatel, that tend to be global in their outlook. This broad outlook is, in part, related to the multinational headquarters determining (in some cases) where sourcing activities might be most beneficial.

6.2.3 Ownership

The ownership structure of some European companies, most notably those in France and Germany, can provide firms with an opportunity to benefit from intercorporate activities. In some cases companies have government and/or financial institution shareholders. These linkages can be of benefit when supplier government support is needed in a highly competitive situation and/or when rapid indications of financing interest and credit may be beneficial.

These arrangements appear to be strongest in France. For example, parent shareholding keeps Bouygues well linked at the board level with banks, manufacturers and quasi government firms. These shareholders include: CLINVEST (Credit Lyonnais), COFIPEX (a holding company consisting of 49% Banque Worms and Banco Central and 51% SAUR), Nippon Life, Indosuez, company personnel and Francis Bouygues. This ownership may help to contribute to: i) relatively quick turnaround time for project assessment by commercial and official credit bankers; ii) possibly securing more credit; iii) the impression that when project approval is provided there tends to be strong commitment to a project by sponsors at the strategic level; and, iv) a general opening of international networks of banks, manufacturers and government to support a project.

6.2.4 Overseas Equity Investments

Many European companies have extensive overseas holdings. These holdings relate to a colonial heritage that continues to provide an advantage for the private firms in certain countries, tax policies that encourage offshore investment, and an relatively aggressive view on international foreign direct investment.

French firms such as Bouygues have a significant overseas network that can be used to significant benefit. These investments and offices often provides Bouygues with an ability to partner relatively quickly and strategically than firms without overseas investments and offices. Bouygues has 14 subsidiaries in Africa, plus agents in several other countries. In Asia it is linked with VSL Malaysia SA, VSL Engine SA (Hong Kong), VSL Far East SA (Singapore), VSL Indonesia SA, VSL Syst. SDN BH (Brunei), VSL Thailand SA, Bouygues Thai (capitalized at 6.6 million francs), to mention a few Asian investments and arrangements.

Consortia in The Netherlands also have significant overseas holdings. In addition to its overseas project offices NEDECO maintains branch offices in Nigeria, UAE, Mexico, Iran, Thailand and Indonesia. NEDECO also has two joint venture companies, NEDECO China BV and Nethworks Integrated Projects Consultancy (large project developer). These overseas holdings have helped to keep The Netherlands as Europe's most successful exporter of engineering design services into Asia.

Some implications of this vast, and often well capitalized network, are clear and include: deep involvement in the local social and business fabric which in turn provides opportunities (personal meetings, etc.) to identify projects at an early stage; familiarity with local manufacturers and contractors as required; improved partnering capabilities; and, sending a clear message to the governments and firms in prospective project countries that Bouygues, NEDECO and like firms are serious project competitors.

6.2.5 Relatively Healthy Balance Sheets and Commensurate Financial Strength

Financial strength is an attribute of many private sector competitors. This financial strength relates to the ability of the firms to arrange financing (equity and debt) as well as basic financial strength through retained earnings.

The requirements of the emerging limited recourse market is such that participants will continue to be required to invest in projects. This investment can be either internally or externally generated. Externally generated funding capabilities were demonstrated by the developers Hopewell Holdings of Hong Kong when it raised over $200 million on the Hang Seng stock market. This money was raised to help support Hopewell's US$300 million financing participation in a US$1 billion power project in the Philippines. Establishing the track record and credibility to undertake such financial activities for offshore projects is only realistic for a handful of developers in the international capital project market.

Internally generated funds are another source of project equity, and some of our competitors distinguish themselves by their ability to rely on this strength. For example, the consolidated balance sheet for the Lyonnaise Des Eaux-Dumez Group has almost FF13 billion (Cdn.$2.8 billion) of contributed and earned capital. This kind of financial strength represents an important source of comfort for lenders and tends to help mobilize working capital and project finance.

Financial strength also helps to explain the activities of some firms that are aggressively expanding their offshore operations. For example, the National Power Corporation of Britain has enjoyed a number of successful years domestically. This success, however, might lead to political difficulties if financial returns exceeded appropriate levels. By expanding to develop offshore private power, National Power can effectively dampen its overall corporate rate of return. In return the company benefits from the relatively risky, but potentially lucrative, experience in the international private power market. National Power has apparently formed a £1 billion fund for its overseas investments. In addition, Britain's National Grid Company has apparently used its financial strength to purchase a large stake in Argentina's grid and UK Water companies are using their home market profits to actively pursue privatisation projects in Mexico. In this market region, Britain's utilities are not only investors but also have been serving in an advisory capacity to project sponsors.

6.2.6 Financial Institution Experience and Client Relationships

The cumulative international orientation of European contractors, equipment suppliers, design engineers and others in the international capital market has helped to shape the nature and degree of support from European financial institutions. Servicing the international financial needs of clients has contributed to the development of important financial experience by European firms. British firms such as Barclays and N.M. Rothchild & Sons have developed considerable experience in project finance through privatization experiences in transportation and power.

French and German financial firms have followed equipment and service firms offshore with project finance, syndication, equity and other services. Financial firm support may also be strengthened as a result of the financial (often equity) interest that the financial institutions have in many of the large industrial groups. While it is difficult to quantify, there is widespread agreement that the links between the industrial groups and home financiers foster greater activity and, possibly support.

These links also help to develop strong working relationships and create a track record - a critical element for any credit supplier. Consequently, when a financier evaluates a list of projects of relatively similar risk and return, there is an inherent tendency to support long-standing or repeat customers. This tendency makes it difficult to provide support to relatively small and unknown firms looking for financial support.

6.2.7 Perceived as Being in the Play by the Governments in the Project Countries

The combination of market presence, financing strength, and technologically appropriate solutions contribute to perceptions about firms and/or their consortia as to whether they are "in the play" for a project. By extension this perception is also applicable to the "political champion" of the project in the host country, as well as the "political champion" of the project in the supplier country. There are basic hurdles that need to be cleared by prospective suppliers and some of these hurdles can be only be cleared by a limited number of firms. Many of the firms and "political champions" that Canada faces in the international capital market are regarded as being "in the play."

6.2.8 Highly Regarded Technical Capabilities

European firms are highly regarded for providing solutions to certain difficult problems. This technical expertise has been developed through considerable R&D into various industries, national environmental policies which have created leading edge technologies and techniques, national geography which has led to specific sectoral and sub-sectoral expertise, and other aspects that have fostered technical excellence.

For example, The Netherlands are respected for their work related to water: irrigation, drainage, bridge and tunnel engineering design and contracting, land reclamation, wastewater treatment, ports development, to mention a few areas of expertise. Many of these competencies have been developed domestically and subsequently exported. In the environmental area the development of domestic competencies have been encouraged by relatively strict environmental requirements.

7.0 Overview of the Main Approaches Used by the Canadian Government and Canadian Firms

In this section, we begin by discussing Canadian government support as it relates to national policies and to specific marketing and financing instruments. Following this, the main approaches used by Canadian firms are outlined so as to permit relative comparisons to the ways of doing business in other countries addressed in the previous sections. The perceived differences in approaches at both the private and public sector levels are then summarized and used to develop an appreciation of the competitive gap that might exist relative to European competitors. The possible implications of this for Canadian firms are then outlined.

7.1 Government Policy and Institutional Approaches

The Canadian government's policy and institutional approach to the international capital market consists of broad national policies and more targeted support policies. The broad national policy considerations includes taxation policy, privatization policy, international development policy, official export finance policy and their impact on firms pursuing or supporting international capital projects. The nature of government organization and coordination abilities also falls into this category of broad considerations. More targeted support policies refers to the specific marketing assistance programs and specific export financing programs.

National Policies

In some instances Canadian national policies have helped firms in the international capital project market, however, compared to a number of other countries, some Canadian policies have not been as effective and, possibly, supportive. For example, Canadian corporate income earned abroad is taxed whereas in some competing countries, such as France and Germany, foreign income is subject to limited taxation. However, Canada does provide some relief in the form of an overseas employment tax credit.

The extent to which privatization is encouraged by national governments contributes directly to the ability of goods and services firms to export this experience. Infrastructure privatization activities in Canada have not been pursued to the same degree as in the United Kingdom or the United States, consequently Canadian corporate experience cannot be built to the same degree from domestic activities. This leaves many firms less able to identify and assess the risks that are inherent in the privatization process and the related limited recourse market. This observation applies to both goods and service suppliers.

General foreign aid policy can also help to shape the competitiveness of firms. Some countries regard their foreign aid to be closely linked with commercial activities, while others do not. Compared to France, Germany or the United Kingdom, Canadian bilateral aid has not been designed to be as commercially oriented. Consequently, infrastructure

development and capital project activity in recipient countries has been more actively pursued by many European competitors. This focus provides European firms with additional opportunities to complete work in foreign countries, develop commercial networks, and establish or possibly enhance a track record. This experience, networks and visibility can spill over into projects that blend public and private financing.

Another general policy lever relates to export financing. Some countries deliver official export finance through the private sector (Britain and The Netherlands), whereas in Canada the delivery system is delivered through the public sector. Without commenting on the economic impact of this policy, this policy is cited by some senior Canadian bankers as influencing the interest of the Canadian banking system in international capital projects in certain countries. With regard to official mixed credits Canadian policy appears to be relatively supportive. This observation is based on the volume of notifications of aid support to the OECD up to 1992. However, Canada has been more reluctant (and/or unable) to provide the kind of unofficial support that is supplied by France, Germany, the UK and others.

Finally, Canada does not coordinate its efforts in international capital projects to the same degree as most of our competition. The interests and needs of design engineers, architects, contractors, developers, and financiers are generally fragmented among different departments, agencies and corporations. These entities tend to be sensitive to their sphere of activities which may not foster a cooperative spirit. Some competitor nations place the development, marketing and financing activities under one Ministry (France) while others appear to draw upon cultural traits which emphasize cooperation (The Netherlands). Many of our competitors take a strategic view of a major capital project and, having identified a potential project, link the support at the design engineering, contracting, equipment and financing levels. There are fewer examples of coordinated support in Canada than in many competing countries.

Targeted Marketing and Financing Policy Instruments

Specific marketing assistance programs and specific export financing programs have been developed for Canadian exporters, including those in the international capital project market. However, no one public entity is the marketing and financing champion for firms in international capital projects. Furthermore, although the scope of this assignment does not allow the enumeration of the various Canadian programs, a few observations are presented below, on some of the important policy instruments and program priorities.

Foreign Aid Project and Sector Focus

The Canadian design engineering community has traditionally benefited from CIDA's bilateral programming and Industrial Cooperation Division activities. Recently, however, design engineers have observed that bilateral programming has cut back its infrastructure development activities. There is a general perception that this change will not be reversed in the short term. Conversely, there are some indications that the Industrial Cooperation Division activities are being used to cushion the change in

bilateral programming initiatives, however, with only four percent of CIDA's budget, there is a perception that overall support for infrastructure development will decrease.

Despite the relatively small size of the Industrial Cooperation Division, the activities it carries out are regarded as a very positive force in international capital projects, and it is becoming increasingly active in projects with limited recourse attributes. The Division is an important potential partner in developing countries where infrastructure projects are being contemplated. Support is often provided in the form of studies for feasibility and detailed feasibility projects. This opportunity also helps Canadian firms to meet the competition at this critical early stage.

Official Export Financing Support

EDC's proposed new regulations (as announced in the November 6, 1993 *Canada Gazette*) represent new and potentially important directions for limited recourse transactions in the international capital project market. The pending equity participation provisions will allow EDC to invest up to Cdn.$10 million in equity to a maximum of 25 percent of a project (which ever is less). While the $10 million is small for large projects, and modest for medium sized projects (approximately Cdn.$150 million), the equity injection might provide a positive signal to other potential lenders and could stimulate additional participation. It is too early to determine if this program will be successful, since the EDC is at the early stage of assessing its potential role in this area. However, EDC, like other ECA's, does not have a well developed track record for project finance lending based on private sector risk and the absence this experience represents a significant challenge to the Corporation.

Government to Government Commercial Negotiation/Management

Given the role of government in international capital market projects, it is important that this aspect of project management and process be addressed. There are numerous Canadian government entities that are involved in capital project negotiations or discussions with foreign governments, however, the authority to act as a prime contractor on behalf on Canadian industry resides in the Canadian Commercial Corporation. As such, the Corporation has a mandate that is relevant to the international capital project market. As will be mentioned in the following section, many Canadian firms in the international capital project market lack, or appear to lack, the financial muscle from the perspective of some foreign buyers. In these circumstances the opportunity to demonstrate official commitment(s) from the supplier country represents a potential source of comfort for the buyer. These buyer countries have tended to be East European, the former Soviet Union, and Middle Eastern countries, thus the need to conduct government-to-government should not be seen as equally required in all international capital projects.

7.2 Commercial Approaches - Overview

Canada brings both strengths and weaknesses to the international capital project market. In terms of technical strength, Canadian firms are highly regarded in industry sectors such as power, and in segments of transportation, the environment, and pulp and paper. In terms of sector strength, the Canadian consulting engineering community is one of the top six exporters of consulting engineering services in the world.

Conversely, the Canadian contracting community has not been as active in offshore markets. Few firms engage in offshore contracting, and compared to international competitors, Canadian firms are very small. And, even if the Canadian contracting community were both active and leaders in offshore consortia, the financing community tends to be less enthusiastic about contractors; the perception is that the contractor will pull out of a project at the earliest opportunity, leaving the financier with an uncertain project sponsor.

Only a few Canadian firms can reasonably lead large capital projects. Canadian firms are generally too small and are not sufficiently profitable to support a modest number of projects. The lack of financial strength limits the ability of a firm to be seen as a significant player from the perspective of both other project leaders and host country governments. As mentioned above, Canadian firms such as SNC-LAVALIN, Monenco AGRA , Sandwell Inc., Tecsult Inc., Acres International, Golder Associates, Hatch Associates and Met-Chem Canada have all enjoyed healthy billings in international markets. However, engineering and project management typically represents less than 10 percent of the total contract value in a capital project. It is not reasonable that these firms assume a risk position that is larger than the potential reward. Consequently, Canadian leaders in capital projects are not easily mobilized.

Equipment suppliers tend to have the most to gain (in terms of sales) in capital projects, and it is therefore, not surprising to see this segment lead many international consortia. In Canada, many of the early consortia leaders have been manufacturers (e.g., CAPSEP, Canadian Industrial Consortia and others). Thus, Canada can point to a number of successful consortia initiatives. Nevertheless even these players lack the scale of competitors, and the options to play in certain markets is limited by a number of internal and external factors.

7.2.1 Commercial Approaches - Canada's Relative Position

Canadian commercial approaches to the international capital market can be generalized as follows:

Scale and Financial Strength

Canadian players in the international capital market tend to be considerably smaller than their competitors. While this is not always a handicap, it does place limits on the financial strength of these firms. This financial strength is critical to pursuing

international capital projects, and of particular importance to firms participation in projects of a limited recourse nature. As explained in previous sections, the need for firms to bring financing and/or a financial partner to a project represents one of the litmus tests for other project partners and buyers. Since Canadian firms cannot generally match the scale and related financial muscle of their competitors, it is likely that Canadian firms will need to distinguish themselves based on technology or other competitive advantages.

Export Orientation

Canadian contractors are generally not considered to be active in international capital projects. This reality is captured in the statistics of Engineering News Record which shows relatively limited Canadian presence and participation outside North America. A few firms, such as Banister Construction have experience offshore, but it has not been in limited recourse projects.

Conversely, Canadian design and consulting engineers are relatively active offshore and bring a number of technical strengths which are valued by the other players in an international capital project. However, design and consulting engineers are experiencing increasing pressure to bring, or appear to bring, financing to a project, in addition to technical competence and innovation. This poses a significant challenge to design and consulting engineers, a challenge which has generally remained unanswered.

Canadian equipment suppliers in certain segments of the international capital project market have been very active. This includes firms in the power, transportation, and telecommunications industries. Consequently, these firms are export oriented and have developed experience in certain geographic markets based on their technical, marketing and finance skills and, generally, with head office concurrence. These firms tend to have stronger balance sheets than the other players in capital project, reflecting the reality that equipment represents upwards of 90 per cent in a major capital project.

Overseas and Domestic Networks

Compared to many of our competitors Canadian domestic and overseas networking is relatively weak. While the consortia approach may be on the increase with both Canadian and foreign partners, there remains a general reluctance to this approach, compared to consortia approach of the Dutch. Furthermore, Canadian players in the international capital project market do not have access to the kinds of networks developed by our competitors. There are few firms with dedicated offshore offices, consequently the local information can only be realistically supplied by agents or other representatives on the ground.

Financial Institutions

Canadian financial institutions are generally not regarded as being players or market makers in international project finance, particularly in the limited recourse segment of the

market. Simply put, they have made a business decision not to be active in this market. This situation is, in part, reflected in the virtual absence of Canadian financial institutions who are cited by the International Finance Corporation as being co-lenders in IFC private sector projects. The domestic client base, competition from official export financing, the risk/reward relationships and the debt hangover from the 1980s all contribute to this general situation.

Market Presence as Perceived From the Buying and Financing Community

During the course of the study an important observation on Canadian commercial presence in international capital projects was noted by a number of foreign financiers, government officials, IFI officials, and independent consultants. The observations indicated that many foreigners perceived that Canadian firms were generally not "in the play" or "on the radar screen" in international capital projects. If this perception is widely held, then Canadian firms face an added barrier in the market. This barrier could manifest itself on the financing front. For example, consider the limited number of active international project financing institutions that might be contemplating 20 projects from as many sponsors. All these projects are competing for limited capital. The financier(s) have an assessment process that helps guides them in determining which project to support. Without a particularly distinguishing and attractive project opportunity, the Canadian-proposed project might need to surmount the difficulty of being presented by a non-active client of the financial institution, or not being perceived as a first tier player. While this would likely not preclude success, it certainly represents an added and unneeded barrier.

From the buyers perspective, their interest is in , amongst other things, ensuring that a project can be completed on time and on budget, while not disturbing strategic issues. This assessment would include the financial strength of the bidders (working capital, available bank lines, etc.), national government support (export credits, concessional funds), strategic implications (military, socio-economic), host government benefits (training, "offset arrangements") to mention a few factors. Choosing the right firm to complete the project generally implies that the supplying firm and its government be considered as active and credible. Any suggestion to the contrary could prove troubling.

7.3 Summary of Differences Between Canada and Key Competitors

Differences between Canada and key competitors relate to comparisons in both the public and private sectors.

We have noted in previous sections that the degree of privatization in the past few years and the level of coordinated support (provided by government departments and agencies) is perceived to be somewhat less than that provided by leading competitors (e.g., for privatization, the UK leads, while for coordinated support, France has been noteworthy). Differences in public sector support compared to The Netherlands tend to be less striking.

The scope of Canadian public sector support is generally considered to be modest. Political pressure and economic tools are believed to be more widely used by some competitors, although tangible evidence is difficult to obtain. In general, Europeans are the most adept at mounting this kind of support. Canada does not have as many political or economic weapons at its disposal, and we are generally more reluctant to make the fullest use of those that we do have. We also note that Canada's export financing coverage for capital projects is generally perceived as comparable to competitors and some enhancements have been proposed that would assist Canadian exporters. These perceptions (gleaned from interviews conducted as part of this assignment) are summarised in the chart shown below.

Summary of Perceptions of Canada's Ability to Match Competitors

Relative Ratings of Public Sector Support

Government	Rating on Critical Competitive Factors			
	Privatization in Domestic market	Focused Aid	Export Financing	Coordinated Support
Canada	**Medium to Low**	**Low**	**Medium to Low**	**Low to Medium**
Rationale:	Related to Level of Privatized Projects Undertaken to date	Infrastructure not emphasized in Canadian Aid	Official Mixed Credit is Reasonable but Canadian Commercial Banks Not Active in Project Finance	Government Depts., Agencies, & Corporations Helpful but not Seamless; Cooperative Spirit is Improving and should Impact Strategic Support

Source: TCI Management Consultants Interviews & Other Data Sources reviewed for this study

Private sector differences relate to scale and scope of operations, financial strength and related risk appetites, international networks, export orientation and outside perceptions of firm capability. Some segments of the Canadian capital project market face reasonably comparable competitors (consulting engineers),while other segments face competitors with much greater experience, contacts and strength (contractors). Since turnkey international capital projects require strong teams, and since the Canadian team has relative weaknesses, the "Team Canada" approach can be constituted on limited

occasions. More often the need to partner with strong foreign firms is becoming more critical. This requirement is appreciated and practised by Canada's internationally oriented capital project firms, however it would appear that other Canadian firms are only beginning to appreciate this requirement.

In summary, although Canadian service firms have the technological capabilities for successfully competing in certain sub-sectors of the international capital project market, the lack of strategic linkages and integration among Canadian firms that offer relevant capabilities is hindering Canada's participation in these projects. The type of government support provided to Canadian firms is also relevant, particularly since other governments tend to be more strategically focused. Nonetheless, Canadian service firms have demonstrated the capability to respond to these challenges and initiate the actions needed to adapt to the changing competitive environment.

7.4 Gap Analysis and Implications for Canadian Government and Firms

The implications of the foregoing need to be examined with an appreciation of Canada's ability to: i) be cost competitive; ii) lever off of domestic work and experience; iii) conduct effective marketing activities; iv) deliver solutions; v) form alliances; and, vi) operate given an appreciation of financial capacity considerations.

These factors are presented in the table shown on the page following, together with an overall perception of Canada's positioning. We note that the rating of individual firms in specific sectors will of course be different.

Summary of Perceptions of Canada's Ability to Match Competitors

Relative Ratings of Private Sector

Rating on Critical Competitive Factors

	The ability to be Cost Competitive	The ability to lever off of Domestic Market Experience	The ability to Market their offering	The ability to deliver Solutions	The ability to form alliances	Financial Capacity
Overall Players	Medium to Low	Medium	Low to Medium	High to Medium	Medium	Medium to Low
Rationale:	Operating Results appear to be weak	Many have Solid Reputations in Chosen Niches; Some have Technology That is World Class	Packaging Skills are Limited; Several Firms Have on-site Presence; Developed Relationship With International Players are Emerging	Met their Commitments Particularly in the Technical Area	Some Show Potential; Need More Relation-ships	Scale and Results Limit Ability to Afford Needed Risk Capital

Source: TCI Management Consultants Interviews & Other Data Sources reviewed for this study

As shown above, there are a number of dimensions that suggest weak abilities or "gaps". Consequently, one implication is that future initiatives need to be aware of our relative position so as to develop appropriate solutions or initiatives. While it is beyond the scope of this study to make specific suggestions for developing the strategies that might address these weaknesses, a few observations (based on our interviews and findings) might be helpful. These are set out below:

- consideration might be given to some form of mechanism for coordination of project support. This process should be aimed to promote greater potential strategic support for a project: from measures within CIDA INC's mandate, to Foreign Affairs and International Trade/Industry Canada marketing support, to EDC financial support. However, developing such a mechanism presents obvious difficulties, but in today's competitive environment efforts to overcome these difficulties need to be redoubled. Consideration might be given to a sectoral advisory group that focuses on capital

projects (along the lines of a Sectoral Advisory Groups for International Trade). The British model (see section 5.2.3 of this report) which is currently being adopted may be worthy of further study.

- in countries where tens of billions of dollars in infrastructure contracts are at stake over the next decade, consideration should be given to assigning veteran Trade Commissioners with in-depth knowledge of the Power, Telecom, and Transport industries and Capital Project Finance to these posts. Such projects are already evident in India, China and South East Asia.

- with the evolution of global financing toward private sector driven, non-sovereign risk, projects, the resources and mandate of EDC should be examined on an on-going basis so as to keep pace with these changes.

- additional linkages between the consulting engineering community and the other stakeholders in the capital projects market should be encouraged.

- projects that may involve special and/or innovative financing requirements should be identified as early as possible to permit realistic and responsible official responses.

- international consortia should be actively considered for support in those instances where a "Team Canada" approach might be compromised on the basis of price, technical competence, financial strength or related criteria.

- where appropriate, potential players should develop a working knowledge of financial engineering techniques and be able to identify relevant sources of finance for larger projects that they may wish to participate in.

8.0 FINANCING ACTIVITIES

Financing often represents a critical linchpin in international capital projects. Given the importance of financing in terms of whether or not a project proceeds, this section of the report focuses on two aspects of international capital project financing. These are: i) the global trends that are influencing infrastructure capital projects; and ii) the main sources of capital (debt and equity) for these projects. The financing trends sub-section outlines the trends in risk sharing in international capital projects, particularly as they affect infrastructure project financing, and discusses the corresponding changes to the financial structuring of projects that are taking place. The sources of financing sub-section identifies various sources of debt and equity for international capital projects and profiles key sources such as private financial institutions, Export Credit Agencies, International Financial Institutions, and others.

8.1 Global Trends in Infrastructure Project Financing

8.1.1 Background

Financing is immensely difficult to arrange for project financing and particularly so for projects of a limited recourse nature. This situation stems from the increasing reluctance of governments to guarantee political, exchange rate and other risks. Many governments are not in a position to add to their liabilities or contingent liabilities. Consequently, the financial solution must come from the private sector. And, the solution can appear to be quite daunting; investors and suppliers of debt and equity are often faced with the prospect of investing/lending in a project in return for the cash flow of the project, which may be for twenty or more years. Should the project collapse or be threatened by collapse, the security for the investors/lenders rests in the legal documents of the project, which may be of little comfort. Few companies and financiers are willing to accept these risks. Fewer are willing to accept this risk in developing nations where many of these projects are taking place or are being contemplated.

If the non-financial players in the capital project market can bring in equity to the project a major hurdle is cleared. However, if financial strength is not an option or cannot be mustered, then an alternative is to be in a position to identify the financial players who can bring financial muscle to a project and to understand how to manage these sources of capital. This outside financial muscle often comes with high costs - either in up front fees, or through equity sharing (and the related "lessening of control" implications).

These realities of the international capital project market highlight the need for players in the market to develop realistic options for their participation. Developing and arranging appropriate financing structures and risk management mechanisms is a central issue in international capital projects.

8.1.2 Risk Management and Innovative Financing

Risks in capital projects relate to financial risks (such as currency convertibility, exchange rate changes, interest rate fluctuations), risks during the actual construction of a project (construction delay, cost overrun, design risk), and risks that relate to the project once it is completed and in use (production capacity risk, supply/offtake risk, government intervention). These risks are usually viewed from a variety of different perspectives, depending on one's position as a stakeholder in a project. Stakeholders often include those who are investors of equity, suppliers of debt, project contractors and consulting engineers, or the buyers or partial guarantors of the project. Given the different types of risks and the different players involved, **the issue of allocating risk is central to the structuring of capital projects.**

In the end, the allocation of risk is accomplished by using various financial instruments and is supported by legal agreements. Since risk allocation is central, **the need to develop appropriate financial structures that adequately reflect the risk appetite of various players is essential.** These financial structures must address the concerns of the participants, for example, by providing financial flexibility for some participants, while at the same time providing comfort to those who are more interested in greater financial certainty. Consequently, financial structures employ a mix of the full range of financial instruments (several of which are under continuous development), and include trade financing instruments, derivative products (such as "swaps", "futures", "puts" and "calls") and other project financing instruments.

In limited recourse projects, **all the risks identified in the previous paragraphs need to be assessed by potential investors at the front end of the project**, since investor participation is often required for the full cycle of a project. However, many of these risks cannot be easily assessed at this stage. Consequently, sophisticated and innovative financing instruments are required to satisfactorily manage the variety of numerous risks at this early stage. As a result, financial frontiers are ever expanding and the international capital projects market represents one of the most active fronts of innovation.

To participate in this risk environment the continuing challenges for participants is to be innovative and to:

- *appear* willing to participate in the equity and/or debt components of a limited recourse project;
- share risks in a fashion that is related to future potential rewards; and,
- manage the changing nature of financial risk throughout the critical phases (pre-construction, construction and post-construction) of a project and, if desired, pass on a risk, or a number of risks, to those with the appropriate risk appetite.

All of these financial and risk management skills and capabilities are not within the grasp of all players. For those without the requisite skills or the networks to provide this innovative financing and risk management, the challenge is acute.

8.1.3 Increasing Project Demand for Limited Funds

The demand for global infrastructure development is exceptionally strong. Some experts estimate that there are over 300 privately sponsored, public-purpose facilities worth at least US$300 billion. The primary challenge to most of these projects relates to structuring the financial package. In some sectors and geographic regions the mismatch between demand and supply is significant.

The following example illustrates the above point. The Asian Development Bank can support approximately US$200 million worth of private sector transactions in power generation annually. However, as of August 1993 there were seventy-eight separate private sector power generation projects being considered by the ADB, with aggregate capital requirements of over US$5 billion. Clearly, there is a large gap between contemplated projects and the financing available. If an increasing portion of these projects are to go ahead greater reliance on non-recourse projects may be necessary.

8.1.4 New Roles and Challenges to International Financial Institutions and Export Credit Agencies

International Financial Institutions (IFI's) and Export Credit Agencies are developing new products and approaches to address the growing need for private sector infrastructure finance.

With the exception of the International Finance Corporation, IFI's have relatively minor lending positions to the private sector. However it has been recognized that this policy will increasingly limit the participation of these institutions in the development process. Consequently, many IFI's are adjusting their practices to respond to the emerging market demand. For example, the IBRD has developed a new mechanism, the Extended Co-Financing Option, which has the intended effect of providing a virtual or de facto sovereign guarantee which is needed to encourage participation by ECA's and others. The IBRD has also created the Private Sector Development Fund which will be used to support private sector lending in developing countries. In addition, the Asian Development Bank addresses private sector requirements, primarily through its Asian Finance and Investment Company (AFIC) located in Singapore and the private sector department within the Bank in Manila. The ADB and AFIC have financed over sixty private sector projects. Consequently, the ADB represents a regional source of funds for private sector projects. Other regional IFI's also have co-financing guarantee programs for commercial banks to encourage co-financing activities.

Traditionally, Export Credit Agencies (ECA's) have made export credits available to buyers with the support of a sovereign guarantee (i.e., an unconditional repayment guarantee). However, sovereign guarantees have being reduced in line with the sell-off of state-owned corporations and the development of greenfield infrastructure projects

by private developers. While these projects may retain some recourse (for the lender or equity supplier) to the government, the recourse typically tends to be limited. This change represents a challenge to ECA's who must now define their role in such projects and, where appropriate, develop an appetite and risk management record to better understand the private and unguaranteed segment of the market. In reality, only a few ECA's have experience in project finance.

8.1.5 Increasing Equity Participation in Projects

Many governments have signaled their unwillingness or inability to continue adding to their fiscal deficits at the recent rates of increase. At the same time, many commercial banks have limited appetites for the types of risks associated with project financing. Consequently, the funding of a limited recourse infrastructure project tends to require new sources equity to act as the catalyst for project debt financing.

8.1.6 New Developing Country Financing Challenges

Private infrastructure ventures often find it difficult to attract foreign direct investment, particularly in developing countries. Frequently, state owned enterprises that have been privatized need to recover from the effects of mismanagement, including poor financial performance. In many cases, privatized companies and new private companies have no track record, so there is no basis for judging their performance. In addition, few lenders worldwide have experience in financing private sector infrastructure projects because the infrastructure sector has not historically been open to private companies, particularly in the developing world.

8.1.7 New Sources of International Project Financing

As the demand for project capital increases, the market is responding with new sources of capital. Some of these sources include pension funds, securities firms (who have securitized the cash flows of projects), private individuals and groups (including mutual funds), to mention a few. Some of these sources are dealt with in greater detail below.

8.2 Sources of International Project Financing

Sources of international project financing include the IFI's, commercial and merchant banks, securities firms, project sponsors, contractors & equipment vendors, leasing firms, pension funds, and private investors.

The project financing cycle can be considered as consisting of three general stages: pre-construction, construction, and post-construction. Pre-construction finance is the most risky and is most often supplied by government aid agencies (feasibility studies), IFI's (feasibility studies and detailed capital studies), or private sources of finance, contractors and other "sweat equity" sources (i.e., investment of labour costs, such as a consulting engineer feasibility study performed in-house without security of

remuneration). *Construction financing* is frequently provided by contractors, project sponsors, ECA's, some commercial and merchant banks, IFI's, and private equity sources. *Post-construction financing* is the least risky (since the project is operating and providing cash flows with, hopefully, some predictability) and tends to be supplied by pension funds, project sponsors, leasing firms and others.

In the broadest terms, the most notable change in developing country cross border investment has taken place as private investment (capital flows and factory building). Sixty percent of developing country foreign direct investment in 1992 flowed to China, Mexico, Argentina, Malaysia and Thailand. In other words, these are countries where "the private market" is exceptionally interested in serving, including direct foreign investment related to capital project activity.

8.2.1 Securities Firms

A number of securities firms are becoming more active in the international project finance market. These include Morgan Stanley, Lehman Brothers, Stearns & Co., Salomon Brothers, Kidder Peabody & Co, CS First Boston, Wardley Capital Limited, and N. M. Rothschild & Sons Ltd.

The growing interest by these firms in this market is increasingly being driven by the appetite of the private placement market, and by the ability of firms to securitize the cash flows from the BOT concession. In this case securitization refers to the process whereby a stream of future revenue is packaged for purchase for today's investors. This paper can then be held as part of a portfolio or, if a secondary market is created for the paper, actively traded. This process of securitization is reported to be taking place in connection with the toll roads of Mexico.

8.2.2 Financing Arms of Contractors and Equipment Suppliers

Sources of financing in the international capital project market include those who often stand to benefit the most financially from the projects. Accordingly, equipment makers and contractors are actively engaged in providing financing.

Large equipment suppliers have recognized that they need to step into financing. The key players include GE Capital, Mitsubishi Finance International, ABB, or the captive financing arms of other large equipment suppliers and trading houses. Similarly, large international contractors, like Bouygues or Bechtel and others, have captive financing arms that can support the sales efforts of the parent firm.

8.2.3 Operating Partners/Private Sources of Funding

The operating partners or project sponsors of BOT/BOO projects are also sources of financing. Some prominent names in this category include Gordon Woo's Hopewell Holdings, and Rockefeller & Sons.

Hopewell Holdings has participated in three projects with equity of over US$ 500 million. Having established a number of projects with adequate cash flows and developed other business interests, Hopewell successfully launched an initial public offering on the Hang Seng stock market.

Other sources of private funds include the recently announced Quantum Group. With expected capitalization of US$2.5 billion, the group is being championed by George Soros and GE Capital Corp. Targeted investments are in the private power market in Asia and Mexico.

In Canada, private sector money appears to be available from firms such as Power Corporation, who, through The Asia Power Group (capitalized target of Cdn.$100 million), are examining projects in the power sector. Other Canadian groups in the development and engineering design segments (e.g., the Stanley Group) are also developing access to pools of private capital.

8.2.4 Commercial and Merchant Bank Lending

There are a number of commercial bank lenders that have been active in both public and private sector project financing. These include major international European, Japanese and U.S, commercial lenders. Repeat lead firms include: Citibank, Barclays, Hong Kong & Shanghai, Chase Manhattan and others.

These and some other major international financial institutions have developed considerable in-house expertise and experience in the evaluation of the creditworthiness of international projects. Many of them have long histories with commercial enterprises and specific governments. It is also noteworthy that international lenders often find themselves restrained by home country central bank and other regulatory agency restrictions regarding cross-border loans.

8.2.5 Pension Funds and Insurance Companies

In OECD countries where the infrastructure sector has been open to private investment - such the United Kingdom - financing has often been provided by institutional investors, such as pension funds and insurance companies, rather than commercial investors.

Upon both completion of a project and with adequate cash flow being generated, insurance companies can become a source of financing, often through debentures. However, it should be pointed out that pension fund and insurance company monies are generally available during the post-construction phase. This phase is the less risky end of the financing cycle, since the physical asset is operating and spinning off a predictable (hopefully) stream of cash. Consequently, this tends to be the most easily financed phase of a capital project.

8.2.6 International Financial Institutions

The principal International Financial Institutions whose mandates include supporting economic development in the developing world are profiled below.

8.2.6.1 The World Bank Group

The International Bank for Reconstruction and Development (IBRD) funds approximately US$8-10 billion in the public sector infrastructure projects. The IBRD is not permitted to make loans directly to the private sector - a government guarantee is required - however, innovative techniques are enabling the Bank to begin to effectively lend to this segment of the market. Consequently, IBRD is accumulating experience with respect to the requirements for private sector participation in power generation and transmission, particularly through the 1,200 MW Hub River project in Pakistan.

The International Financial Corporation is the private sector lender and investment vehicle of the World Bank Group. Unlike most multilateral institutions, IFC does not accept government guarantees for its financing. IFC is the largest multilateral source of direct financing for private sector projects in developing countries.

IFC has been involved in more than 60 infrastructure projects, either in an advisory or investment capacity, over the past 25 years. However, about 40 percent of IFC approvals have been undertaken since July 1992. Since that date IFC has approved financing of US$476 million for 23 projects with a total project cost of US$5.7 billion. Another 30 projects with IFC investment of US$600 million are projected to be approved by June 1994.

These figures illustrate the response to the rapidly expanding market for private sector lending, particularly by the IFC. The level of recent IFC activity suggests that World Bank participation in the private sector investment and lending market is entering an important new phase.

Furthermore, the Multilateral Investment Guarantee Agency (MIGA) is a World Bank entity which encourages the flow of foreign direct investment to, and among, developing member countries. Although it does not provide direct financing, the Agency establishes part of the framework necessary to attract debt and equity into World Bank projects.

8.2.6.2 The Asian Development Bank (ADB)

The ADB addresses private sector requirements through its Asian Finance and Investment Company (AFIC) located in Singapore and the private sector department within the Bank in Manila. The private sector department does not have independent lending capability, but it does have staff input for the evaluation process of private sector projects that reach the energy and industry department of the Bank.

ADB and AFIC have financed over sixty private sector projects. Consequently, the Bank represents a regional source of funds for private sector projects.

ADB guidelines restrict lending operations to private sector firms in a number of ways. First, there is a US$50 million ceiling per project, including both debt and equity participation (AFIC can participate additionally at approximately twenty percent of ADB's principal participation in a project). Second, total private sector projects within the organization cannot exceed 3% of the bank's total loan portfolio.

8.2.6.3 Other International Financial Institutions

Besides the World Bank and the ADB, there are a number of other international financial institutions who could become sources of private sector debt and equity for major capital projects. These include the European Bank for Reconstruction and Development, the European Investment Bank, the Inter-American Development Bank, and the African Development Bank. However, to date there has been limited activity undertaken by these institutions.

8.2.7 Export Credit Agencies (ECA's)

The activities of Export Credit Agencies have been discussed in several of the earlier sections of this report. It is clear that ECA's represent an important potential source of project financing. However, it should be remembered that project financing by ECA's is a relatively new activity, and that the learning process is ongoing. Compared to the traditional business of ECA's (i.e., lending against the guarantee of a sovereign country), project financing represents a small amount of signed transactions. However, it should be noted that many ECA's are devoting more human and capital resources to project financing. With respect to the project financing cycle, ECA's tend to represent sources of funds during the construction phase of an international capital project. To the extent that ECA's might, in the future, venture into equity positions in projects, it is likely that ECA involvement will extend into the pre-construction and post-construction phases.

8.2.8 Multilateral and Bilateral Aid Agencies

Bilateral aid agencies represent an important source of financing in two areas: funds for conducting feasibility studies and detailed capital project studies, as well as sources of pure aid dollars to (sometimes) cover tied procurement. There are a host of bilateral aid agencies which can be accessed for funding, however, in many cases there are pressures against funding foreign firms with domestic aid assistance. One example of a source of funding is the Japanese International Cooperation Agency.

Multilateral aid agency financing resides primarily with the United Nations. In this organization, funds are available for a variety of purposes, including capital projects. In this regard, the United Nations Development Programme funds a number of initiatives and projects.

9.0 SELECTED CASE STUDIES ILLUSTRATING MARKET REALITIES

In this section of the report, the realities of the international capital projects marketplace are highlighted in the five case studies covered. The first sub-section profiles the cases that were analysed. Following this, some of the general principles and practices derived from an analysis of the "lessons to be learned" in each of the cases are summarised. The cases are then presented in the final part of this section.

9.1 Cases Compiled

Five in-depth case studies were compiled in this assignment. The difficulties encountered in securing appropriate case studies for this work highlight the fact that few projects which have started out as BOT's have progressed satisfactorily. As well, many firms are reluctant to talk about their projects in depth because of competitiveness concerns and potential sensitivities on the part of their clients.

The case studies presented in this report illustrate various situations. **The Geheyan Hydro power project** (in the People's Republic of China) exemplifies a major capital project undertaken by a consortium of Canadian equipment suppliers working with federal and provincial government officials and agencies in a "Team Canada" approach. **The Mihaly International Canada Ltd.** case study exemplifies the entrepreneur-led approach to the limited recourse, major capital project market. The entrepreneurial approach tends to be characterized by a small group of project developers who bring together and direct contractors, equipment suppliers, financiers, lawyers and others in the pursuit and execution of an electric power project in Sri Lanka.

The third case study involves the design, financing, construction, leasing and operating of a new Terminal at **Prague International Airport.** The facilities are scheduled to be in place by 1997. The joint venture was structured on a public sector-private sector basis and the private sector partners were led by Armbro Enterprises Inc., a Canadian based property developer and contractor. The original consortium was headed up by Armbro and brought together architects, project management and civil engineering specialists, financiers, lawyers and others in the pursuit and execution of the project. The latter two case studies illustrate the difficulties project sponsors face in securing financing (as well as other relevant issues).

The remaining two case studies are projects undertaken by players from other countries. One of these cases is **K&M's Mamonal** energy project in Colombia (US$70 million). It illustrates a number of important points that are central to pursuing and concluding major capital projects . The project demonstrates how relatively small firms (with relevant experience) can successfully participate in the limited and non-recourse market in a developing country. The fifth case is the **Tate's Cairn Tunnel** project in Hong Kong. The facility cost about HK$2.15 billion (US$ 265 million). The project shows the importance of identifying key decision makers in the host country, addressing

privatisation issues and undertaking flexible packaging of the deal. The ability of players to address risk, financing issues, structuring techniques, and legal packaging for stakeholders are also illustrated.

9.2 Identification of Critical Success Factors and General Principles

The case studies amply indicate the many problems and difficulties associated with the packaging, structuring, and financing of international capital projects. Furthermore, although each project is unique, there are some general principles and practices that may apply to the various stages in the project cycle. These include:

Initial Planning and Evaluation Phase

- There should be a high need for the project in the host country. Also issues such as compliance with environmental standards should be reviewed at the outset.

- A high degree of political will to utilize the private sector to help finance, build and operate the project is important. Personal contacts in the host country with relevant decision makers in the local government is quite important.

- The host country's legal system should also be sufficient to effect the deal. The ultimate security for the lender is the legal documentation which is designed to protect the lender from default. Consequently, the legal system must provide for an understanding of contract law, a system of litigation to adjudicate contract disputes and lien laws for taking security interests. Simply put, the host country should have the institutional and political will and the regulatory framework which permits developers to develop projects at reasonable risk with adequate financial returns.

- government to government interactions should be handled at an early stage. A political champion both in the host country and in the home countries of key consortia players can help gain some leverage. Also, players in international consortia may provide cover from their ECA's.

- The proposed members of the consortium must have a credible track record and should be willing to enter a contract with firm price and completion terms and conditions. They should also be prepared for long project and development periods of high risk. A high degree of cooperation and flexibility is needed among members most of the time and this argues for working with players who know each other. The consortium should be led by a calculated risk taker.

- The project should be considered as financable by experts who are familiar with limited-recourse deals. Likely operating criteria and output pricing schemes should be identified. If the deal is considered to be worthwhile, IFI involvement (if relevant) should be secured at an early date and advisors with close working relationships with these institutions may be helpful. Equity participation should be secured from credible members of the consortium such as equipment suppliers and contractors who offer good financial strengths. The legal aspects of the project should also be outlined.

Promotion and Development Steps

- The technical competence of the players in the consortium should be unquestioned and contractors should be lined up at an early stage. The technical solution should reflect the special features of the bid.

- The consortia should demonstrate superior project management capability. Construction costs must be reasonably low.

- The joint venture or consortium method that contractors desire to use should be appropriate for the risk profile of the project and for the financial strength of the members of group.

- Exclusive negotiations with the host government may only occur after competitive bidding. During negotiations the consortium must demonstrate the ability to undertake risk and cost/benefit assessment quickly and to respond to the demands of the host government promptly. Governments should be willing to accept some project risks and provide some resources.

Implementation Steps

- Early formalizing of the project company and its key shareholders.

- Motivate contractors with penalties and bonuses for cost and time performance.

- Finalise project financing structure.

- Economic use should be made of various types of insurance.

9.3 Case Studies

The material that follows, sets out the details of each of the case studies undertaken in this assignment.

Geheyan Hydro Power Project

Introduction

The Geheyan hydro power project exemplifies a major capital project undertaken by a consortium of Canadian equipment suppliers working with federal and provincial government officials and agencies in a "Team Canada" approach. The approach takes advantage of feasibility work undertaken by Canadian consulting engineers and funded by CIDA. The consortium represents 80% of Canada's Hydro Power Manufacturing Sector. Consortia formation was encouraged by government agencies so that Canadian firms could improve their success ratio in overseas competitive bidding.

This project is in the energy sector and involves increasing the 4.000 MW generation capacity of the hydro power stations located in Hubei Province (People's Republic of China) by 1,280 MW. The GEHEYAN facility is located on the Qingjiang, which is an effluent to the Changjiang (Yangtze River). The deal was negotiated in about eight months and the goods and services supplied by Canadian firms were financed through a Cdn.$135 million loan negotiated by the client through the Bank of China and EDC. Consequently, this case study demonstrates a number of features of consortia formation. Moreover, this consortium represents an established team formed for pursuing multiple projects over an extended time period.

Background

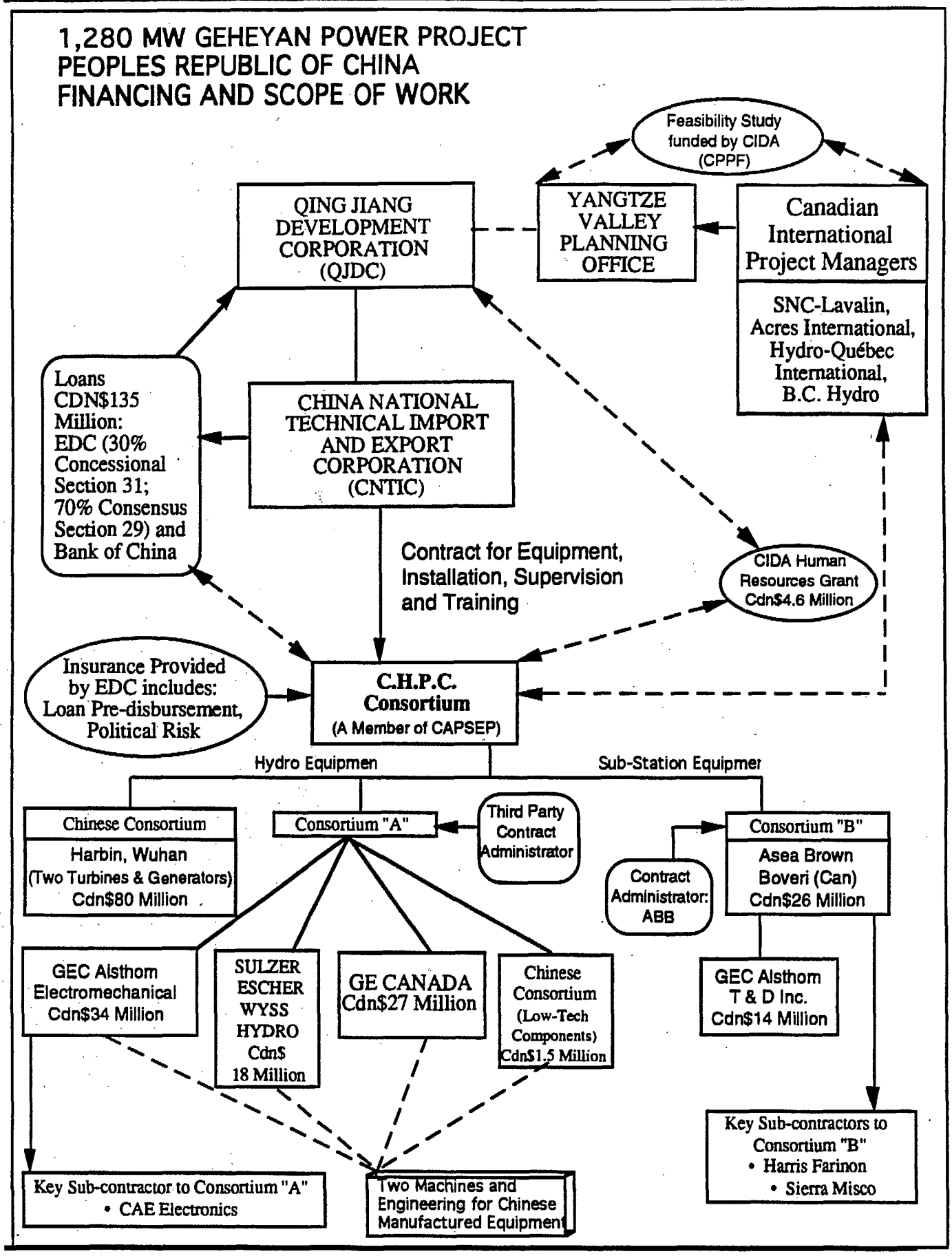
The Canadian Hydro Power Consortium (C.H.P.C.) "A" and "B" (part of the umbrella organization CAPSEP) is a consortium of firms that currently includes Asea Brown Boveri Inc. (Canada), GEC Alsthom Electromechanical Inc., GE Canada Inc., Sulzer Escher Wyss Hydro, GEC Alsthom T&D Inc. The consortium undertook the responsibility for the engineering, supply, and erection of four 320 MW generating units and for the high voltage sub-station including power transformers and electrical equipment. Subcontracts were awarded to several other Canadian suppliers and supervision and training for local personnel were also included as part of the contract. In addition, two turbines and generators were supplied by a consortium of Chinese manufacturers and co-design for these units was provided by C.H.P.C. via a technology transfer program. The first generating unit was put in service in April, 1993 and the second unit was commissioned in December, 1993 (some six months ahead of schedule). The two remaining units (currently being produced in China) will be installed by the summer of 1994. The substation equipment for all four units is already in place.

The experience of the consortia members includes several major projects delivered to Hydro-Québec in the James Bay region. Involvement at James Bay and other domestic hydro projects provides key referrals for the consortium. Consortium members are also able to cite other significant projects overseas in countries such as South America, Africa, and Asia (Pakistan). In spite of their success in winning the GEHEYAN project, the consortium was an unsuccessful bidder on the 108 MW Wang Fu Zhou Hydro power project in China. To win this latter contract, the successful bidder (Elin, a supplier 95% owned by the Austrian government and 5% by GE USA) used concessional financing which is essentially "unavailable" to Canadian firms.

The GEHEYAN deal was negotiated under the concessional financing facility for China. Under this facility, in conjunction with the Bank of China line of credit, the Government of Canada, through EDC, has supported companies demonstrating a commitment to China and solid prospects for conducting future business on non-concessional terms. At present, the line of credit line available for consensus financing with China (in 1993/94) is approximately $200 to 300 million; the concessional line has essentially been depleted.

Structure of the Project

The diagram below summarizes the financing and scope of work for the main participants in the project.


1,280 MW GEHEYAN POWER PROJECT
PEOPLES REPUBLIC OF CHINA
FINANCING AND SCOPE OF WORK
Feasibility Study funded by CIDA (CPPF)
QING JIANG DEVELOPMENT CORPORATION (QJDC)
YANGTZE VALLEY PLANNING OFFICE
Canadian International Project Managers
SNC-Lavalin, Acres International, Hydro-Québec International, B.C. Hydro
Loans CDN$135 Million: EDC (30% Concessional Section 31; 70% Consensus Section 29) and Bank of China
CHINA NATIONAL TECHNICAL IMPORT AND EXPORT CORPORATION (CNTIC)
Contract for Equipment, Installation, Supervision and Training
CIDA Human Resources Grant Cdn$4.6 Million
Insurance Provided by EDC includes: Loan Pre-disbursement, Political Risk
C.H.P.C. Consortium
(A Member of CAPSEP)
Hydro Equipmen
Sub-Station Equipmer
Chinese Consortium
Harbin, Wuhan
(Two Turbines & Generators)
Cdn$80 Million
Consortium "A"
Third Party Contract Administrator
Consortium "B"
Asea Brown Boveri (Can)
Cdn$26 Million
Contract Administrator: ABB
GEC Alsthom Electromechanical Cdn$34 Million
SULZER ESCHER WYSS HYDRO Cdn$ 18 Million
GE CANADA Cdn$27 Million
Chinese Consortium (Low-Tech Components) Cdn$1.5 Million
GEC Alsthom T & D Inc. Cdn$14 Million
Key Sub-contractors to Consortium "B"
• Harris Farinon
• Sierra Misco
Key Sub-contractor to Consortium "A"
• CAE Electronics
Two Machines and Engineering for Chinese Manufactured Equipment

Marketing

Early Project Development

The requisite technical assistance and feasibility studies for the GEHEYAN project were conducted for the Yangtze Valley Planning Authority in 1985, with Canadian Project Proposal Fund (CPPF) money provided by CIDA. This work was carried out by a consortium of Canadian firms, Canadian International Project Managers, that includes consulting engineers, SNC-Lavalin and Acres International and utilities, Hydro-Québec International and B.C. Hydro.

To develop the project, the end user or customer for the project, the Qing Jiang Development Corporation worked together with several other Chinese government agencies including the Electrical Design Institute of Hubei province, Yangtze Water Resources Commission based in Wuhan, and the Ministry of Energy in Beijing. The Yangtze Water Resources Commission served as the local consultant to the client and by late 1987, once the project proceeded to the stage of inviting bidders, the client appointed the China National Technical Import and Export Corporation (CNTIC) as its negotiating agent. CNTIC worked closely with other Beijing officials such as those from the Ministry of Machine Building and the Bank of China in dealing with the bids on the project.

At the same time that the GEHEYAN project was going through its early stages in 1985, activities leading to the formation of the Canadian Power Systems Export Promotion (CAPSEP) consortium reached their peak. CAPSEP was formed as a result of collaborative action between electrical and electronic manufacturers, consulting engineers, contractors, utilities and the federal and provincial governments. It was recognized by these groups that in order to match international competition and win a reasonable share of major capital equipment projects (particularly in the growing Asian markets), Canadian firms would need to work collaboratively and a "Team Canada" export consortia approach was endorsed.

The use of such consortia for identifying projects at a very early stage of development (as well as for securing access to competitive financing) was viewed as critical for winning major export contracts for design, supply of equipment, testing, shipping, installation, commissioning and the development of human resources. Furthermore, it was expected that the leadership role in the formation and direction of consortia would vary from one project to another depending on the desired positioning with the customer and the particular relevant experience that must be demonstrated. Moreover, the leadership role could be taken up by an industry player, or a sub-group representing the various members of the industry (i.e., those who offer the relevant experience for the project). Government agencies are regarded as important facilitators for formation of the consortia and are viewed as particularly influential with the client on bilateral deals.

The GEHEYAN power project was one of the two successful "closings" achieved by "Team Canada" consortia in the power sector. C.H.P.C. "A" and "B" received concentrated government support in its dealings with the CNTIC. CNTIC had expressions of interest from as many as five groups. The list was subsequently reduced to three bidders. The three groups were "Team Canada", a consortium of Chinese manufacturers including Harbin, and a consortium of European firms. C.H.P.C. "A" and "B" was selected to complete the project as a result of its competitive financing arrangements, and its technical leadership in turbines and generators. Moreover, "Team Canada" was very responsive to various host government concerns (such as including a consortium of Chinese manufacturers in the project as well as providing technology transfer and local training).

Structuring the Bid

In structuring its bid, it was clear to the C.H.P.C. "A" and "B" consortia that in spite of the economies of scope and scale gained by the collaboration of the various Canadian suppliers, the availability of

concessional financing would be crucial for winning the project. Without the sizable Canada-China credit line, which was some Cdn.$2 billion at that time (1988), the playing field would have been tilted against Canada. This is because the European bid was quite competitive technically and was effectively supported by "soft" or low cost export financing. In the end, the deal was sold with 30% soft financing.

Even with the availability of low cost financing (cited above), being awarded the bid represented a challenge to "Team Canada". The team members worked closely with each other, exchanging relevant technical and commercial information and allowing factory visits as needed. Each company used its own lawyers and although there was one commercial contract, there were separate technical contracts for the equipment. Moreover, as the negotiations proceeded, external pressures from competitor bidders (particularly the consortium of Chinese manufacturers) had to be handled. Consequently, two of the turbine and generator units were sourced to Chinese manufacturers and technology transfer and local training was provided by "Team Canada". Such pressures have become common in major capital projects.

Finally, throughout the negotiations, the Canadian firms maintained their own presence in Beijing. In addition, all documentation was prepared by the consortium and submitted to the Chinese officials for review and comment.

Cost of Front End Efforts up to the Point of Financing the Bid

Like most major capital projects, the cost of marketing (including project development and tendering costs) the GEHEYAN project to the point of financing was in excess of Cdn.$1.0 million. The actual cost was estimated at Cdn.$1.5 million and the effort was generally financed from internal sources and by the supply of various in-house services, such as engineering design.

Government Support

"Team Canada" received significant and important support from many levels of government in Canada. The Canadian Embassy in Beijing and the Ambassador were also very helpful. Key government support activities are summarized as follows:

- CIDA, 1985, $0.7 million grant under the Canadian Project Proposal Fund (CPPF) - Feasibility study completed by Canadian International Project Managers;
- External Affairs, December 1987, Support for "Team Canada" Approach - China Power Development;
- Québec Government, Ministère des Affaires Internationales (MAI), January 1988, Mission to China, Pre-proposal of Consortium Approach discussed with CNTIC;
- External Affairs, April 1988, Incoming Delegation from Hubei Province - Bilateral Negotiations, Signing of MOU on technology transfer and co-production;
- External Affairs, May 1988, Visit to Canada by Vice-Governor of Hubei Province;
- Québec Government, (MAI), June 1988, Mission to China together with Consortia Members; and,
- CIDA, Industrial Cooperation grant of Cdn. $4.6 million, 1989 (put in place one year after signing the commercial contract in Beijing on November 11, 1988)

Financing the Deal

As noted earlier, the GEHEYAN deal was negotiated under the $2 billion concessional financing facility for China (in place at that time, i.e., 1988). Under this facility, in conjunction with the Bank of China line of credit, the Government of Canada, through EDC, has supported companies demonstrating a commitment to China and solid prospects for conducting future business on non-concessional terms. At present, the line of credit line available for consensus financing with China (1993/94) is approximately $200 to 300 million; the concessional line has essentially been depleted.

Risk Sharing/Risk Management

Although there was one commercial contract, consortium members were separately liable to the customer. At the same time, "Team Canada" successfully negotiated a consequential damage clause and a force majeur clause as part of the contract. Other relevant risks were managed as set out below.

Erection and/or Commissioning risk was essentially assumed by the customer (QJDC) (with advice from C.H.P.C.) and transportation risk was shared by QJDC and C.H.P.C.

Loan pre-disbursement and political risk was provided by EDC. Transportation insurance (from warehouse to warehouse) was secured in the form of a loan from EDC to the Bank of China. Finally, arbitration was agreed upon in Sweden. (Furthermore, the Chinese government posted a letter of credit which can be drawn while claims (should they arise) are processed).

Lessons Learned

The main lessons to be learned include:

- the potential leverage that can be gained through closer collaboration between consultants and equipment suppliers at the front end of a project still remains as an area for improvement among Canadian firms;
- the "Team Canada" approach was effective in achieving the best impact of available government funds;
- since the Canadian consortia represented a sizable proportion of the industry, there was no need for home governments to make choices between one company or the other;
- the willingness of consortia partners to collaborate resulted in the negotiations being completed quickly and the project being delivered ahead of schedule; and ;
- special and/or innovative financing requirements are sometimes needed to "level the playing field" particularly when competing against European suppliers and in countries where borrowers are knowledgeable about how they might quickly access such special credit terms. Market dynamics and international agreements will affect the extent to which special financing is needed or can be used.

Key Success Factors

The key success factors associated with this project include:

- demonstrating the viability of the project at the outset;
- close personal contact with the host country project sponsors and stakeholders;
- identification of key issues of concern in host country;
- creative solutions to local conditions/situation by credible team members;
- willingness of consortia partners to collaborate;
- the ability to secure home government support;
- the need to demonstrate that consortia partners have appropriate financial strengths required for undertaking long term negotiations; and,

- the ability to access special and/or innovative financing (or equivalent alternative credit) in special cases where the competition uses concessional financing as a final tool to clinch the deal.

Mihaly International Canada Ltd.

Trincomalee Project (Sri Lanka)

Introduction

Mihaly International Canada Ltd. exemplifies the entrepreneur-led approach to the limited recourse, major capital project market. The entrepreneurial approach tends to be characterized by a small group of project developers who bring together and direct contractors, equipment suppliers, financiers, lawyers and others in the pursuit and execution of a project.

This relatively large (Cdn.$300 million in capital cost) project is in the energy sector and is located in Sri Lanka. The deal has not been financed. Consequently, this case study demonstrates a number of features of consortia formation and development up to the point of financing. This consortia represents a one-time effort to win a project as opposed to an established team formed for multiple projects over an extended time period.

Background

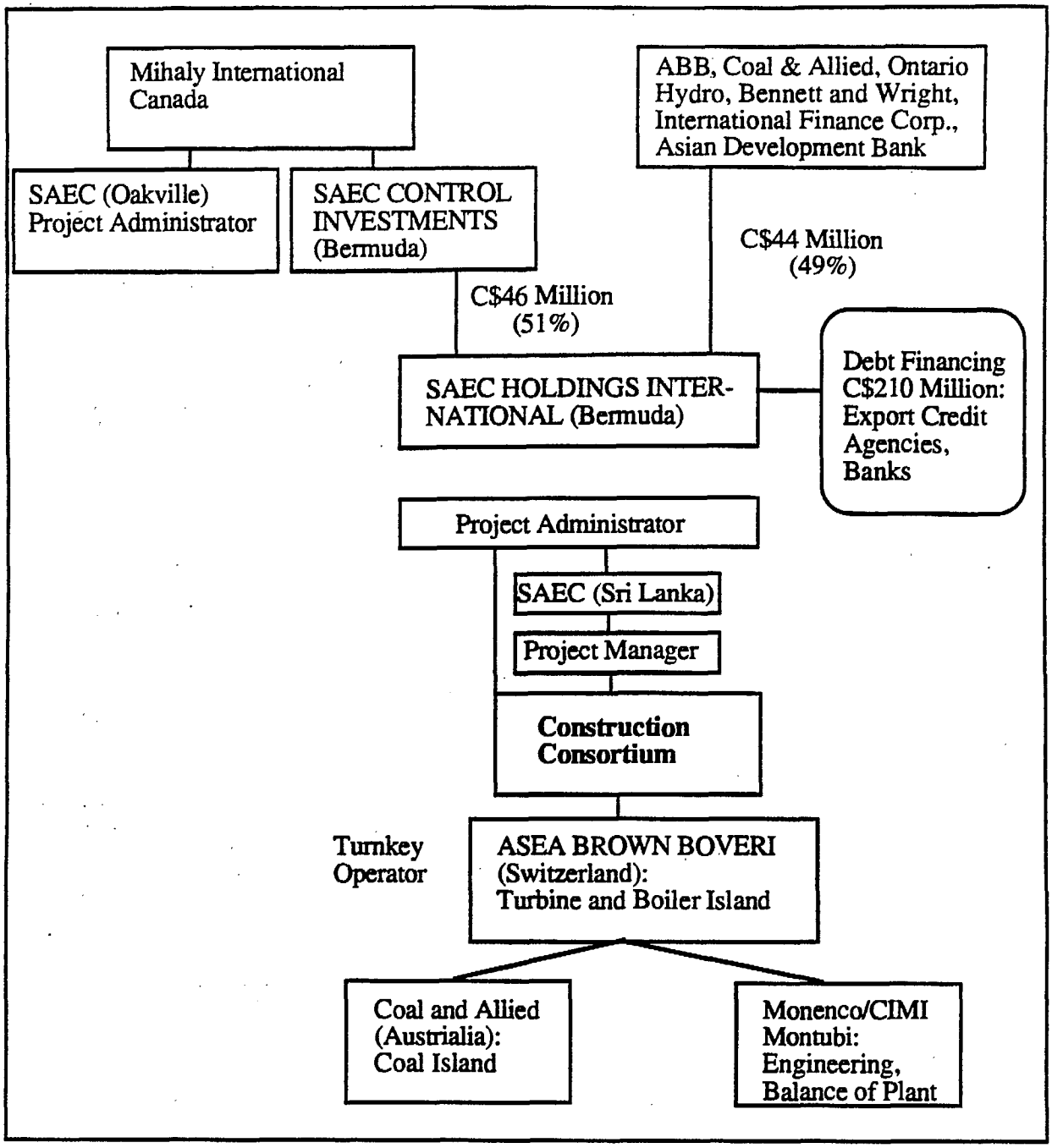
Mihaly International Canada Ltd. is the project manager for the South Asia Electric Corporation (SAEC). SAEC is a consortium of firms that currently include Ontario Hydro, ABB, Coal and Allied Industries, Bennett and Wright, Elsag Bailey, International Finance Corporation (World Bank). The Corporation has been awarded the rights to build and operate a 300 MW coal fired power station on the deepwater port of Trincomalee on the northeast shore of Sri Lanka. One 150 MW unit is scheduled to by in service by late 1997 and the second unit by the end of 1998.

The experience of Mihaly International Canada is derived from many years of international work with a domestic power utility. To this extent the domestic environment has played a role in stimulating Mihaly's current work offshore. Mihaly's BOT experience has been limited to one unsuccessful bid for a power project in Turkey and a bid on anther power project in South-East Asia.

The Trincomalee project has been developed on a modified BOT basis. The Sri Lankan government has indicated its willingness to provide a take-or-pay power purchase contract to guarantee a 70% minimum load factor on the plant.

Deal Structuring (as of January 1994)

The diagram below summarizes the nature of the deal as related to the financing and scope of work for each participant.



Marketing/Early Project Development

The original concept of power generation for Trincomalee began as an Asian Development Bank effort in the early 1980s. While the requisite technical assistance and feasibility studies were conducted, the project did not receive early approval for construction. Political unrest and violence delayed the project for most of the 1980s, and only in the early 1990s did the project reappear as a modified BOT deal.

While the project was dormant John Walker, President of Mihaly International Canada Ltd., was in Sri Lanka on a regular marketing call in early 1991. During this trip he met with a personal contact, the Chairman of Energy Board of Sri Lanka to discuss the BOT approach to power projects. The Chairman expressed interest in the concept and by the end of November 1991 Mr. Walker had made a presentation to the government on the BOT approach to power projects. The government then invited expressions of interest for the Trincomalee project and 35 companies responded. The list was subsequently reduced to six bidders and then refined to three bidders. In December 1992 three groups submitted their proposals: Mihaly Canada International, the Calcutta Electric Supply Company, and a consortium of Australian, British and Japanese firms (led by Mitsui). The Mihaly and Calcutta proposals were developed on a modified BOT basis, while the other was a turnkey proposal. Mihaly Canada International was selected to complete the project, contingent on a number of factors, including financing. Mihaly submitted the most competitive price, and was reported as the most technically responsive to the tender and responsive to various host government concerns (such as local training).

Structuring the Bid

In structuring its bid Mihaly considered a number of factors. It was Mihaly's assessment that export credit agency support would be crucial for the project, and that any one national agency would not have an appetite for Cdn.$300 million in Sri Lankan risk. Consequently it was necessary to source multi-country suppliers and their export credit agencies. Mihaly solicited bids for the various supplier "islands" (turbines, generators, fuel supply, design engineering, balance of plant, civil works) to develop a cost competitive bid. Mihaly claims that this entrepreneur-led approach can generate lower price quotes from equipment suppliers and others than if the consortia were led by an equipment supplier, contractor or design engineer.

Being awarded the mandate to develop the project represented a new management challenge to Mihaly. With the project moving one step closer to construction, additional pressures were places on SAEC from internal and external sources. These internal pressures included supplier efforts to adjust their role and responsibility in the project (often to increase it). At the same time external pressures from competitor bidders and financing sources began to shift. Consequently, some new suppliers have been brought into the deal, extensive efforts continue to be expended in organizing the funding of the project, and renewed competitive pressures from bid losers is being experienced. These pressures are common in major capital projects.

Financing the Bid

Like most major capital projects the cost of marketing the Trincomalee project to the point of financing is roughly 1.0% of total capital costs, or Cdn.$3 million.. This effort was generally financed from internal sources, by the supply of various services, such as engineering design, for future equity.

Government Support

Mihaly International Canada Ltd. received significant and important support of the Canadian High Commission in Columbo, particularly after Mihaly was awarded the letter of intent. Mihaly did not seek federal government marketing assistance (e.g., CIDA, PEMD) during the preliminary marketing of this project. The Ontario International Corporation did provide $30,000 on a cost shared basis. The perception was that the effort would be too time consuming. Other government

support to date has come from EDC in the form of a commitment letter to support Cdn.$70 million of Canadian content.

Project Finance

As previously indicated this project has yet to receive formal debt or equity financing. Equity financing is currently scheduled to come from Mihaly Canada International, International Finance Corporation, Ontario Hydro, ASEA Brown Boveri, Coal and Allied, Bennett & Wright. Debt financing is to be provided by the various export credit agencies from the supplier countries and from commercial banks. Debt financing arrangements are being examined by a number of non-Canadian international banks. Canadian banks were approached for financing, however, no interest has been expressed to date (February 1994).

Risk Sharing/Risk Management

Since the project is not financed risk sharing is still being defined. However, given the current make-up of the consortia the risks are anticipated to be managed as follows:

Construction is taking place on a turn-key basis, and this risk is being assumed by ASEA Brown Boveri.

Operating risk is being managed by Ontario Hydro, and will include the training of local operating personnel. Ontario Hydro will be assisted by the Singapore Public Utilities Board.

Revenue risk is being shaped by a take-or-pay power purchase agreement with the Sri Lankan government. The government will guarantees purchase a minimum of 70% of the load factor. The contract is fully indexed against inflation and provides a US$ revenue stream.

Coal supply risk is being assumed by Coal & Allied in a 20 year supply contract.

Payment risk is being addressed with the government providing a guarantee for US$ availability to an offshore escrow account to cover the monthly payment commitments.

Political risk will be purchased from the World Bank (Multilateral Investment Guarantee Agency) to cover currency transfer; expropriation; war; revolution and civil disturbance; and breach of contract. Furthermore the Sri Lankan government is expected to post a letter of credit which can be drawn while claims (should they arise) are processed.

Lessons Learned

Despite many years of relevant international experience the project managers may not have anticipated the degree of early consortia management problems, the strength with which competitors would try to scuttle the deal following the mandate award, the value of having a committed financial (debt) partner participating during the early stages of the project, or the difficulty in dealing with the International Financial Corporation, particularly in terms of perceived non-standard treatment of the project.

Key Success Factors

The project remains to be closed. A preliminary commitment ins in place, but requires finalization. Accordingly any attempt to identify key success factors may be premature.

However, assuming the project goes ahead, a number of key marketing success factors are evident. These include:

- very competitive pricing;
- close personal contact with the host country project sponsor;
- identification of key issues of concern in the host country;
- creative solutions to host country conditions/situation;
- skill in managing consortia partners; and,
- the guidance provided to the Sri Lankan government (Secretariat for Infrastructure Development and Investment) on BOT projects from a US AID financed initiative.

Prague-Ruzyne International Airport

Introduction

This project involves the design, financing, construction, leasing and operating of a new Terminal at Prague International Airport. The facilities are scheduled to be in place by 1997. The joint venture was structured on a public sector-private sector basis and the private sector partners were led by Armbro Enterprises Inc., a Canadian based property developer and contractor. The original consortium was headed up by Armbro and brought together architects, project management and civil engineering specialists, financiers, lawyers and others in the pursuit and execution of the project.

At the time that the project was bid, Canadian firms had the primary roles and responsibilities in the consortium. However, following the award of the project, difficulties in securing private sector equity financing resulted in the French firm, Bouygues and the Czech Bank, Investicni Banka A.S., being brought in to take a sizable share of the venture.

The size of the project is approximately US$120 million in capital cost and at the time of writing the financing of the deal has not been finalised. Consequently, this case study demonstrates a number of features of consortia formation and development of an international capital project up to the point of financing. The consortium represents a one-off effort to win a project as opposed to an established entity designed for multiple projects over an extended time period.

Background

The Czech Airport Administration (C.S.L.) was created in January, 1991, and since that date it has operated, administered and managed the activities of the Czech Republic international airport at Praha-Ruzyne, and the airports at Brno, Karlovy Vary and Ostrava. In an effort to access export credits and secure private sector equity to cover a portion of the capital costs of the airport development, the Czech Republic government authorized C.S.L. to prepare a project for the financing, construction and operation of a handling complex at Praha-Ruzyne airport (the country's primary gateway).

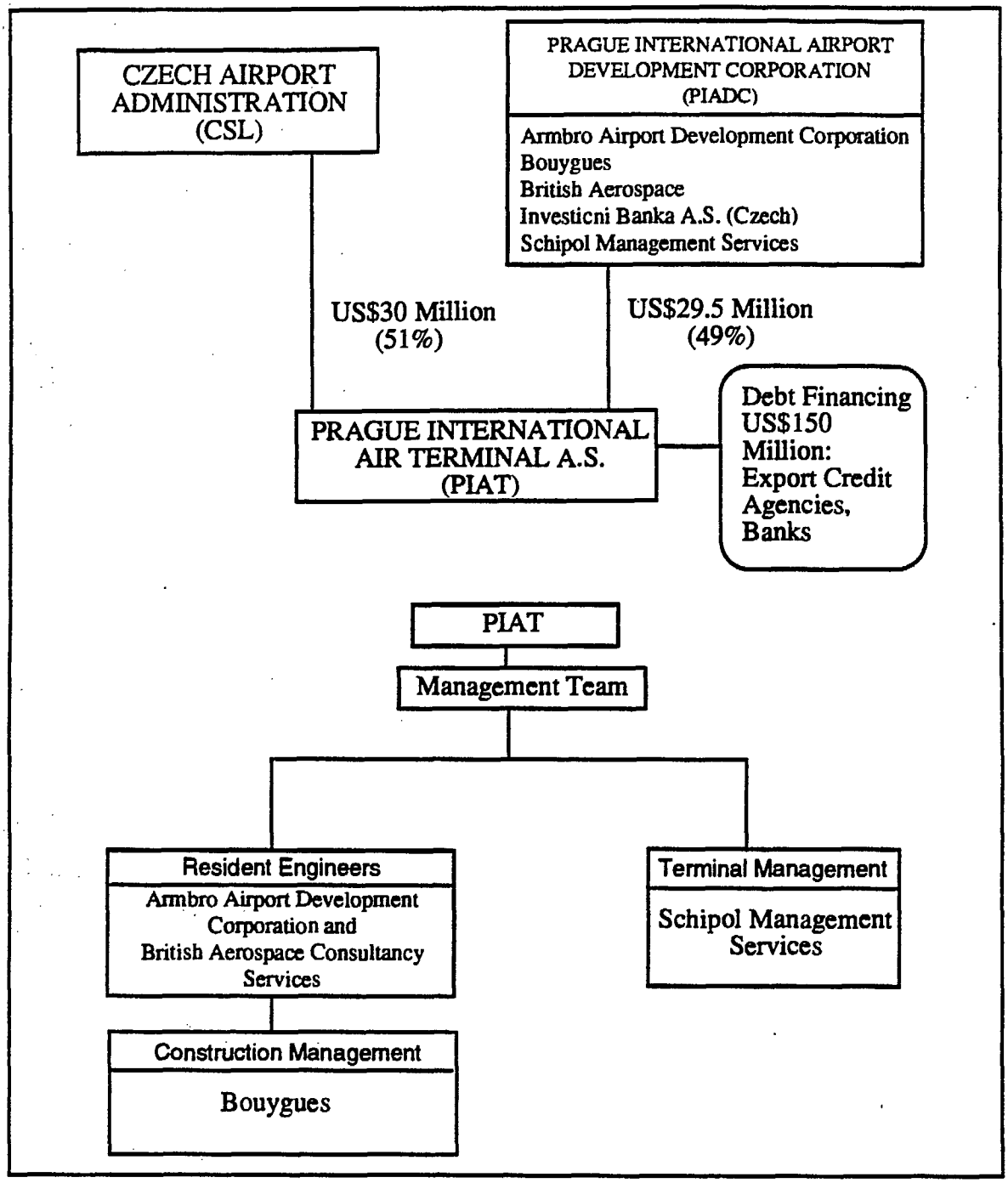
In carrying out its mandate, C.S.L. was permitted to establish a commercial company with foreign investors. On August 11, 1993, the Czech government approved contractual documents for the establishment of a joint venture between C.S.L. and the consortium Prague International Airport Development Corporation B.V. (PIADC). The incorporation of the commercial company, which will be known as Prague International Air Terminal A.S. (PIAT), followed the formal signature of a Master Development Agreement, and is now completed.

Armbro Enterprises' subsidiary Armbro Airport Development Corporation (AADC) is participating in the project management for PIADC. The main members of the PIADC consortium are: Armbro Airport Development Corporation, Bouygues, British Aerospace Consultancy Services, Investicini Banka A.S., and Schiphol Management Services BV.

The project consists of renovating the existing terminal building, the addition of a new processor facility for outbound passengers and two new piers for aircraft loading. The proposed schemes call for the facility to remain in full operation during the construction process while minimizing disruption to operations. Completion of the project is expected to occur by 1997.

Deal Structuring (as of January 1994)

The diagram below summarizes the nature of the deal as related to the financing. As well, it shows the scope of the work for the key participants.



Marketing

Early Project Development

In the 1930's, the Praha-Ruzyne airport was considered as one of the most up-to-date international airports and received an award for its architectural and operational design. Subsequent development of the airport occurred in 1968, and by the early 1990's it was clear that additional capacity would be needed to keep the facility up-to-date to ensure that the Czech Republic would have a competitive gateway in the network of major European airports.

During July, 1991, a proposal call was made for detailed submissions from the private sector to build, design and operate a new terminal in partnership with the Czech government. The proposed development of the airport is supportive of economic renewal and was part of the "Velvet Revolution" occurring in the country.

As a result of the softness in Canadian markets, John Beck, Chairman of Armbro Enterprises began exploring export market opportunities prior to 1989. The firm's interest in Eastern European countries was stimulated by specific Government of Canada and Ontario government initiatives that were in place at the time. Consequently, Mr. Beck's participation in a number of country visits resulted in the hiring of a full-time General Manager (a Czech national) in 1989, and the setting up of a local corporation in what was then Czechoslovakia (Armbro a.s.). Subsequently, Mr. Beck became an active member of the Canadian-Czech Chamber of Commerce and has maintained close contact with others who are doing business in the Czech Republic.

Thus for two years prior to the proposal call, Armbro was actively engaged in identifying key decision makers in the country as well as understanding the activities that were being undertaken by foreign competitors. In addition, Scott Associates Architects (a specialist in airports) and a key member of the project team, provided an additional edge as a result of their contacts in the host country (and gaining insights from a small design firm in Montreal (ABA) who had other contacts in the region).

To counter the competition, significant effort was also placed on gaining Canadian government support from the then Prime Minister, the Minister of External Trade, the Canadian Ambassador to Czechoslovakia and from different Canadian officials visiting the host country. Industry Canada specialists were also helpful in the marketing effort as was the Ontario International Corporation (entertaining visiting dignitaries and Ontario officials promoting the consortium in host country visits).

In spite of some pre-qualification activity, when the Czech government made the proposal call for detailed submissions in July, 1991, 17 different teams made submissions. This list was subsequently reduced to four bidders. The four teams were led by: Armbro Enterprises, Hochtief (Germany), Bouygues (France) and Union Engineering (Yugoslavia). The Armbro team was able to lever off their experience in Canada (Terminal 3) as well as the international airport experience of their Canadian partners (e.g., in Istanbul, Hong Kong, etc.) and the strengths of British Aerospace.

The Armbro proposal was based on three alternative design concepts which were customized to the technical and functional criteria set out by the client. A sophisticated business plan was prepared incorporating cost estimates and financial projections and the proposal was presented to the client's technical and financial advisors using a physical model of the proposed facility. The Armbro team was selected to complete the project, contingent on a number of factors, including financing. The

Armbro proposal was reported as being particularly strong on flexibility, innovation and responsiveness to various host government concerns (such as cost and financial return).

Structuring the Bid

In structuring its bid although Armbro expected that World Bank and export credit agency support would be important for the project, it was hoped that the Canadian expertise developed in the Terminal 3 project would allow the securing of the needed commercial bank support. Consequently, at the outset, multi-country suppliers and their export credit agencies were not considered as essential. Furthermore, the expected revenue streams were viewed as quite attractive and the ratio of net present value to equity contribution was expected to be reasonable. Moreover, the project itself was expected to create as many as 3,000 man years of employment in the region.

However, as negotiations proceeded, the economic recession weakened Armbro's balance sheet at home. It subsequently became clear that other partners would have to be brought into the consortium to provide the needed equity and to secure the multilateral financial institution support which in turn would allow relevant commercial bank financing.

The signing of contractual documents in August, 1993, presented a new management challenge to Armbro. With the project moving one step closer to construction, additional pressures were placed to include some new players into the deal, and extensive efforts have had to be undertaken to organize the funding of the project. These pressures are common in major capital projects.

Cost of Front End Efforts up to the Point of Financing the Bid

Like most major capital projects, the cost of developing the Prague-Ruzyne project to the point of financing is estimated as approximately 3% of total capital costs, or Cdn$5 million. These costs include sizable legal fees. Such can be very substantive in countries where privatisation is new and where the legal framework is evolving. Specialist legal advice was needed to set up the joint venture, incorporate the commercial company (described earlier) and develop the legal framework necessary for the enforceability of the relevant contract documents (particularly those documents required by commercial financial institutions).

Project Finance

As previously indicated this project has yet to receive formal debt or equity financing commitments. Equity financing is currently scheduled to come from Armbro Airport Development Corporation, Bouygues, Investicini Banka A.S., British Aerospace Consultancy Services and Schiphol Airport Amsterdam. International Finance Corporation support is being sought and debt financing arrangements are being examined by a number of non-Canadian international commercial banks.

Equity

Pre-construction costs have been covered by the provision of services from some of the consortia members. These services would represent part of the equity contributions that will support the ongoing project.

Debt

Debt financing is expected to be provided in part by the various export credit agencies from the supplier countries and from commercial banks.

Risk Sharing and Managing Risks

Since the project is not financed (at the time of writing), risk sharing is still being defined. However, as the consortium currently stands risk is being managed as set out below.

Construction will take place on a turnkey basis, and this risk will be assumed by Bouygues.

Operating risk is being managed by Schiphol Airport Amsterdam, and will include the training of local operating personnel. Schiphol Airport Amsterdam will be assisted by Armbro and British Aerospace Consultancy Services in this activity.

Revenue risk is being shaped by air traffic experts. The contract will be fully indexed against inflation.

Lessons Learned

Despite many years of relevant international experience in the original team, the project managers did not anticipate the degree of early consortia management problems, the strength with which the project would be attacked by others, and the value of having a committed financial partner participating during the early stages of the project.

Key Success Factors

The project remains unfinanced at the time of writing. Accordingly identifying key success factors may be premature.

However, once the project goes ahead, a number of key success factors will be evident. These include:

- the importance of handling government to government interactions at the early stages of project development;
- demonstrating the viability of the project to potential lenders;
- close personal contact with the host country project sponsor;
- identification of key issues of concern in host country;
- creative solutions to local conditions/situation by credible team members;
- skill in managing consortia partners;
- the need to demonstrate that consortia partners have appropriate financial strengths required for undertaking long term negotiations; and,
- the ability to secure International Financial Institution support.

K&M Engineering and Consulting Corporation

Mamonal Project - Colombia

Introduction

K&M's Mamonal energy project in Colombia (US$70 million) illustrates a number of important points that are central to pursuing and concluding major capital projects . The project demonstrates how relatively small firms can successfully participate in the limited and non-recourse market in a developing country. More specifically the project demonstrates successful risk allocation mechanisms, financing acumen, strong structuring techniques, and comprehensive legal packaging for stakeholders.

Subsequent to closing two of the central players in the Mamonal project, K&M Engineering (the development team) and Rockefeller &Co formed a joint venture company, KMR Power Corporation. The corporation will be the managing general partner for Manmonal. The corporate mission is to develop and/or manage private sector power projects.

Corporate and Project Background

K&M formed in 1987 as an international engineering and consulting firm which concentrated its efforts on the gap that it believes exists between engineering technology and financing strategy for project development in the power industry. Today, K&M is a 150 person firm involved in a broader scope of engineering and project management activities and is active in power generation and distribution, telecommunications, oil, metals, water and waste treatment. K&M's experience in private power includes the Hub River project in Pakistan - a US$1.7 billion project that is generally considered to be a limited recourse project. The Hub River experience has provided a number of valuable lessons for K&M in its other limited recourse project assessments and undertakings. These and other projects have helped build K&M's reputation and strengthened the company's marketing position as a relatively high cost and highly competent project developer/manager/investor.

The Mamonal project was initiated and completed in an unusually short period of time. In August, 1991 Michael Kappaz spoke at a World Bank conference on private power in Cartagena, Colombia. During the conference interest was expressed in a private electric power plant. This interest gained further support from a group of industrial power users in the region. These industrial power users were by the limitations on power availability from the existing grid. The need for additional power was sufficient to mobilize the appropriate authorities to issue a tender to supply power.

Seventeen firms competed for the project, including Japanese, Italian, French, British, Korean and other U.S. developers. In May 1992, K&M was awarded the mandate to complete the contract. The deal was underwritten two months later. During the last half of 1992 dozens of agreements and protocols were negotiated (e.g., power purchase agreement, escrow accounts structuring, etc.), and in January 1993 the deal was closed. Mamonal was regarded as a noteworthy private power project and was selected as *Euromoney's* 1993 "Deal of the Year" for Latin America.

Deal Structure

The Mamonal project was a complex project due largely to the non-recourse nature of the deal. That is, the financing of the project was based on the cash-flow from electricity sales, without any financial guarantees from the host government. The government did provide guarantees for allowing escrow accounts to be set up outside the country, plus other guarantees, but these guarantees did not commit government financial resources to the project.

It is believed that this was the first non-recourse power project to be completed in a developing country. Developing the non-recourse structure was facilitated by the strong needs of the power purchasers, the ability of K&M to share risks outside the host country, a strong equity partners (Rockefeller & Co. and Scudder, Stevens & Clark), an interested and motivated commercial bank (Chase Manhattan), and financial participation from U.S. government entities such as the Overseas Private Investment Corporation.

The purchaser of the power is Proelectrica S.A., which sells it to 24 local industrial power consumers. The power purchase contracts are for 14 years and are based on a fixed capacity charge. The power purchase contracts are assigned to InterAmerican Leasing - a special purpose corporation registered in Delaware - which in turn are assigned to Chase Manhattan Bank, the lender for the project. Fuel supply is the responsibility of Proelectrica. Proelectrica is obligated to pay for a base amount of fuel from Ecopetrol, the state-owned natural gas supplier, but only if Ecopetrol meets certain quality and quantity guarantees.

Chase Manhattan Bank led the commercial lending segment of the deal with the intent (and favourable consideration) to syndicate the loan. The U.S. governments' Overseas Private Investment Corporation participated in US$35 million of Chase's original US$56 million loan, thereby greatly reducing the potential risk to Chase.

Project Structure

The project structure is shown on the page following.

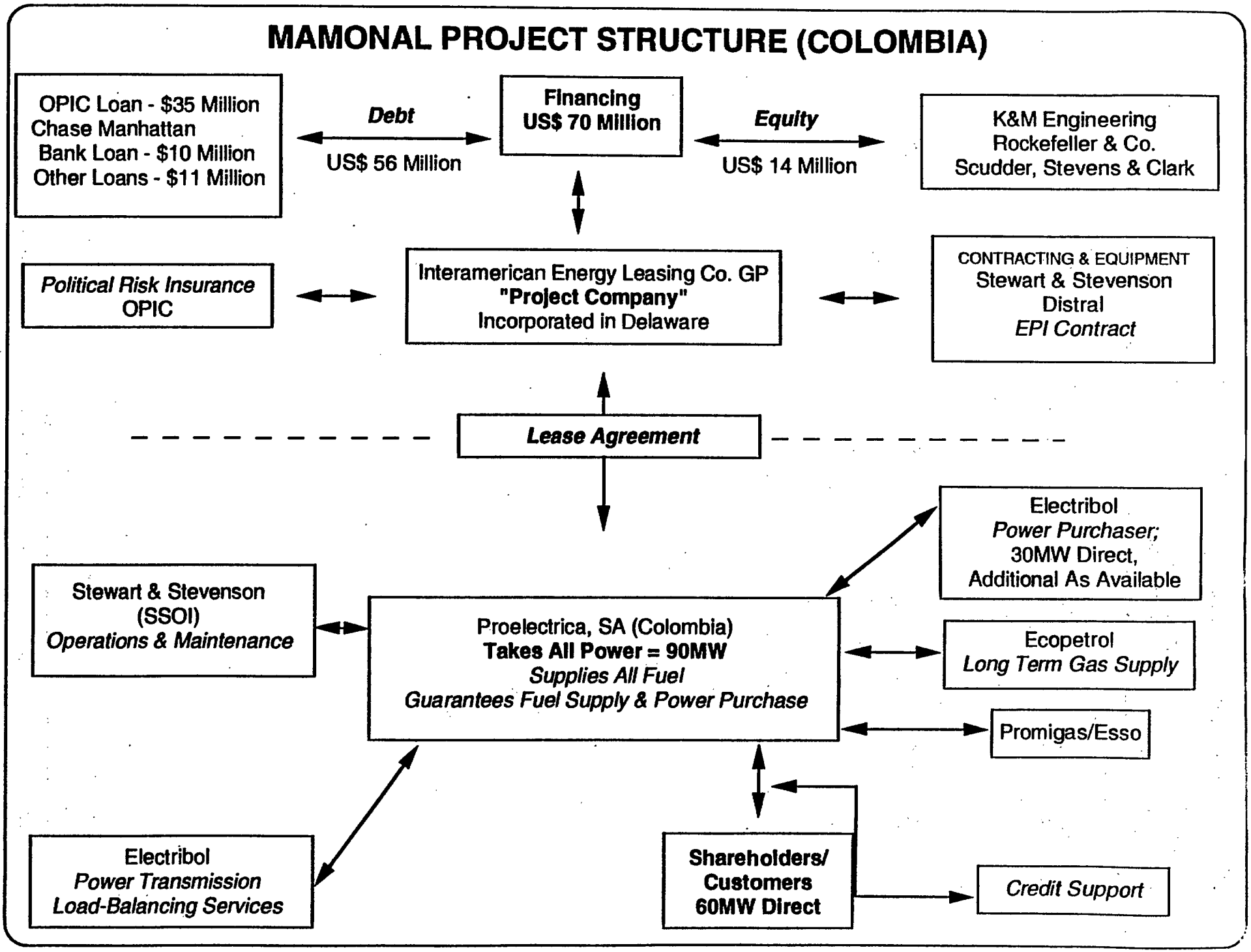
Marketing

The basic project concept was driven by an industrial company, Prochemica, which was unable to satisfy its electricity requirements. Only 10 hours/day of electricity was being supplied to Prochemica and others, due to insufficient hydro-electric generation. The company's unsupplied demand for electricity represented a severe constraint and a quick solution was required. The search for a solution led to the formation of a group of industrial users, Proelectrica S.A.

K&M's marketing effort was intense, both prior to and after being awarded the contract. Some of the challenges included developing a regulatory framework for the provision of private power, devising workable power purchase agreement , and establishing escrow accounts outside Colombia to which US$ earnings of Proelectrica would flow (with Colombian government consent). Like many other capital projects the pre-construction marketing costs averaged approximately 2 per cent or, US$ 1.5 million.

One challenge K&M faced was the aggressive bids put forward by manufacturers and/or their capitive financial companies. According to K&M, the proposals presented by these companies highlighted theoretical tariff rates (which were very attractive) and put less emphasis on the capital equipment which was, apparently, marked up considerably. K&M tariff bid was apparently more

MAMONAL PROJECT STRUCTURE (COLOMBIA)



realistic in that it reflected the real capital, legal, bank, and bid costs. Consequently K&M needed to educate the buyers, the government, financial institutions and others about their bid as well as the implications of the high capital cost approach of competitors. In some cases, this proved to be a very difficult task.

K&M's supply partners in the deal included Stewart and Stevenson Inc. (U.S.), who provided two steam-injection turbines, and who will operate the plant. The two boilers, the water treatment plant, and the civil works will be provided by the company Distral, of Colombia.

Finance

Like other limited and non-resource projects finding financial partners for the Mamonal project was laborious. Preliminary interest was expressed by a number of New York firms, however, few of these firms were project oriented, fewer firms were interested in Colombian risk, and even fewer would accept the deal. Even after preliminary indications were issued changes in financial institution support took place. This experience exemplifies the volatility of the financing phase of any non-recourse project in a developing country.

On the lending side Chase Manhattan arranged the $56 million 8.5 year loan. Chase syndicated parts of the loan, including US$35 million to the US Overseas Private Investment Corporation, and US$11 million to others. OPIC also provided political risk insurance. Hogg of the United Kingdom is insuring commercial risks.

Approximately US$14 million in equity was invested in the project by K&M Engineering, and Rockefeller and Co., Scudder, Stevens & Clark of Boston, and Chase Manhattan.

Legal Issues

Another difficult aspect of the Mamonal deal was the need to establish a regulatory framework within which the power could be purchased. Without this framework equity holders and lenders would be exposed to unacceptable risks. Fortunately Colombia has a legal system which can accommodate project finance - to a certain degree.

The legal environment of this financing is a hybrid one, with some of the contracts subject to Colombian law and other subject to New York State law. According to Chase as much New York law was used as possible, however, there were some agreements, such as contract disputes, that did not make sense in New York State. In this instance Miami became the arbitration centre.

Lessons Learned

There were a number of legal, financial and marketing lessons learned by K&M as a result of completing the Mamonal deal.

With regard to legal issues it was demonstrated that is possible to conclude a project in a country where there is a healthy and well-developed accounting system, an understanding of contract law, a system of litigation to adjudicate contract disputes and lien laws for taking security interests.

The financial lessons learned included the need to have strong equity partners in the deal. In this case the equity buy-in represented the catalyst for debt financing and signaled supplier credibility to the buyer.

In addition to lessons learned about the needed intensity of the marketing effort, it was reinforced to K&M that deals need to be concluded swiftly, and that delays tend to lead to terminally stalled deals. Another lesson was underscored which relates to the need to educate and work with a variety of host country buyers, government entities, as well as financiers and others.

Key Success Factors

A number of the key success factors relevant to this case study are described below:

- A track record of accomplishment and demonstrated experience, crucial to project stakeholders;
- Shrewd project management which recognizes, *inter alia,* the need to have all players in the deal "at risk". This helps to sharpen the focus of all participants, reduces the time that people are likely to be interested in the deal, and thereby accelerates problem identification and resolution or project implosion;
- A proposal that distinguished itself from others, in terms of price (critical) and buyer confidence in K&M to meet completion deadlines;
- Personal contacts and experience in the host country. Close working relationships with the World Bank and International Finance Corporation, and U.S. government agencies;
- A group of electricity buyers who were able to help find short cuts to bureaucratic impasses; and,
- A country with sufficient legal system integrity to effect a deal.

The Tate's Cairn Tunnel Project

Introduction

The Tate's Cairn Tunnel project in Hong Kong costing about HK$2.15 billion (US$ 265 million) illustrates a number of key points that are central to pursuing and completing major capital projects. The project demonstrates the importance of identifying key decision makers in the host country, addressing privatisation issues and undertaking flexible packaging of the deal. The ability of players to address risk, financing issues, structuring techniques, and legal packaging for stakeholders are also illustrated.

Project Background and Competitive Tendering

The use of BOT's to achieve private sector participation in Hong Kong's infrastructure projects, dates as far back as 1961. In fact, the first road tunnel under Victoria Harbour, known as the Cross Harbor Tunnel (which was designed for vehicular traffic) was the result of a private sector based pre-emptive bid made to the Territory's Government.

Hong Kong's continued success as an international trading and financial centre is based on many factors, not least of which is its comprehensive road and rail network, which provides for the rapid movement of both goods and people. Accordingly, following the success of the Cross Harbour Tunnel project, the Territory's Government awarded its second BOT type project in December 1985 to a Japanese, PRC, Hong Kong and British consortium led by Kumagai Gumi, one of Japan's leading international general contractors and real estate development companies. This consortium proposed an innovative concept of a combined road and rail tunnel across the Eastern side of Victoria Harbour (the Eastern Harbour Crossing) and the project was undertaken to overcome ever increasing traffic congestion. Kumagai Gumi has led several major BOT projects including the US$620 million Sydney Harbour Tunnel (with an Australian construction company) and the US$1 billion Bangkok Second Stage Expressway (with Thai partners).

As Hong Kong's growth continued, traffic congestion in the then existing road and tunnel systems resulted in the Government entertaining private sector involvement in another link, this time through the hills between the rapidly expanding New Territories region and Kowloon. Consequently, by 1988, a contract award was made for the Territory's third BOT project, the "Tate's Cairn Tunnel". Nishimatsu Construction Company, the seventh largest Japanese contractor, in joint venture with Gammon Construction Limited (whose shareholders are Hong Kong's oldest company Jardine, Matheson and Britain's Trafalgar House) were the successful bidders.

Nishimatsu and Gammon had worked together on several major projects including Hong Kong's Mass Transit Railway, Hong Kong Electric projects and other building projects overseas. In addition, the two firms had spent almost a year in developing a bid for the Eastern Harbour Crossing project and although they were not the winning bidder, the experience they gained allowed them to propose a BOT concept for the Tate's Cairn Tunnel.

The idea for Tate's Cairn came from discussions between Nishimatsu, Gammon and Maunsell Consultants Asia (a 900 person UK consultancy with a major presence in Hong Kong). It was clear that traffic volumes were growing and all existing routes in the area were already operating at full capacity for several hours each day. However, future transportation projects were bogged down for various reasons, and the priority of implementation hinged on public interest and general policy objectives. Maunsell Consultants Asia (MCA) agreed to do a sizable amount of pre-proposal work on a speculative basis to enhance the credibility of the proposal. Nishimatsu was

particularly interested in the project since it offered a good fit with its in-house tunneling expertise and as well, at the time, it had retained earnings in Hong Kong that it wished to reinvest in the Territory. Gammon proposed to use its significant experience in building major roadworks to complete the job.

As the proposal was being developed, the Joint Venture appointed Standard Chartered Asia as financial advisors. MCA became the engineering consultants and the MVA Consultancy was engaged as transport planners. By November 1986, the Gammon-Nishimatsu Joint Venture made a pre-emptive offer to the Hong Kong Government (HKG) to finance, build and operate the tunnel. Appropriate engineering drawings, construction details, estimates of the benefits to Hong Kong, financing and tunnel operation detail, toll structures and suggested hand-over dates to the Territory's government were included with the offer.

However, it turned out that the lessons learned by the HKG in its first two BOT's resulted in a policy of competitive tendering which it designed to protect public interests. A concise project brief defining the scope of the project and outlining the criteria upon which the proposals were to be evaluated, formed a central part of its tendering system. Accordingly, prior to inviting interested parties to bid, the HKG conducted its own engineering feasibility study and carried out extensive financial analysis. Tender documents containing the project brief and outlining a "conforming scheme" were issued in May, 1987. Developing the tender documents was a major task for HKG officials since in addition to addressing whether or not privatisation of this tunnel was feasible and politically acceptable, the appropriate legislation and the nature of the desired concession had to be agreed upon.

It is worth noting that the contract was awarded in early 1988. This relatively short period of time between invitation to bid and contract award was attributed to the established format adopted by the HKG. The government took a proactive approach and had its proposal evaluation teams and relevant meetings all pre-programmed prior to inviting bidders.

Six consortia bid for the project. The consortia were composed of a wide cross-section of international interests including PRC, Japanese, French, UK and local companies. The evaluation and selection needed to reduce the list to three bidders was completed by the HKG in approximately two months and was carried out by three evaluation panels which were set up to assess the Financial, Engineering and Transportation Operations aspects of the proposal. A Merchant Bank was also appointed as the financial advisor to provide specialist input on financial matters.

Within the short list, the two leading contenders turned out to be the Gammon-Nishimatsu Joint Venture and a consortium led by the French. In drawing up their response to the tender, the Gammon-Nishimatsu Joint Venture made some important amendments to their plans which included streamlining the design and construction methods to allow the original HKG construction period of 54 months to be reduced by some 17 months. However, this was not enough to win the bid by itself. The award went to the Gammon-Nishimatsu Joint Venture only after the Joint Venture agreed to undertake significant risks including a fixed price for construction, low initial tolls and a stable toll structure (i.e., escalation of tolls was to be avoided), and provision of a cash deficit guarantee (i.e., during the first five years should the operating company be unable to meet the debt load from revenues, the shareholders would "top up" the deficit).

Deal Structure

The Tate's Cairn Tunnel was largely a non-recourse deal. That is, the financing of the project was essentially based on the cash-flow from road tolls, with no financial guarantees from the host government.

Development of the non-recourse structure was facilitated by a number of factors. These included: the fact that the tunnel was urgently needed to relieve the traffic congestion on the then sole major trunk route linking Kowloon and the North-East New Territories, the ability of Nishimatsu Construction Company to substantially underwrite the initial financial risks, the introduction of strong equity partners during the final stages of negotiation with the Territory's Government (New World Development and China Resources), and an interested and proactive host government.

After initial negotiations with the three short-listed bidders for the project, the HKG offered the Gammon-Nishimatsu Joint Venture acting on behalf of the proposed Tate's Cairn Tunnel Company, a 30 year franchise to build and operate the project. To win the bid, the Joint Venture had to agree to undertake certain significant risks which are described above. The HKG also required that before the ordinance (which sets out the obligations and liabilities of both the HKG and the tunnel company) was put in place, the shareholdings in the Tate's Cairn Tunnel Company would have to be finalised and subsequent restructuring would not be permitted. Some five months after the award was made, three additional equity partners were introduced and the Tate's Cairn Tunnel ordinance was enacted.

The final franchise was awarded to the Tate's Cairn Tunnel Company. Although the HKG has no shareholding in the company, it has the right to appoint two directors. Furthermore, the loan agreements between the Tunnel Company and its major lenders require the approval of the HKG. This ensures that the terms do not conflict with the contractual obligations which the Company has with the HKG.

The management and financial control aspects of the project were undertaken by a supervisory board consisting of four representatives from each of Gammon and Nishimatsu. Day to day management of the sub-contractors and designers, including interface with the Highways Department and quality assurance engineers (see below) was carried out through the project management team. Payments by the Tunnel Company to the Joint Venture were made relative to pre-determined interim payment schedules and were subject to the progress of the work as certified by the appointed independent quality assurance engineer.

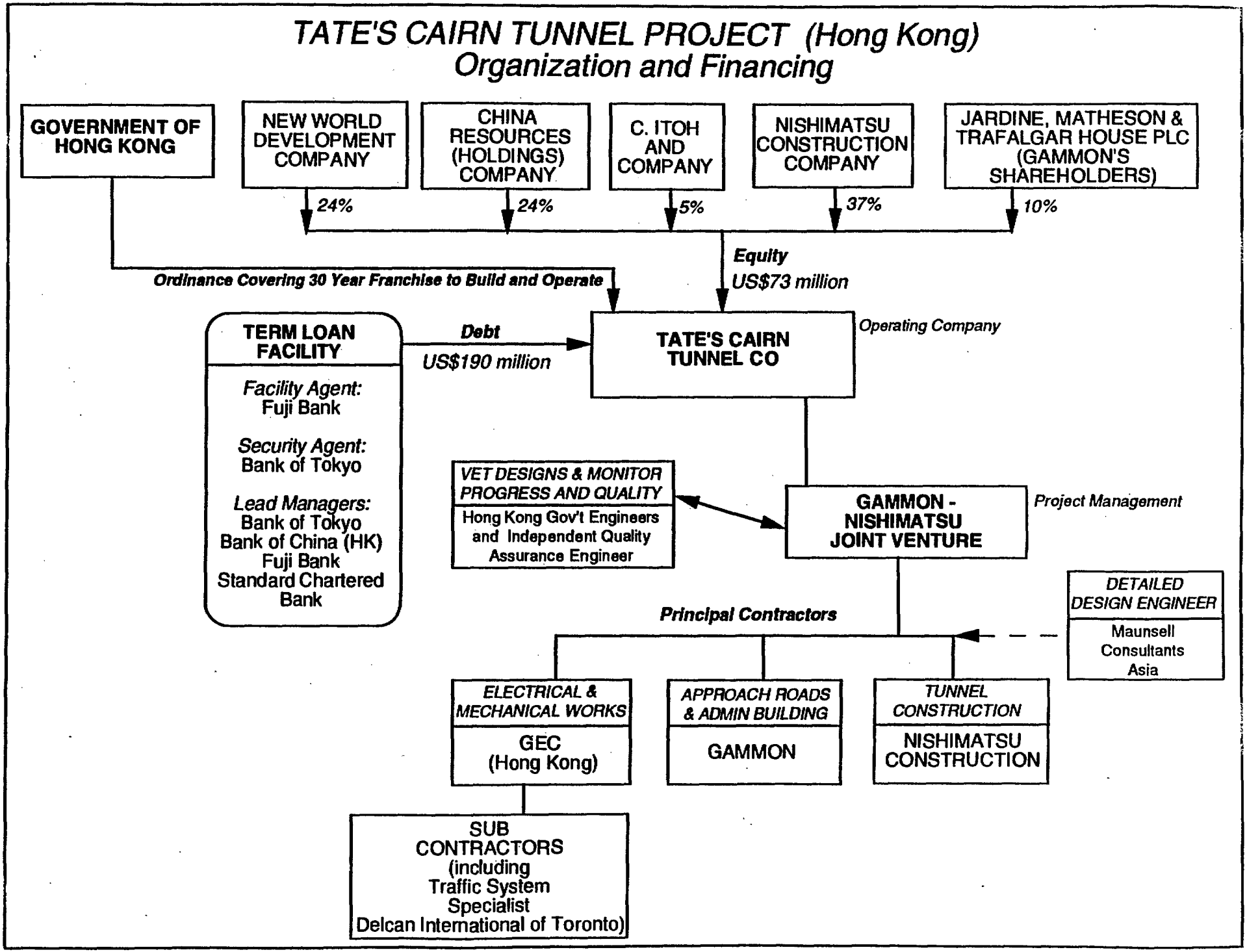
A multi-source debt financing package was provided by a consortium of commercial banks. The facility agent for the US$170 million term loan was the Fuji Bank while the security agent was the Bank of Tokyo. Terms of the debt financings include repayment provisions extending some 12.5 years from the date the tunnel was opened to the general public. As stated earlier, there were no financial guarantees, "soft loans" or special aid from any government. The debt is to be repaid solely from road tolls. Finally, attached to the loan facility are a number of terms and conditions , requiring the borrower (the Tunnel Company) to provide guarantees against such items as construction cost and time overruns.

The organization and financing of the project is illustrated in the diagram shown on the page following.

Marketing

The basic project concept emerged as a result of heavy traffic congestion on the routes between the New Territories and Kowloon. Lengthy delays were experienced by users of the then existing

TATE'S CAIRN TUNNEL PROJECT (Hong Kong)
Organization and Financing



roads and it became clear that the rising traffic volumes would make the project a priority for the HKG. A solution that could be put in place reasonably quickly was judged to be attractive and this led to action by Nishimatsu, Gammon and Maunsell Consultants Asia.

These players offered significant credibility to the potential client. Nishimatsu's depth of in-house tunnel and other expertise, its project management strengths together with its capability to provide financing for investigation and execution of major projects, served as an important consideration in proposing a BOT solution. Gammon was also a credible player in the region and had access to equity from its main shareholders (Trafalgar House and Jardine, Matheson). Moreover, in the UK, Trafalgar House had been a participant in a major BOT scheme similar to the Tate's Cairn Tunnel. Through its subsidiary company, Dartford River Crossing Limited, Trafalgar is operating two tunnels under the Thames while constructing a new cable-stay bridge (at the time) over the river which, when complete, was to be run in tandem with the tunnels. Toll revenues were to be used to fund the Dartford crossing and once the debt was repaid, the concession would be handed back to the British Government. MCA was recognised as a leading specialty design consultant in the Territory and apparently carried out the relevant pre-proposal work (for as long as a year) at its own cost.

Although Gammon and Nishimatsu were first off the mark in submitting a pre-emptive bid for the Tate's Cairn Tunnel, it was soon clear that the HKG was developing a procedure for competitive tendering and that stiff competition would emerge. Moreover, even in a small Territory such as Hong Kong (with its relatively compact bureaucracy), it was quite difficult to assess which government officials would be the key decision makers in the evaluation of tenders. The Transportation Ministry was clearly one of the influencers but bidders also needed to determine the relative importance of finance, policy and legal issues and put in place a strategy to reach the potential decision makers in these matters. In this project, those bidders who made the short list gave more attention to developing such a strategy.

The evaluation criteria that were used to assess proposal were set out in the Tate's Cairn Tunnel Project brief. The HKG's key criteria included:

(a) the level and stability of the proposed toll regime;

(b) the benefits to government and the community;

(c) the speed of completion of the project;

(d) the length of the franchise period;

(e) the financial strength of the interested parties together with the degree of their financial support for the project;

(f) the proposed corporate and financial structure of the Company, in particular the debt to equity ratio;

(g) the quality of the engineering design, construction methods and works programming for the road tunnel and approach roads including all traffic control, surveillance, and tunnel Electrical and Mechanical, ventilation and lighting systems;

(h) the proposed tunnel operation and maintenance and inspection requirements; and,

(i) the ability to manage and operate the tunnel efficiently.

The brief clearly stated that points (a) to (c) were of greatest importance. Moreover, the HKG included as part of the tendering process, a negotiation procedure with its three short-listed consortia. In these negotiating sessions, engineering issues related to the shortest possible

construction period were clarified with the chosen bidders and the financial viability of the lowest possible starting toll as well as protection against unanticipated toll increases were discussed in detail. Meeting the desired objectives of the HKG required significant packaging and structuring skills. The ability of bidders to assess the financial implications of the government's preferences and to respond appropriately was very important.

Finally, all of the short listed consortia turned out to be contractor led. There were both advantages and disadvantages associated with a contractor serving as the champion. The advantages to the HKG were that since the contractor's profit would come from two sources namely construction of the Tunnel and long term operation of the concession, there would be a significant incentive to complete the project on time and well within budget (any overruns would have a negative impact of the breakeven for the concession). The disadvantage is that governments tend to view contractors as being more interested in completing large construction projects and getting out early with their profits rather than being oriented to the long run investment that operating a concession requires. The perceived lack of long term commitment by a principal shareholder (in this case a contractor) could have been seen as a problem for the subsequent operation and maintenance of the Tunnel.

Finance

Initial financial risks associated with proposal preparation and making a pre-emptive offer were substantially underwritten by Nishimatsu Construction Company. Additional equity partners were added once the award was secured and this resulted in a redistribution of shareholdings as shown in the organization and financing exhibit presented earlier. A US$262 million multi-source debt and equity package was arranged for the Tate's Cairn Tunnel Company The package was comprised of a US$ 190 million debt financing package and US$72 million in equity. The financing structure was designed to accommodate the objectives and constraints of the project sponsors and future shareholders, financial institutions and the Hong Kong Government.

On the lending side Fuji Bank arranged the $190 million 12.5 year loan. Fuji syndicated parts of the loan to as many as seventeen other banks. As stated earlier, there were no financial guarantees, "soft loans" or special aid from any government. The debt is to be repaid solely from road tolls Security for the debt and equity financing rests on the 30-year road franchise granted to the Tunnel Company. Attached to the loan facility are a number of terms and conditions , requiring the borrower (the Tunnel Company) to provide guarantees against such items as construction cost and time overruns. Finally, a United Kingdom based specialist underwriter is insuring commercial risks.

Approximately US$72 million in equity was invested in the project by Nishimatsu, Gammon's main shareholders (Trafalgar House and Jardine, Matheson), New World Development Co. Ltd. (a diversified Hong Kong based developer), China Resources (Holdings) Ltd. (a Hong Kong based trading operation) and C. Itoh (a leading Japanese trading and investment house).

Shareholders' equity was drawn first to fund the initial 15 months of construction with the term loan facility being utilised to complete the project and to cover operating expenses during the initial years of operation.

Legal Issues

The obligations of both the government and the Tunnel Company were set out in the ordinance that the Legislature passed granting the franchise to the Tunnel Company. These conditions included restrictions on assignment of mortgages, company structure and level of paid-up capital,

government royalty and equity provisions, construction period, broad terms of the project, defects and repairs responsibilities, power to collect tolls, default and expiration of the franchise and powers of the Government over the franchisee.

The contractual agreement that was extracted by the HKG required the Tunnel Company to undertake risks from toll limits as well as fixed price turn-key construction within tight timelines. There was a bonus clause for completion ahead of schedule and as well there were liquidated damages should the project be late. The concession period is for 30 years and an interest rate "cap" guarantee had to be provided.

The Tunnel Company took the financing risk and the Gammon-Nishimatsu Joint Venture in its role as project manager dealt with the sub-contractors. Sub-contractors were independently liable for their obligations and faced significant challenges regarding completion of the work on time.

Lessons Learned

Possible to conclude a project in a country where there is a healthy and well-developed financial system, a previous history of BOT's, an understanding of contract law, a system of litigation to adjudicate contract disputes and lien laws for taking security interests.

The need to have strong equity partners was also clear to Gammon-Nishimatsu Joint Venture. Nishimatsu's equity position represented the catalyst for debt financing and signals supplier credibility to the buyer. Nishimatsu was also viewed as a strong champion. At the same time, in the case of the Tate's Cairn Tunnel there was a lot of available cash chasing a limited number of investment opportunities. The situation today is somewhat less favourable.

Need to identify and negotiate with a variety of host country buyers, government entities, as well as financiers and others. This requires a good understanding of their key interests and roles. In this project existing relationships and previous relevant experience provided by consortia members were very useful.

Government officials and their advisors can be very demanding and are sophisticated in their negotiating capabilities.

Key Success Factors

Delcan International was a sub-contractor to GEC Hong Kong and provided traffic control systems for the project. Delcan attributed its success in winning the sub-contract to two main factors. These were: its distinctive expertise in traffic control systems and its on-site presence in Hong Kong. The firm's expertise was honed in Canada as a result of completing projects such as the Highway 401 work. Delcan's on site presence in Hong Kong dates back to 1988, when it established an office in the Territory and it began doing work in Kowloon.

Included among the key success factors in this project are:

- A track record of accomplishment and demonstrated experience, crucial to project stakeholders. Also, team members should know each other and preferably have worked together on other projects;

- A proposal that distinguished itself from others, in terms of calculated risk taking as part of a competitive financial package, imaginative yet credible technical solutions and buyer confidence in the consortia leaders to meet completion deadlines;
- Personal contacts and experience in the host country. In this case, identification of the role played by Transportation, Finance and Legal officials within the HKG was quite important;
- The ability to find shareholders who can meet the equity requirements of the project; and,
- A country with sufficient legal system integrity to effect a deal.

March, 1994

The Structuring and Financing of International Capital Projects

FINAL REPORT

TCI *Toronto Consultants International Limited*

APPENDIX A
Selected Glossary

Selected Glossary

General

Bilateral Aid	Refers to development assistance (measured in dollars, and manifested in specific project initiatives) offered by a donor country to a recipient country.
Financial Engineering	The development of complex, custom made financial solutions (debt and equity), or a number of linked solutions, in response to situations where no traditional financing product is adequate.
Lenders vs. Sponsors	Lenders are institutions/individuals who extend credit to borrowers, while the term "sponsors" refers to the organization or group that is responsible for repaying the lenders.
Line of Credit	A borrowed amount - usually stipulated in advance - granted from a lender to a beneficiary, generally on a cross-border basis.

Insurance

Commercial Risk	The possibility of a loss occurring, arising from commercial causes.
Non-commercial risk	A casualty risk, political risk, expropriation, acts of God, currency, convertibility, technological risks, failure of management. A non-commercial risk can usually be covered by insurance. If insurance is not available, the sponsor must usually assume such risks in a project financing.
Political risk	The possibility of a loss occurring, arising from political causes. Political risk usually refers to the risks that project lenders and sponsors face in foreign countries; risks that are controlled by the political apparatus of a country, such as expropriation, foreign exchange controls and other state imposed actions.
Pre-shipment risk	Event causing loss which occurs after contract signature but before shipment of the goods.

Finance

BOO, BOT, BOOT	As a result of credit constraints worldwide, countries have been looking for innovative new ways of financing projects.. One set of such techniques is the "Build, Own, Operate" (BOO), "Build, Own, Transfer" (BOT), and "Build, Own, Operate, Transfer" (BOOT). These terms describe very similar transactions. The underlying approach involves a group of equity investors (including contractors and equipment suppliers) assuming the risk of design, construction, financing, completion, start-up and operation of a project. Cash for repayment and of investment and loans necessary to construct the project and capitalise interest during construction and start-up, plus a margin for safety and profit, comes from the cash flow generated by providing the product or service over a number of years. This cash flow may be guaranteed by a government or user of the product or service under an unconditional "take-or-pay" contract or a conditional "take-and-pay" (take if delivered) contract. The concept of BOO is the same as BOT and BOOT, except that in BOO it is recognised that the project facility will be owned and operated by the investors for most of its useful life, so that the "transfer" if and when it does occur will be of a facility with little contemplated continuing value.
Call	An option giving the holder the right, but not the obligation, to buy a specific quantity of an asset for a fixed price during a specific period.
Concessional financing	Financing below generally accepted "market rates"
Concensus financing	Financing provided according to the OECD Consensus Agreement. This Agreement sets out the minimum interest rates, grace periods and other financial elements of lending by Export Credit Agencies (or their agents) to borrowing countries.
Co-manager	A member of the management group of a securities offering other than the leading manager(s).
Cross-border loans	Cross-border loans consist of loans in which a bank in one country making a commercial loan to a borrower in a separate country. Also refer to a syndicate of banks from one or more countries loaning to a project or borrower in another country.
Drawdown period	The period during which the financing is available to be drawn.
Final maturity	The date on which the final repayment of principle is due.
Forward	A contract obligating one party to buy, and the other to sell, a specific asset for a fixed price at a future date.
Future	A forward contract traded on an exchange.

Long term	Usually any credit period over five years.
Mixed Credits	Mixed credits are those credits that blend both financing issued under OECD guidelines with aid moneys provided by foreign governments to the host government.
Off-take	The product produced by a project.
Project financing	A method of financing a project or a specific economic unit whereby the lenders are secured primarily against the cash flow the project is expected to generate once in production, though the assets of the project could serve as collateral as well. The project itself is carried out by a new company formed by its sponsors or owners.
Pure project financing	The lenders have recourse only to the assets and cash flow of the project, and hence the project sponsors and other parties are under no financial and legal constraint.
Impure project financing	The lenders have recourse to, and can expect support from the sponsors and third parties, allowing lenders to shift some or all of the risks - backward to capital equipment suppliers, or forward to sponsors, governments, and consumers.
Non-recourse project financing	The lenders look only to the project for repayment of their loan and there is no credit support from sponsors. This type of financing is usually confined to projects where no new technology is involved, where special circumstances reduces the risk, or where the project is very conventional in nature.
Limited recourse project financing	A combination of non-recourse project financing and other types of arrangements where the lenders have only limited recourse to the sponsors/guarantors in the event of deficiency in debt repayment.
Put	An option giving the holder the right, but not the obligation, to sell a specific quantity of an asset for a fixed price during a specific period.
Soft financing	See concessional financing.
Sovereign guarantees	Guarantees issued by borrowing countries. These guarantees refer to the promise of the borrowing country to repay its debts based on the name (and financial capacity) of the borrowing country. These guarantees can be related to financial obligations and non-financial obligations.
Swap	An agreement by two parties to exchange a series of cash flows in the future, as, for example, fixed interest rate payments for floating-rate payments.

Contracting

Bid bond	A bond provided by a bank to the buyer promising compensation, usually on demand, in the event that a supplier declines to enter into a contract in conformity with the bid he has put forward.
Commissioning	The date on which the plant or equipment supplied is deemed contractually to have been completed according to specification.
Design-build	The design-build model is a construction delivery system where one entity signs a single contract accepting full responsibility for both the design and construction phases of the project
EPC	Engineer/Procure/Construct. The provision of a full range of services related to design through equipment procurement to construction. Some companies supplying these services have an equipment manufacturing capability. Generally such projects are equipment intensive such as a pulp and paper mill.
Fixed price	Usually used in the same sense as lump sum, but referring to goods rather than services.
Lump sum	A fixed sum agreed at the outset of a contract, payable by the buyer for a specified task; frequently used to define payment for services.
Performance bond	A bond provided by a bank or an insurance company to the buyer promising compensation, usually on demand for bank bonds, in the event that the goods supplied do not perform within the agreed specifications.
Take-and-pay contract	A take-and-pay contract is sometimes used to describe a contract in which payment is contingent upon delivery and the obligation to pay is not unconditional, as in a take-or-pay contract.
Take-or-pay contract	A take-or-pay contract is a long-term contract to make periodic payments over the life of the contract in certain minimum amounts as payments for a service or a product. The payments are in an amount sufficient to service the debt needed to finance the project which provides the services or the product and to pay operating expenses of the project. The obligation to make minimum payments is unconditional, and must be paid whether or not the service or product is actually furnished or delivered.
Tender/Bid	An offer, containing technical, commercial and financial aspects, and a price, to carry out works.
Turn-key	An expression used to describe contractual responsibility to build and hand over to a client a completed and tested plant operating to specifications.

March, 1994

The Structuring and Financing of International Capital Projects

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APPENDIX B
Steering Committee Members and List of Individuals Contacted

Steering Committee Members

Name	Company / Organization	Location
Client:		
Ed Cuylits	Industry Canada	Ottawa
Christopher Charette	Industry Canada	Ottawa
Philip Morrison*	Industry Canada	Ottawa
**Client Contact*		
Client:		
Robert Shaw-Wood	Dept. of Foreign Affairs & International Trade	Ottawa
Suzanne Sabourin	Dept. of Foreign Affairs & International Trade	Ottawa
Chairman:		
Don Welch	Golder Associates	Mississauga
John Balint	EDC	Ottawa
Tony Burges	Association of Consulting Engineers of Canada	Ottawa
Terry Glavin	CIDA, Industrial Cooperation Division	Ottawa
Wido Hoville	Asea Brown Boveri Inc.	Montreal
Yvon Jolicoeur	Canadian Commercial Corporation	Ottawa
Mike Makin	Canadian Construction Association	Ottawa
Graham Williams	Monenco AGRA	Oakville
Tom Cullen	Babcock & Wilcox	Cambridge, Ontario
Robin Gray	V.P. Trade, Royal Bank	Toronto
Paul Toriel	Entrepreneurship & Small Business, Industry Canada	Ottawa
Brad Nelson	Ellis-Don Construction Ltd.	London, Ontario

List of Individuals Interviewed

	Name	Company / Organization	Location
1	Carole Malo	SNC-Lavalin	Montreal
2	Peter Hall		
3	Raymond Favreau		
4	Ron Denom		
5	Richard Masse		
6	Anthony Rustin		
7	Jacques Huot		
8	Don Welch	Golder Associates	Mississauga
9	Vic Milligan		
10	David Lawson	Monenco AGRA	Oakville
11	Graham Williams	Monenco AGRA	Oakville
12	Bill Weinstein	Consulting Engineers of Ontario	Toronto
13	Dave Duggan	DELCAN International	North York, Ontario
14	K.H. Lee		
15	John Walker	Mihaly International	Oakville, Ontario
16	John Beck	Armbro Enterprises	Brampton, Ontario
17	Shirley Duffy		
18	Curtis Whyte	Canora (Asia)	Edmonton
19	John Archibald		
20	Hubert Larose	Industry Canada	Ottawa
21	Philippe Roy		
22	David Graham	Graham & Associates	Ottawa
23	Tom Cullen	Babcock & Wilcox	Cambridge, Ontario
24	Jim Wessinger	Ontario International Corporation	Toronto
25	Vern Coates		
26	Harry Chan	The Foundation Company	Toronto
27	Bill Longden	Marshall Macklin Monaghan	Ontario
28	Peter Overton		

	Name	Company / Organization	Location
29	Mark Senn	Asst. V.P. Trade Finance, ABN-AMRO Bank	Toronto
30	Peter Redolfi	ABN-AMRO Bank	
31	Patrick Auffret	French Embassy	Washington, D.C.
32	Jack Randolph	Department of Commerce	Washington, D.C.
33	Jay Smith		
34	Tony Berger	Asian Development Bank	Manila, Phillipines
35	Various Officials	Canadian Embassy	Washington, D.C.
36	Ned White	Centre for Financial Engineering in Development	Washington, D.C.
37	Adolpho Mendez	K&M Engineering & Consulting Corp.	Washington, D.C..
38	Ralph Fairbanks		
39	Sy Taubenblatt	Bechtel	Washington, D.C.
40	Harry Tyner	GAO	Washington D.C.
41	Angelo Iasiello	U.S. ACEC	Washington, D.C.
42	Ibraham Alwon	The World Bank	Washington, D.C.
43	Suman Babbar		
44	Rauf Diwan	I.F.C.	Washington, D.C.
45	Mike Gunter	U.S. Exim Bank	Washington, D.C.
46	Carol Hessler		
47	Amy Seigel		
48	Bill Peterson	Construction Industry Manufacturers Association	Washington, D.C.
49	Clive Palmer	GEC Alsthom International	London, U.K.
50	James Maplehurst		
51	John Jardine	UK Department of Trade & Industry	London, U.K.
52	Peter Maplestone		
53	Richard Wade	RWSD Consulting in Cross-Border Finance	London, U.K.
54	Patrick Paul	Commercial Director, Bouygues	Paris, France

	Name	Company / Organization	Location
55	Xavier Roux	Credit Lyonnais	Paris, France
56	Cyril Girard		
57	Rene Kassis		
58	Stephane Azibert		
59	Sid Jaycock	TDI Projects	Edmonton, Alberta
60	Robbie Noel	Industry Canada's International Trade Centre	Montreal, Quebec
61	Irving Freedman		
62	Brian Bentz	H.A. Simons	Vancouver
63	Kevin O'Brien		
64	Graham Godley	Crown Agents Financial Services Ltd.	Surrey, UK
65	Ed Tondu	Formerly with Stone & Webster	
66	Hugh Tattersall		
67	Diane Rudo	Taylor-DeJong	Washington, D.C.
68	Terry Newendorp		
69	Gerald Schwinn	RCG/Hagler, Bailly Inc.	Arlington, Virginia
70	Ross Clayton	B.C. Trade Development Corporation	Vancouver
71	Jim Jaddock		
72	Charles Attard	V.P. Export & Project Finance, Barclays Bank	Toronto
73	Anne C. Aurelius	Snr. V.P., Trade Finance, Barclays Bank	
74	Robin Gray	V.P. Trade, Royal Bank	Toronto.
75	Ed Roberts	Chase Manhattan Bank	New York
76	Sanjay Khettry	Barclays Bank	New York
77	Ed Cuylits	Industry Canada	Ottawa
78	Chris Charette		
79	Rob Shaw-Wood	Foreign Affairs & International Trade	Ottawa
80	Tony Burges	ACEC	Ottawa
81	John Balint	EDC	Ottawa

	Name	Company / Organization	Location
82	Jack Baker	Acres International.	Toronto
83	Wido Hoville	Asea Brown Boveri Inc.	Montreal
84	Norm Huggins	Gore & Storrie	Toronto
85	Terry Chamberlain	Construction Assoc. of Gen. Contractors of Americ	Washington, D.C.
86	Arne Myhre	Arpi & Gibson Int. S.A.	Brussels, Belgian.
87	Jan Prins	Snr V.P., Project Finance, ABN AMRO Amsterdam	The Netherlands
88	George Van Ranhorst		
89	John Knowles	UMA Group	Vancouver, B.C.
90	Al Curleigh	KSH	Montreal, Quebec.
91	Ken Lewis	TCS (State Group)	Toronto
92	Al Fabian		
93	Jeff Woldatt	Stanley Group	Edmonton, Alberta
94	Bob Dawson	Stanley Associates	Vancouver, B.C.
95	Robert DeBoer	Project Finance, Barclays PLC Netherlands.	Amsterdam, The Neth'l'd
96	Bram Wignen	Snr. Manager, Export Finance, ING Bank	Amsterdam, The Neth'l'd
97	Rolf Scherpenhuyzsen		
98	Bob Crick	ECGD	London, U.K.
99	Peter Halfpenny		
100	Anthony Redmayne		
101	Conducted in Confidence	COFACE	Paris, France
102	Rolf Brusse	CIBC, Trade Finance	Toronto
103	Hendrik Weiler	International Trade Centre, Industry Canada	Toronto
			March, 1994

March, 1994

The Structuring and Financing of International Capital Projects

A FINAL REPORT FROM

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APPENDIX C
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March, 1994

The Structuring and Financing of International Capital Projects

A FINAL REPORT FROM

TCI *Toronto Consultants International Limited*

APPENDIX D
Procedure Guide/Checklist

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APPENDIX D

Procedure Guide / Checklist

Table of Contents

This checklist has been designed for firms contemplating entry into the international capital projects market. It is intended to serve solely as a guide to assist in highlighting the many decisions that players face. Clearly, each project has its own unique characteristics and due diligence is required on many different fronts. The material presented herein allows insight into the various issues that are normally considered by the leading firms who are actively engaged in this complex marketplace.

I. MARKET INTELLIGENCE / PRE-SCREENING

PRELIMINARY ANALYSIS ON HOST COUNTRY

1 In which countries are new projects of interest to your firm developing
2 What is the Canadian Government's / EDC's attitudes toward these host countries
3 What is the assessment of the political risk in these countries
4 Does your firm (or its strategic allies) have an on-site presence in these countries
5 Which of these projects appear to be in the host countries' development plan and thus are most likely to move ahead
6 Is the project likely to offer sufficient benefits to the (local) public to make it politically sound
7 Is there an established foreign exchange budget or mechanism for payments (in the host country)

INITIAL RISK / REWARD CONSIDERATIONS

8 What is the estimated length of time needed for the project planning and initiation steps
9 What is the likely scope of the project and the involvement for a firm such as yours
10 Is the expected size of budget likely to be sufficiently interesting to your firm

LIKELY PARTNERSHIP MODELS

11 What is the partnership model applicable to the project (e.g., Turnkey, EPC, Design Build, BOOT, BOT)
12 Does the Host Government have any experience in these kinds of partnership models
13 Is the Host Government likely to hire professional advisors to assist in defining its objectives and in its strategy formulation
14 Is the legal/policy environment likely to be conducive to the kind project financing judged as required in the situation
15 Is there any particular technology or reference supplier that the client is focussing on
16 Does your firm have any on-site contacts who can help identify the Key Decision Makers
17 Are any of the potential Key Decision Makers (or their likely advisors) well disposed toward your firm
18 Is the evaluation process for selection of a winning bidder likely to be well defined

NEGOTIATIONS AND ARRANGEMENTS

19 When is the project likely to move to a Request For Proposal and how many consortia are likely to bid
20 Is the project likely to receive any International Financial Institution support
21 Who are the competitors judged as most likely to bid and how are they perceived by the client
22 Which countries are the competitors most likely to be from and what type of home government support is available to them
23 Are you able to readily identify and attract preferred joint venture members and/or subcontractors

I. MARKET INTELLIGENCE / PRE-SCREENING

24 Is the host country's legal system, tax laws and banking system sufficiently stable to support execution of the project
25 Does the project appear to be sufficiently financially feasible to attract commercial financing
26 Are you likely to find partners of sound financial standing and with appropriate track records who will be willing to share liabilities, put up the required equity, form a Vehicle Company, provide in-house specialists and meet bonding requirements

DECIDING WHETHER TO PROCEED

27 Is your company financially able to participate in the proportionate funding of the "front end" costs associated with bidding on the project
28 What (if any) strategies appear to be best for your participation in this project

II. IDENTIFYING AND MITIGATING RISKS

1 Does the technology available from your firm together with that available from partners make the project appear to be technically feasible to knowledgeable third parties
2 Have you identified the main risks in the project development stage such as planning/environmental risks, construction delays, cost overrun, design risks and bankruptcy
3 Have you identified the main operational risks such as lower cash flows than expected, collapse of the franchisee, government intervention
4 Have you taken into account the main financial risks including currency convertibility, exchange rate risk, and, interest rate fluctuations
5 Have political risks such as potential expropriation, legal challenges, unilateral action on capping revenue streams from the project been taken into account
6 Have you explored how best to manage the above risks by securing insurance, indemnities, and by passing them on to other sound project participants
7 Have you determined which risks cannot be passed off to other parties and are integral to your position in the project
8 Have you put in place an on-going process to closely manage your portion of the project at each step and to keep current in the assessment of current and potential risks

III. ESSENTIAL INGREDIENTS FOR SUCCESS

1 Is the project likely to be viewed as sufficiently financially viable to secure the needed financing
2 Is the Host Government committed to undertaking the project and is there a strong need for it (good public support)
3 Have you secured a strong champion to assist in getting relevant home government support
4 Are the project sponsors credible and credit worthy. Also, has an operator with a good track record been secured for the franchise
5 Has the allocation of risk (set out previously) been agreed upon by the various parties

IV. ADEQUATE ATTENTION TO INITIAL SET-UP ACTIVITIES

1 Have well qualified advisors been appointed at the outset to handle legal, financial and risk issues
2 Has an information memorandum been prepared to prove that the project is viable and to attract lenders/participants
3 Has a finance plan been prepared to demonstrate that the sources of finance have been considered
4 Has a security package been prepared to establish the means of security, its effectiveness and allocation
5 Have resources been assigned to maintain close liaison with Key Decision Makers and negotiate the structure of the deal

NOTES

- [ ] Project Initiation and Planning
- [ ] Design
- [ ] Financing
- [ ] Construction
- [ ] Ownership
- [ ] Operation
- [ ] Revenue Collection

V. CHOOSING A STRATEGIC PARTNER

NOTES

1 *What Resources does the partner bring*

- [ ] Money
- [ ] Technology
- [ ] Information
- [ ] Risk Analysis
- [ ] People

2 *What Key Relationships does the partner bring*

- [ ] High Profile with Buyers and Influencers
- [ ] Well Established Local "On-site" Networks
- [ ] Access to Commercial Banks and Other Sources of Financing

3 *What is the Reputation of the partner*

- [ ] Credible Track Record in International Capital Projects
- [ ] Innovative
- [ ] Disciplined Entrepreneur

4 *What are the Capabilities of the partner*

- [ ] Technological Expertise
- [ ] Relevant Experience in International Capital Projects
- [ ] Functional Competencies
- [ ] Creative Talent
- [ ] Managerial Know-how
- [ ] Marketing/Selling Skills
- [ ] Entrepreneurial Skill
- [ ] Knowledge of Pools of Capital
- [ ] Knowledge of the Host Country
- [ ] Capacity for Strategic Thinking
- [ ] Access to Export Credit Agency Cover

5 *Chemistry and Culture*

- [ ] Values of the Firm
- [ ] Style/Personalities of Key People