



NATIONAL ROUND TABLE ON THE ENVIRONMENT AND THE ECONOMY
TABLE RONDE NATIONALE SUR L'ENVIRONNEMENT ET L'ÉCONOMIE

NRTEE Official Reports Copyright and Reproduction Notice

All **NRTEE Official Reports** (“Works”), provided on this USB memory key and identified in the **NRTEE Official Reports List** folder, contain their individual copyright and reproduction notice. The notice in each of these Works is replaced and superseded by the following copyright and reproduction notice, effective February 22, 2013:

© This Work is protected by copyright and made available for personal or public non-commercial use and may be reproduced, in part or in whole, and by any means, and may be further distributed for non-commercial use, without charge or further permission. All users are required to indicate that the reproduction, whether in part or in whole, is a copy of a Work of the National Round Table on the Environment and the Economy (NRTEE). Reproduction, in whole or in part, of this Work for the purpose of commercial redistribution is strictly prohibited. Furthermore, no right to modify or alter in any manner the Work is hereby granted.

Consultant Reports Copyright and Reproduction Notice

All **Consultant Reports** (“Works”), provided on this USB memory key and identified in the **Consultant Reports List** folder, were prepared for, or commissioned by, the National Round Table on the Environment and the Economy (“NRTEE”) in support of its research efforts, and may or may not reflect the views of the NRTEE. Such Works may not contain a copyright notice as they were not intended for public release when they were so prepared or commissioned. In the absence of a copyright notice, and where a copyright notice may in fact appear, the following notice shall be read together with the Work and, where applicable, replace and supersede any existing copyright notice, effective February 22, 2013:

© This Work is protected by copyright and made available for personal or public non-commercial use and may be reproduced, in part or in whole, and by any means, and may be further distributed for non-commercial use, without charge or further permission. All users are required to indicate that the reproduction, in part or in whole, is a copy of a Work of the National Round Table on the Environment and the Economy (NRTEE). Reproduction, in whole or in part, of this Work for the purpose of commercial redistribution is strictly prohibited. Furthermore, no right to modify or alter in any manner the Work is hereby granted.

NRT-1998108
The Bayswater Consulting Group
Sustainable Cities Initiative

PROSPECTUSES FOR A SELECTION OF CITIES IN WHICH TO START AN CANADIAN SUSTAINABLE CITIES INITIATIVE

Prepared for the
National Round Table on the Environment and the Economy
by

The Bayswater Consulting Group Inc.
82 Bayswater Avenue
Ottawa, Ontario
K1Y 2E9

September 10, 1998



PART ONE: SELECTING STARTING CITIES

1. INTRODUCTION

This report consists of two parts:

- Part One indicates to the National Round Table on the Environment and the Economy (NRTEE) how The Bayswater Consulting Group, Inc. collected and applied information to select potential starting points among urban regions around the world for a Canadian "sustainable cities initiative".
- Part Two contains six prospectuses for cities and urban regions chosen through the above process: Accra, Ghana; Buenos Aires, Argentina; Hanoi, Vietnam; Katowice, Poland; Santiago, Chile; and Tianjin, China.

The aim of the project as a whole is to test the feasibility of the idea of Canadian "city teams" which would group development projects and commercial ventures in the same cities over a long-term relationship.

Underlying the NRTEE project is the assumption is that institutional, environmental and social development and commercial ventures can be compatible, especially when placed into the context of:

- public-private partnerships for infrastructure construction and operation;
- development of ongoing manufacturing investments in given cities and regions;
- ventures providing continuous urban services to residents such as telecommunications and transportation;
- seeking a development path to economic, social and environmental independence and sustainability.

In each case, what appear to be conflicts of interest between public and private sector aims when viewed in over a short period, e.g., building sound personal relationships and introducing Canadian products and services, become much more compatible.

Viewed from this angle, "one-off" trade missions can turn into special events at the invitation of the host cities. Desires for early financial returns can be transformed into lucrative long-term ventures based on the viability of the host, and assurances that they are receiving both local employment benefits and essential quality and performance guarantees. Canadian companies pacing the corridors of International Financial Institutions in search of contracts can find many more find friendly faces and a solid regional and local context in which to do business, especially given the decentralization of decision-making which is occurring in the World Bank and elsewhere.

and the NRTT

2. PROCESS OF SELECTING STARTING CITIES AND REGIONS

Over the period March-April of 1998, The Bayswater Consulting Group, Inc. worked *for* ~~under contract to~~ the Canadian Department of Foreign Affairs and International Trade (DFAIT) to "map" environmentally-salient Canadian activities in cities and urban regions around the globe. They started with databases prepared by the Canadian International Development Agency (CIDA) and the International Development Research Centre, and then proceeded to supplement this with information drawn from the Internet, trade show literature, environmental industry associations, international trade missions, and replies from individual development organizations and companies.

The result was a "pool" of 171 cities and urban regions in which there was at least one Canadian project and/or interested organization engaged in some aspect of urban planning, infrastructure design and development, construction, provision of urban services, and/or municipal government capacity-building. These in turn were analyzed in detail to determine the breadth and depth of existing relationships. That is, were the Canadian connections diverse and deep, or narrow and shallow?

This assessment in turn resulted in a "short list" of 36 cities or regions in which Canadian engagements seemed to be significant, comprising both development projects and commercial ventures. Based on further refinement of the information about these places, an even shorter list of 22 was developed. These received most attention in developing the starting "portfolio" (See Table 1, next pages).

Five main variables came into play in determining the most appropriate starting cities and regions from amongst this shorter list:

- presence of a current or planned major public-private partnership or similar multi-faceted project to act as an "anchor" for integrated development agency and company interest;
- presence of reasonably stable, reform-oriented government leadership and government structures in the prospective urban region, and perhaps more generally in the country concerned;
- a substantial, documented degree of urban environmental need, coupled with some signs of recognition on the part of municipal leaders that this need exists;
- demonstrated Canadian public, non-profit and private sector capabilities which match those needs;
- potential for environmental need to be translated into effective demand through financing and investment opportunities open to Canadian organizations.

**TABLE 1: CANADIAN ACTIVITIES IN URBAN REGIONS OF
TRANSITIONAL AND DEVELOPING ECONOMIES**

URBAN REGION (TOP 22)	NO. OF PROJECTS	TYPES OF PROJECTS/RELATIONSHIPS
1. Santiago, Chile	21	16 private sector venture agreements for urban projects. 2 community development NGOs engaged in urban issues. 2 university research partnerships. 1 development research project (construction).
2. Buenos Aires, Argentina	18	13 private sector venture agreements for urban projects. 4 partnerships for technical education and training. 1 partnerships for Internet technology transfer.
3. Bangkok, Thailand	15	11 private sector venture agreements for urban projects. 2 individual university partnerships. 2 university consortia.
4. Manila, The Philippines	13	11 private sector venture agreements for urban projects. 1 development research project (water pollution). 1 urban training project.
5. Sao Paulo, Brazil	13	11 private sector venture agreements for urban projects. 1 development assistance project (water). 1 university consortium (UNESCO Sustainable Cities).
6. Hanoi, Vietnam	12	4 university partnerships on urban issues. 4 private sector urban development projects. 2 development research projects. 1 multi-sectoral urban consortium (governance). 1 development assistance project (pollution management).
7. Mexico City, Mexico	12	7 private sector venture agreements for urban projects. 3 university partnerships (assessment, research). 1 development research projects (environmental policies). 1 development assistance project (youth in slums).
8. Jakarta, Indonesia	12	8 private sector venture agreements for urban projects.. 1 financial partnership for private sector urban development. 1 development research project (pollution, waste reduction). 2 university partnerships (research, training).

**TABLE 1: CANADIAN ACTIVITIES IN URBAN REGIONS OF
TRANSITIONAL AND DEVELOPING ECONOMIES**

URBAN REGION (TOP 22)	NO. OF PROJECTS	TYPES OF PROJECTS/RELATIONSHIPS
9. Beijing, China	10	5 university partnerships. 2 private sector urban projects. 1 research institute-private sector partnership. 1 development assistance project. 1 urban research institute project.
10. New Delhi, India	10	9 private sector venture agreements for urban projects.. 1 university partnership (research, linkages).
11. Mumbai, India	10	5 private sector venture agreements for urban projects. 3 development assistance projects. 1 development research project (solid waste management). 1 private sector/municipal consortium (sewage).
12. Seoul, Korea	9	9 private sector venture agreements for urban projects.
13. Accra, Ghana	8	3 private sector projects (sanitation systems, water supply). 1 development research project (urban agriculture). 1 university technical education partnership. 1 municipal partnership. 1 university consortium (UNESCO Sustainable Cities). 1 development assistance project.
14. Katowice, Poland	7	5 private sector urban development projects. 1 development assistance project (urban contamination). 1 university consortium (UNESCO Sustainable Cities).
15. Dakar, Senegal	7	4 development assistance projects. 1 municipal partnership. 1 university partnership (water research). 1 university consortium (housing).
16. Dar es Salaam, Tanzania	7	4 urban research partnerships. 1 development assistance project (housing). 1 urban research partnership. 1 university consortium (UNESCO Sustainable Cities).

**TABLE 1: CANADIAN ACTIVITIES IN URBAN REGIONS OF
TRANSITIONAL AND DEVELOPING ECONOMIES**

URBAN REGION (TOP 22)	NO. OF PROJECTS	TYPES OF PROJECTS/RELATIONSHIPS
17. Rio de Janeiro, Brazil	6	2 private sector venture agreements for urban projects. 2 university partnerships. 1 private sector development assistance project (energy). 1 urban training project.
18. Port-au-Prince, Haiti	6	4 urban development assistance projects. 1 university partnership (urban planning). 1 university consortium (training).
19. Shanghai, China	6	3 private sector venture agreements for urban projects.. 2 university research partnerships. 1 development research project (pollution control).
20. Tianjin, China	6	4 private sector urban ventures. 1 municipal capacity development project. 1 university partnership (water resources).
21. Cebu City, The Philippines	5	3 private sector venture agreements for urban projects. 1 municipal partnership. 1 major development assistance project (water management).
22. Lima, Peru	5	3 development assistance projects for urban issues. 1 development research project (housing). 1 urban planning project (World Bank funded).

In each case, the consultants checked the most authoritative available sources of information and data, including that offered in reports by International Financial Institutions. Their aim was to develop sound intelligence reports for consideration by Canadian governments, research institutes, non-governmental organizations, and companies. At the same time, they were seeking to gauge Canadian interest in a sustainable cities initiative and to assess ways in which such an initiative can be made more explicable and credible.

While all 22 cities in the above list have a definite need for concerted action on urban environmental issues, and many also meet at least some of the criteria listed above, a further 16 had to be regrettably excluded at this stage of consideration, for various reasons:

- Those in India were omitted at this stage because of larger international security considerations which make it inadvisable to start new Canadian initiatives there.

- Several cities in East Asia -- Jakarta, Seoul, Bangkok, and others -- have been hard hit by the current financial and economic crisis. While their environmental needs are no doubt even greater than before, both the likely distraction of their urban leadership and the potential lack of Canadian commercial interest to link with development assistance militated against them as starting cities. More groundwork is needed in these cases.
- While Africa is an immensely important region for Canadian development assistance in particular, it appeared essential to have a very solid commercial focus for any city or region chosen there. This criterion excluded many of the candidates.
- As can be seen, the vast majority of the urban regions in the above list are capitals of their countries. While inclusion of some capitals was considered both necessary and desirable, many Canadian urban experts believe the best chances probably lie outside of the capital cities in several countries. Thus Beijing was not included, though higher on the list than Tianjin, a large city nearby which receives much less attention. Similar reasons similarly dropped Rio de Janeiro and Shanghai from the list.
- While there are good Canadian linkages with many cities in the Caribbean, Port au Prince appears to be too challenging at the moment to attract much private sector interest. Development assistance projects could be coordinated more actively outside a formal Sustainable Cities Initiative.
- Among the cities of Latin America, there are many attractive candidates. A final selection of Santiago and Buenos Aires was made on the basis of comments from regional experts on the relative ease of doing business in them compared to others, and the substantial volume of relevant commercial interest already operating in a "sustainable cities" theme, e.g., in offering energy-saving technology. While Buenos Aires is another highly competitive market for infrastructure projects, with a politically charged atmosphere, it seemed worth the risk because of the commitment of senior government officials to privatization and reform, and the evident interest of local people in what Canada has to offer.

On a positive note:

- The next comprehensive trade mission led by the Prime Minister of Canada will be to Eastern Europe. Both for this reason, and because of long-term Canadian environmental, economic and cultural interests in this region, it appeared wise to have at least one from there. Poland appears to have progressed farthest toward market reforms and a favourable climate for private sector investment.

4. SOURCES OF INFORMATION FOR CITY PROFILES

4.1 "Anchor" Projects

Potential "anchor" projects in each city were gleaned from a variety of sources including the following:

- Current and relevant World Bank contracts posted on the IFInet Website;
- Country profiles and market opportunities assembled by the Department of Foreign Affairs and International Trade
- Reports from the Asian Development Bank on Asia's infrastructure market
- Information from contacts in the private sector and various newsletters and country profiles
- Studies prepared on market opportunities for consular offices

4.2 Governance

The issue of governance is central to a sustainable cities initiative for three main reasons:

- Much procurement for projects to improve the urban environment is still carried out by governments, whether national, provincial or local.
- The policy framework for most relationships between environment and urban development is set by government policies, or the lack of them.
- In cases where private sector financing and operation of urban services is contemplated or actively promoted, governments still set the standards to be met by such arrangements; through policies on such issues as charges for energy, water, solid waste removal, etc., they often determine the viability of such projects.

The four main information sources for "baseline" information on governance in candidate cities and regions included:

- Economic Development Corporation's country profiles and risk assessments
- Political and economic profiles on different countries and cities in those countries produced by non-governmental organizations, academics and political analysts
- CIDA reports on different countries and country priorities for Canadian development assistance.
- Reports by Canadian urban experts specifically on the issue of governance.

With this baseline information in hand, the consultants conducted a set of strategic interviews designed to probe further a selected number of the most promising urban regions.

Since Chile ranks among the highest of any emerging or developing economy in terms of favourable operating conditions from the standpoint of corruption, etc., this interview process began with Santiago. Other cities in countries with solid governance marks also "went to the head of the class" and were then considered in relation to environmental need, financing potential, and relevance to Canadian capabilities.

4.3 Urban Environmental Need

There are obviously huge unmet needs for environmental improvement in cities and urban regions around the world, including in Canada itself. The quality of environmental data on various global cities tends to reflect the attention paid by various international and non-governmental organizations to those cities rather than the actual extent of the need. In other words, the more attention given to these cities, the more comprehensive is our picture of the city's needs.

With these two caveats in mind, the main sources for data and information on urban environmental needs were:

- World Resources Institute data series on urban environmental need in countries around the world, prepared in conjunction with the World Bank and the United Nations;
- Industry Canada reports on urban opportunities for Canadian environmental industries, which are another way of indicating need;
- Habitat/UNDP/World Bank Urban Management Programme environmental profiles
- Reports produced by non-governmental organizations active in each city;

In general, those places with the highest environmental need were placed highest on the list of prospective starting cities and regions. However, other aspects of the situation were also considered, such as strategic location within a larger cluster of countries affected by a common ecosystem, e.g., a shared sea or mountain cordillera, a shared river basin. Other factors may come into play, such as common environmental problems arising from similar technologies, giving rise to one city as a testing bed for solutions with much wider application.

4.4 Canadian Capabilities

The mapping process already carried out by Bayswater for DFAIT and NRTEE shows that Canada has an impressive array of over 500 possessors of relevant capabilities in relation to all aspects of urban environmental improvement, and over the whole life-cycle of urban environmental issues. Nevertheless, capability is also a comparative matter, in relation to:

- what is offered by competitors and/or potential cooperants from other countries;
- capacity of individual regions and cities to pay for and to apply effectively what is offered by Canada;
- capacity of Canadian companies and organizations to find complementary organizations in other countries to deliver their products and services, to complement their offerings where they have gaps, etc.;

- Information from contacts in the private sector and various newsletters and country profiles
- Studies prepared on market opportunities for consular offices

4.2 Governance

The issue of governance is central to a sustainable cities initiative for three main reasons:

- Much procurement for projects to improve the urban environment is still carried out by governments, whether national, provincial or local.
- The policy framework for most relationships between environment and urban development is set by government policies, or the lack of them.
- In cases where private sector financing and operation of urban services is contemplated or actively promoted, governments still set the standards to be met by such arrangements; through policies on such issues as charges for energy, water, solid waste removal, etc., they often determine the viability of such projects.

The four main information sources for "baseline" information on governance in candidate cities and regions included:

- Economic Development Corporation's country profiles and risk assessments
- Political and economic profiles on different countries and cities in those countries produced by non-governmental organizations, academics and political analysts
- CIDA reports on different countries and country priorities for Canadian development assistance.
- Reports by Canadian urban experts specifically on the issue of governance.

With this baseline information in hand, the consultants conducted a set of strategic interviews designed to probe further a selected number of the most promising urban regions.

Since Chile ranks among the highest of any emerging or developing economy in terms of favourable operating conditions from the standpoint of corruption, etc., this interview process will begin with Santiago. Other cities in countries with solid governance marks will also "go to the head of the class" and be considered in relation to environmental need.

4.3 Urban Environmental Need

There are obviously huge unmet needs for environmental improvement in cities and urban regions around the world, including in Canada itself. The quality of environmental data on various global cities tends to reflect the attention paid by various international and non-governmental organizations to those cities rather than the actual extent of the need. In other words, the more attention given to these cities, the more comprehensive is our picture of the city's needs.

With these two caveats in mind, the main sources for data and information on urban environmental needs were:

- World Resources Institute data series on urban environmental need in countries around the world, prepared in conjunction with the World Bank and the United Nations;
- Industry Canada reports on urban opportunities for Canadian environmental industries, which are another way of indicating need;
- Habitat/UNDP/World Bank Urban Management Programme environmental profiles
- Reports produced by non-governmental organizations active in each city;

In general, those places with the highest environmental need were placed highest on the list of prospective starting cities and regions. However, other aspects of the situation were also considered, such as strategic location within a larger cluster of countries affected by a common ecosystem, e.g., a shared sea or mountain cordillera, a shared river basin. Other factors may come into play, such as common environmental problems arising from similar technologies, giving rise to one city as a testing bed for solutions with much wider application.

4.4 Canadian Capabilities

The mapping process already carried out by Bayswater for DFAIT and NRTEE shows that Canada has an impressive array of over 500 possessors of relevant capabilities in relation to all aspects of urban environmental improvement, and over the whole life-cycle of urban environmental issues. Nevertheless, capability is also a comparative matter, in relation to:

- what is offered by competitors and/or potential cooperants from other countries;
- capacity of individual regions and cities to pay for and to apply effectively what is offered by Canada;

- capacity of Canadian companies and organizations to find complementary organizations in other countries to deliver their products and services, to complement their offerings where they have gaps, etc.;
- whether Canadian capabilities fit within an integrated package, and indeed to contribute positively to a framework for integration.

There are few authoritative information sources on Canadian capabilities in relation to specific requirements of given markets, since most existing tools in this connection are geared to markets in developed countries of the G-7. This aspect of the project therefore relied primarily on:

- CIDA reports on organizations and projects of sustainable development in urban environments;
- Industry Canada reports on infrastructure opportunities in specific countries;
- direct contacts with Canadian companies interested in the target regions.

The aim in setting out the most appropriate Canadian capabilities was:

- to focus on urban pollution prevention and other solutions which are patently attractive from a financial perspective, e.g., urban mass transit, urban energy efficiency technologies, telecommunications solutions, etc.;
- to avoid "technology push" solutions;
- to focus on solutions which show Canada as a centre of urban innovation.

In no case was there an attempt to exclude given Canadian solutions: they can simply be annotated in relation to what the urban region in question appears to have as priority needs, and also a prognosis by local experts on the viability of the solution. An overall map of the "goodness of fit" of various capabilities is the result.

4.5 Financing

Both funding (i.e., grants and coverage of soft costs such as community organization and planning) and loan financing or investment in capital projects are essential to building sustainable cities. Various sources and methods of financing can support companies exporting or investing in energy, transportation, telecommunications, water supply, sewage collection and treatment, institutional commercial and industrial buildings and housing.

In some cases, International Financial Institutions may also be prepared to support the "soft" side of urban sustainability through lending for services to strengthen institutions, develop and deliver community services to the poor, or establish new governance and regulatory frameworks.

The following were included in the scope of work on financing:

- Private sector financing sources and methods of risk-hedging, as well as methods of securing revenues from savings;
- Canadian government financing agencies focusing on both development assistance and repayable loan or equity financing, as well as risk insurance;
- International Financial Institutions, focusing on urban infrastructure and opportunities for private sector financing.

In each case, the consultants commented on the apparent accessibility and relevance of the funding for sustainable cities projects and programs from a Canadian perspective.

Principal information sources included:

- Websites of the various financial institutions;
- DFAIT and Industry Canada studies of financing;
- Direct interviews with key potential sources of financing, beginning with those who are members of the NRTEE Advisory Committee on Financing Sustainable Cities.

Since the list of candidate cities and regions should be rather short by this stage, it should be feasible to link financing to Canadian capabilities to needs and governance instruments in some detail for each of those selected.

4.6 Synthesis and Intuition

While many quantitative factors and substantial hard intelligence needs to be brought into play in ordering and selecting starting cities and regions, the final selections also involve considerations which arise from the interaction of the four factors described above. The aim is to find an "elegant mix" of different elements holding out the prospect of early and sustainable success.

In addition, it is important to have a mix of individual cities and regions which compose a "portfolio" as a whole, with some calling for more stress on the governance and capacity-building aspects of sustainable cities solutions while others call for immediate commercial response, etc.

The aim is to have a sufficiently diverse array of regions, sizes of centre, environmental issues, Canadian team composition, financing arrangements, etc., that the results will be useful for future planning and action along these lines in a variety of markets.

5. POTENTIAL INITIAL PORTFOLIO OF SUSTAINABLE CITIES INITIATIVES

Consideration of the above sets of information and data in detail appeared to confirm most of the original selections of starting points, and resulted in the following "portfolio" of starting cities and regions from a Canadian perspective:

- Accra, Ghana;
- Buenos Aires, Argentina;
- Hanoi, Vietnam;
- Katowice, Poland;
- Santiago, Chile;
- Tianjin, Peoples Republic of China.

The key features of this portfolio are set out in the table below, with particular emphasis on opportunities for liaison and synergy between potential Canadian teams and the efforts of International Financial Institutions. Comments on all issues raised in this paper would be most welcome.

TABLE 2: FEATURES OF AN INITIAL PORTFOLIO OF SUSTAINABLE CITIES FOR A CANADIAN "TEAMING" INITIATIVE

CITY/REGION	ANCHORS	INITIATORS	INITIAL FOCUS
Accra, Ghana	World Bank Ghana Trade and Investment Gateway project	Consulting engineering company from Manitoba	Customs reform; infrastructure for port access; site services to nearby settlements
Buenos Aires, Argentina	Need for sewage treatment and water facilities; privatization of major public facilities with World Bank and IADB involvement	Match-making company in environmental technologies	Supply of urban transit equipment; wastewater treatment ventures
Hanoi, Vietnam	Expansion of electric power generation facilities; development of new towns in Hanoi region by Daewoo and Bechtel; World Bank and AsDB support for urban infrastructure upgrading	Urban planning consultants from Quebec	Energy conservation; alternative energy supply; innovations in urban infrastructure for new cities
Katowice, Poland	Alternatives to coal-fired energy generation; East European market for environmental technologies, with EBRD involvement	Canadian non-governmental organization based in British Columbia with environmental engineering firm from Alberta	Getting off coal-fired energy; integrated solid waste management; urban transit upgrading
Santiago, Chile	Ventures to transfer and produce environmental technologies; market for light building technologies; institutional strengthening of municipal governments	International non-governmental organization based in Ontario	Turning pilot projects into full-scale operations; technology transfer and training
Tianjin, China	Investment in port-related urban renovation and infrastructure upgrading	Urban planning consulting firms based in Ontario and British Columbia	Linking infrastructure development to private sector financing; urban transport alternatives

PART TWO: INITIAL "PORTFOLIO" OF STARTING CITIES

National Round Table on the Environment and the Economy (NRTEE)

**PROSPECTUS FOR A
CANADIAN SUSTAINABLE CITIES INITIATIVE IN
ACCRA, GHANA¹**

SUMMARY

The Accra region offers an excellent opportunity to link Canadian expertise in providing development-oriented site services to new and existing settlements with lucrative private investment in a major port upgrading project. This port upgrading project is designed to make Accra a better gateway to the whole country and to attract industrial ventures. It will take place at Tema, 32 kilometres from the centre of the city. Major risks will be borne in its initial stages by the World Bank. The port upgrading project itself is multi-faceted, with major potential roles for Canadian Federal government departments such as Transport Canada and Revenue Canada as well as private sector financing, consulting engineering and construction services.

Looking at the urban region from a wider perspective, it is poised on the brink of becoming a major economic player for the whole of West Africa, based on a government which wishes to make Ghana a positive place in which to invest. The country is a comparatively safe one in which to operate, and Canadian businesses with long experience there rate it highly. Current Canadian engagement with the Ghanaian economy is not large in global terms, but exports have doubled over the past five years, and contain significant amounts of infrastructure, construction and industrial equipment. Canadian development assistance efforts have already laid a solid foundation for future work combining investment in improved site services with institutional strengthening.

DETAILING THE OPPORTUNITIES

Public-Private Investment Partnerships

- The World Bank recently approved a US\$50 million credit for the Ghana Trade and Investment Gateway Project. Designed to increase the competitiveness of Ghanaian products in the global market, it addresses Accra's inadequate infrastructure.
- Within the project is an off-site component for the development of water systems, sewage and solid waste treatment, electrical power, telecommunications, roads and the rail link between the site and Tema port. Only 20 miles from Accra, Tema is one of Africa's most ambitious development projects and the largest man-made harbour on the continent.

¹This prospectus was drafted for the National Round Table on the Environment and the Economy (NRTEE) by Cynthia Taha of The Bayswater Consulting Group, Inc., in consultation with Alan Foy of Wardrop Engineering Inc. It reflects comments from Mark Baron of Cowater International Inc., and Rhonda Gossen and Bohdana Dutka of the Canadian International Development Agency. It also draws on key information developed by the Ghana country team of the World Bank. David Crenna and David Morgan edited the document.

Sustainable Community Development

- Much of the Tema port area is surrounded by informal settlements and economic activity, which can either help reinforce or undermine the benefits of port upgrading efforts. The Gateway Project offers a public-private opportunity to help Accra "get it right" by coupling commercially-driven infrastructure investment with provision of better site services to workers and other residents of surrounding communities. By incorporating practical social and environmental initiatives and targeted poverty reduction through micro-enterprises, the port development project could lead to more sustainable development of the port area as a whole. CIDA has already funded a number of development projects in Accra, such as the recent \$12.5 million community water project. There is an openness in Ghana to innovative solutions for providing electricity, water and sewage services.

Connected City

- Telecommunications is another sector where real opportunities exist for public-private ventures to complement a trade and investment gateway. A large gap exists between demand and supply (lines needed to the end of the decade are upwards of 300,000 compared to the current 50,000 connected lines). The Ghanaian government has passed enabling legislation to split posts and telecommunications businesses. It has asked the World Bank Group for on-going help to implement the new sector policy (investment requirements of 1995 to 1999 are estimated at \$450 million). This presents as well an opportunity for Canadian wireless Internet technology, since it may be years before the telephone system can meet the need.

CANADIAN CAPABILITIES TO RESPOND

Public-Private Investment and Infrastructure Partnerships

- There are opportunities for Revenue Canada and Transport Canada in legislative and regulatory reform to review customs procedures and practices in order to meet international standards; review of laws that regulate private investment in port services and aviation laws for both cargo and passenger traffic.
- Revenue Canada and Industry Canada may find opportunities in institution and capacity building for the Customs, Excise, and Prevention Services to facilitate new practices and procedures; training support to the Ghana Investment Promotion Center to enhance its investment promotion efforts.
- Companies which have experience in West Africa and have capabilities relevant to offsite infrastructure development of water systems, sewage and solid waste treatment, electricity power, telecommunications, access roads to the site, and rail link between the site and Tema port.

Sustainable Community Development

- There is a potential for CIDA, IDRC, Environment Canada, and companies with experience in West Africa and relevant capabilities in the Gateway Project offsite sustainable community development initiatives such as micro-enterprises and immediate site services.

Connected City

- Opportunities exist companies capabilities in telecommunications and Internet services, including business planning, installation of telephone lines and equipment, and wireless ISP systems.

SUCCESS FACTORS

1. Basic Information

Accra is both the administrative and commercial centre of Ghana. The city is linked through a major road network to the North, East, West and Volta Regions. Its population of 1.8 million is growing at a rate of 4%, and occupies around 2% of Ghana's total area. With about one-third of its population urbanized, Ghana has a substantially smaller portion of its national economy in non-agricultural sectors than other countries with similar income and urbanization levels.

Following the introduction of IMF-supported economic reforms, the Ghanaian economy underwent tremendous change. The economy was liberalized and the private sector given priority. This resulted in the inflow of foreign capital and sustainable economic growth. The latter averaged 5% over the past decade.

About half of Ghana's total GDP is in the largely urban-based sectors of industry and services which are the most dynamic contributors to the economy. Accra's economy contributes between 15 and 20 per cent of the country's GDP, and accounts for 10 per cent of employment in Ghana. Its economic base lies in manufacturing, construction, trade, transportation, communications, finance, insurance, and real estate.

2. Governance

According to a Canadian company executive with 25 years experience working in Ghana, "it is one of the best West African countries to be in". He says this for a number of good reasons. It has a relatively stable political environment, and a government that is reform oriented and open to public dialogue, despite the fact that Transparency International does not include it on its corruption perception index.

The government's decentralization program begun in 1992 has been important to urban development. The 110 District Assemblies now have the authority for planning, economic management, administration, and political decision-making. They are also responsible for providing basic services and local infrastructure.

As well, urban environmental issues have fuelled public debate in Accra for nearly a decade. Local government agencies are actively involved in these debates. In mid-1995 a city consultation, under the Sustainable Cities Program, a consensus was achieved. The week-long city consultation ended with over 150 stakeholders agreeing on priority issues for action plan development.

3. Need

In the late 1950s, the Town and Country Planning Division of the Ministry of Housing created a plan to improve Accra's living conditions. Despite these efforts, Accra's lack of professional planning and planning control resulted in a chaotic urban development process. Moreover, inadequate infrastructure development undermined efforts at waste management and pollution control in Ghana's urban communities.

The Habitat/UNDP/World Bank Urban Management Programme prepared an environmental profile of Accra. The profile identified the cities priority issues as: solid waste management, liquid waste management, drainage; pollution of Korle Lagoon; disarray in institutional arrangements; and enforcement of regulations and laws.

The government's efforts to target environmental needs began with a ten year (1991-2000) Environmental Action Plan (EAP). The plan includes urbanization as one of four main areas for intervention. The EAP calls for urban waste management and sanitation projects; the improvement of drainage in coastal cities; the establishment and implementation of environmental and health standards; and the adoption of effective land use control mechanisms.

Preventive design measures are needed to deal with Accra's natural environmental hazards which include erosion, flooding, earthquakes and soil instability, and a rise in sea-level. A comprehensive intervention program is needed to deal with the man-made hazards of indiscriminate disposal of human excreta, deforestation, noise pollution, and the lack of waste management systems.

4. Canadian Track Record

4.1 *Private Sector*

Wardrop Engineering, with 23 years experience working in Ghana, developed a close working relationship with federal and local government officials, as well as local companies. Wardrop's principal expertise in Ghana is in water and sanitation systems, as well as transportation management.

UMA Environmental also offers experience working in Ghana. The company has considerable expertise in solid waste treatment and management. They recently carried out a water and sewage project to improve Accra's policy, planning and administration.

Cowater International is another company with experience in Ghana. It is currently working on a large community water project funded by CIDA, to improve the water supply to urban regions.

Other companies with experience working in Africa include Bannister Foundation with expertise in a number of areas including electrical power installation, Bechtel, which has telecommunications expertise, La Cie de Pavage d'Asphalte Beaver, offering road construction, and Janin, which has experience in railroad construction.

The Canadian Co-operative Association is active in Accra developing cooperatives involving women and micro-enterprises.

4.2 *Public Sector*

IDRC initiated a study in Greater Accra as part of the "Cities Feeding People" project. The study looked at urban agriculture and food security.

CIDA-funded research and development projects focused on Accra include:

- an FCM, City of St. John's twinning project aimed at strengthening Accra's administrative and financial management, as well as supporting environmental and social initiatives within the city;
- a technical education project through the University of Regina;
- a university consortium of the Centre for Urban and Community Studies, University of Toronto and INRS - Urbanisation of Québec, conducting research and development cooperation projects as part of UNESCO's *Socially Sustainable Cities Initiative*;
- a technical assistance program through the Canadian Co-operative Association (CCA) for training and institutional support to the Ghanaian Co-operative Credit Union Association. CIDA and CCA have been supporting the Ghana office since 1988.

4.3 *Canadian Infrastructure Exports*

Total Canadian exports to Ghana have risen from approximately \$26.6 million in 1993 to over \$52 million in 1997. Industrial machinery and equipment and infrastructure-related exports totalled over \$10 million in 1997. Exports of construction machinery grew by approximately \$1.3 million from 1993 to 1997. Electrical and telecommunications equipment have also become significant Canadian export items to Ghana with approximately \$0.5 million worth of goods sold in 1997.

4.4 *International Competition*

Both British and American companies are involved in Ghana, and can be expected to position themselves for all types of infrastructure development projects. German organizations are working on technical assistance projects, and may be helping position German suppliers in the process.

5. Financing

Ghanaian Public-Private Investment Legislation

President Jerry Rawlings turned his back on socialism in the 1980s and initiated transformations making Ghana into an early model for structural adjustment programs urged by international lenders. Ghana's government has introduced market-oriented pricing, liberalization of interest, and exchange rates and repayment mechanisms. Its long-term development program, "Vision 2020" promotes foreign capital investment by lowering the cost of doing business in Ghana and providing infrastructure services of international quality to investors.

International economic conditions have improved since the Rawlings' Government began to implement economic reform in the 1980s. Ghana will continue to receive generous economic aid, and private foreign investment will grow. Debt repayment will be negotiated with foreign lenders, and the country's foreign credit standing will continue to be satisfactory.

Efforts to increase own source local government revenues in recent years have centred on the revaluation of property rates and the collection of property taxes. These measures have produced some gains, but their sustainability is subject to the ability of local governments to become more responsive and accountable for the provision of services. Local revenue collection remains below its potential.

International Financing

Foreign assistance agencies are supporting capital investments in urban infrastructure and technical assistance for urban planning and management in Ghana. The bulk of the external capital funding is currently going into urban roads and water supply. Urban sanitation, drainage and area upgrading have received very limited funding.

The International Development Association (IDA) is the major financing agency in the urban roads sector through the Urban II Project and the Urban Transport (UTP) and Local Government Development (LGDP) Projects. IDA and the African Development Bank (AfDB), and several bilateral projects are assisting in water supply. The German Kreditanstalt für Weideraufbau (KfW) and Gesellschaft für Technische Zusammenarbeit (GTZ) are supporting a project, begun in 1985 and continuing, to strengthen the Accra Waste Management Department.

The IDA-supported Urban II Project is also rehabilitating the waterborne sewage system in the central part of Accra. The limited system has very few properties connected to it and has fallen into disrepair.

The UNDP and UNCHS both actively support technical assistance for urban activities in Ghana. The Sustainable Cities Programme (SCP) is a capacity building programme established in the early 1990s. The Sustainable Accra Programme is funded and supported under this programme. For Accra, the programme identified the priority issues as sanitation, including solid waste management, liquid waste management, pollution of Korle Lagoon, institutional capacity building, and enforcement of regulations.

The World Bank provided support for urban development in Ghana through several operations since 1985. In 1995 and 1996, the World Bank initiated a project in the amount of US\$71.0 million on Urban Environmental Sanitation in Ghana that includes Accra. Bank assistance has focused on the rehabilitation of urban infrastructure and services (roads, water supply, sewerage and sanitation, drainage, solid waste, markets, public transport, traffic management, and area upgrading) and on institutional strengthening at the central and municipal levels, especially in cost recovery and revenue mobilization.

Recently, the Bank approved a US\$50 million credit for the Ghana Trade and Investment Gateway Project. The project seeks to increase the competitiveness of Ghanaian products in the global market through the reform of the legislative, regulatory, and incentive systems; institutional strengthening and capacity building; development of private participation in infrastructure; and country promotion and consensus building. The project also addresses the issue of inadequate infrastructure by supporting the development of Free Trade Zones.

The World Bank regards this project as an important contribution towards the encouragement of further outward-oriented foreign investment in Ghana. In particular, the privately-financed free trade zone will hopefully pave the way for a significant growth in labour-intensive export industries.

Economic indicators show Ghana continuing to improve as a target for foreign direct investment, the amount of which more than doubled between 1993 and 1997.

INTERNATIONAL ECONOMIC INDICATORS	1993	1994	1995	1996	1997
Foreign Direct Investment (\$bn)	0.13	0.23	0.25	0.29	0.31
Foreign Exchange Reserves (\$bn)	0.39	0.55	0.67	0.80	0.78
Total Foreign Debt (\$bn)	3.36	5.15	5.90	6.00	6.40
Total Foreign Debt/GDP (%)	59.4	99.6	95.5	75.0	70.3
Debt Service Ratio (%)	35.7	27.4	23.0	24.3	22.3
Current Account (\$bn)	-0.56	-0.26	-0.18	-0.26	-0.30
Current Account/GDP (%)	-9.9	-5.0	-2.9	-3.3	-3.3
Exports (\$bn)	1.06	1.23	1.50	1.53	1.61
Imports (\$bn)	1.73	1.58	1.70	1.84	1.96
Foreign Trade Balance (\$bn)	-0.67	-0.35	-0.20	-0.31	-0.35
Currency Exchange Rate	649.06	956.71	1200.43	1637.23	1895.01
Currency Change (%)	-48.5	-47.4	-25.5	-36.4	-15.7

Source: *Country Forecasts, Ghana*. The Political Risk Services Group. January 1998.

GDP PER CAPITA FOR GHANA

ECONOMIC INDICATOR	1993	1994	1995	1996	1997
GDP (\$bn)	5.66	5.17	6.18	8.00	9.11
Per Capita GDP (\$)	345	305	355	445	490
Real Growth Rate (%)	4.9	3.8	4.5	5.2	5.5

Source: *Country Forecasts, Ghana*. The Political Risk Services Group. January 1998.

6. Managing Risks

Ghana experienced an inflow of foreign capital in recent years as the government has prioritized the private sector and liberalized the economy. The introduction of wide-ranging and internationally lauded IMF-supported reforms bolstered aid efforts to Ghana, which was pledged US\$1.6 billion by donors in November 1997. Medium to long-term prospects are dependent on cocoa output, world commodity prices and continuing aid flows. Ghana is currently not rated by Moody's or Standard and Poor's.²

6.1 Political Risk

President Jerry Rawlings was re-elected in 1996 with 57% of the vote. As there is now a real parliamentary opposition, it is expected the government will be more accountable. The peaceful conclusion of Ghana's national elections augurs well for continued political stability and reform-oriented economic policies. As long as President Rawlings enjoys the support of the military, his rule will not be threatened.

Despite tensions caused by the poorly developed economy and by Ghana's ethnic diversity, turmoil will remain moderate. Rawlings' political skills and his close ties with the military and the tribal chiefs will assist him in minimizing turmoil and containing the threat of a military coup. Nevertheless, coup attempts may occur. Sporadic acts of violence by extremists among the opposition will be met with retaliatory violence by para military groups loyal to Rawlings. Endemic ethnic violence will continue.³

6.2 Economic and Financial Risk

Though the Ghanaian government maintains its interest in introducing more market mechanisms into the economy, it may be frustrated by the heavy external debt and inadequate private foreign investment. As a result, economic growth will be limited and inflation is likely to rise.

²Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 60-61.

³*Country Forecasts, Ghana*, Vol. XVII, no. 1, East Syracuse, New York: The Political Risk Services Group, January 1998, pp. 131-134.

High levels of government expenditure, the subsequent increase in the money supply and poor harvests triggered high inflation rates that averaged 50% in 1995 and 1996. Despite the authorities' targeted 15% inflation rate, in 1997 it was in the 20 - 25% range.

The government adopted a less expansionary stance in the aftermath of the 1996 elections, but spending will increase again as the December 2000 elections approach. Growth will be helped by economic reforms such as accelerated privatization of the para-statal, expansion of the private sector, and an easing of government controls.

Inflation will remain a problem as the economy continues to depend on volatile earnings from commodity exports and on agricultural production. Weakness in the terms of trade for cocoa and gold may hamper progress. Improvement in living standards will be thwarted by the country's high rate of population growth.⁴

While formal policy mechanisms to collect user charges for urban services are being put in place, there are still some risks associated with actually collecting them.

6.3 *Operational Risks*

In order to comply with Ghanaian law, currency transactions must be conducted with banks or foreign exchange bureaus.

Based on project experience, the World Bank recommends that attention be given early in the preparation phase to institutional development and capacity-building. This is crucial to the sustainability of a project's benefits. The institutions' ability and motivation to mobilize funds for operation and maintenance, through user fees and general revenues, is an important determinant of the scale of new investments. The willingness/ability to pay of prospective beneficiaries also needs to be taken into account in project design.

Canadian business leaders with extensive in-country experience rank Ghana and Accra as among the best places to work in Africa. For example, muggings are not reported to be a problem in Accra. The main personal security issue is pick-pockets.

⁴Country Forecasts, Ghana, pp. 131-134.

CONTACT INFORMATION

Canadian Companies, University Institutes and Non-Governmental Organizations

Mark Baron
Cowater International Inc.
304 - 411 Roosevelt Ave.
Ottawa, Ontario K2A 3X9
Tel: (613) 722-6434
Fax: (613) 722-5893
E-mail: 76072.2244@compuserve.com

E. Brock Carlton
Deputy Director, International Office
Federation of Canadian Municipalities
24 Clarence Street
Ottawa, Ontario K1N 5P3
Tel: (613) 241-5221
Fax: (613) 241-7440
E-mail: international@fcm.ca

Alan Foy
Vice President, General Manager of International Division
Wardrop Engineering Inc.
386 Broadway Street, #400
Winnipeg, Manitoba R3C 4M8
Tel: (204) 956-0980
Fax: (204) 957-5389
E-mail: foy@wardrop.com

Jo-Anne Ferguson
Acting Director, International Development
Canadian Co-Operative Association
275 Bank Street
Suite 400
Ottawa, Ontario K2P 2L6
Tel: (613) 238-6711
Fax: (613) 567-0658
Email: Jo-Anne@coopcca.com

Sel Murray
International Office
University of Regina
Regina, Saskatchewan
Tel: (306) 585-4111
Fax: (306) 585-4957

Dr. Mario Polèse, Directeur
INRS - Urbanisation
3254, rue Durocher
Montréal (Québec) H2X 2C6
Tel: (514) 499-4070
Fax: (514) 499-4065
Email: MARIO_POLES@INRS-URB.UQUEBEC.CA
Website: www.er.uqam.ca/nobel/r26360

Dr. Richard Stren, Director
Centre for Urban and Community Studies
University of Toronto
455 Spadina Avenue, Room 426
Toronto, Ontario M5S 2G8
Tel: (416) 978-2072
Fax: (416) 978-7162
Email: cucs@epas.utoronto.ca
Website: www.chass.utoronto.ca/guri/

Canadian Government

André Cliche
Program Manager, West and Central Africa
CIDA INC.
Canadian International Development Agency
200 Promenade du Portage
Hull, Quebec K1A 0G4
Tel: (819) 997-7904
Fax: (819) 953-5024

Bohdana Dutka, Senior Development Officer
Gulf of Guinea Program, Africa and Middle East Branch
Canadian International Development Agency
200 Promenade du Portage
Hull, Quebec K1A 0G4
Tel: (819) 997-1292
Fax: (819) 953-9454

Rhonda Gossen
Manager of Development Projects
The Canadian High Commission
P.O. Box 1639
Accra, Ghana
Tel: (233-21) 22-85-55 / 22-85-66 / 77-37-91
Fax: (233-21) 77-37-92

Robert Le Blond
Trade Commissioner, West and Central Africa Division
Foreign Affairs and International Trade Canada
125 Sussex Drive
Ottawa, Ontario K1A 0G2
Tel: (613) 944-0396
Fax: (613) 944-3566
E-mail: robert.p.l.leblond@extott02.x400.gc.ca

Luc Mougeot
Urban Agriculture
International Development Research Centre (IDRC)
250 Albert Street
Ottawa, Ontario K1G 3H9
Tel: 236-6163
Email: lmougeot@idrc.ca

Johane Séguin
Regional Manager for Africa
Export Development Corporation
151 O'Connor Street
Ottawa, Ontario K1A 1K3
Tel: (613) 598-2762
Fax: (613) 237-2690

C. Michael Siewecke
Trade Commissioner
Canadian High Commission
P.O. Box 1639
Accra, Ghana
Tel.: (233-21) 22-85-55 / 22-85-66 / 77-37-91
Fax: (233-21) 77-37-92
E-mail: siewecke.michael@accra01.x400.gc.ca

International Financial Institutions

Demba Ba
The World Bank
1818 H Street, N.W.
Washington, D.C., U.S.A. 20433
Tel: (202) 473-4272
Fax: (202) 477-2978

Alan Carroll
Infrastructure Division
West Central Africa Department
The World Bank
1818 H Street, N.W.
Washington, D.C., U.S.A. 20433
Tel: (202) 473-4554
Fax: (202) 473-8249

Cesare Calari
Sub-Saharan Africa
International Finance Corporation
2121 Pennsylvania Avenue
Washington, D.C. 20433
Tel: (202) 473-5330
Fax: (202) 974-4332

Robert Rendall
Political Risk Insurance
Multilateral Investment Guarantee Agency
Washington, D.C. 20433
Tel: (202) 473-5106
Fax: (202) 522-2630

Local Government Contacts

Gateway Project Oversight Committee
Ministry of Finance
P.O. Box M40
Accra, Ghana
Tel: (233-21) 66-80-15
Fax: (233-21) 66-70-79

REFERENCES

Country Forecasts, Ghana, Vol. XVII, no. 1, East Syracuse, New York: The Political Risk Services Group, January 1998, pp. 131-134.

A good, fairly recent source of information on international business risks in the country with useful statistics and basic data on the government, economy and social indicators.

Dogbevi, Emmanuel, "Building a Sustainable Environment" in the *Ghanian Independent*, October 31, 1997.

This small article mentions the prominence of sustainable development on Ghana's agenda and the difficulties in the country with waste management and pollution control.

Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 60-61.

These summaries provide a brief description of Ghana's current economic outlook and a statistical profile on the country's economy and its trading relationship to Canada.

Freedom House, *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties 1996-1997*, New Brunswick: Transaction Publishers, 1997, pp. 254-256.

These country reports provide largely background information on each country. The information has its main value in assessing governance issues as a factor in country risks.

Strategis Trade Data Online, *Canadian Domestic Exports - Top 25 Products*, <http://strategis.ic.gc.ca/cgi-bin/t...in/wow/wow.code>

Trillo, Richard and Jim Hudgens, *West Africa: The Rough Guide*, London: Rough Guides Ltd., November 1995, p. 770.

This guide is what it says it is: a sketch of Ghana with some travel advisories and a detailed map of Accra.

World Bank, *Project Appraisal Document on a Proposed Credit in the Amount of SDR 37.6 Million to the Republic of Ghana for Ghana Trade and Investment Gateway Project (GHATIG)*, Report No. 17736-GH, June 5, 1998.

World Bank, Infrastructure and Urban Development Division, *Staff Appraisal Report, Republic of Ghana: Urban Environmental Sanitation Project*, Report No. 15089-GH, March 4, 1996.

World Bank Supports Ghana's Gateway Project, News Release No. 99/1874/AFR Washington, July 9, 1998

Yound, Margaret Walsh and Susan L. Stetler, eds., *Cities of the World, Africa*, 3rd Ed., Vol. 1, Detroit, Michigan: Gale Research Company Book Tower, 1987, pp. 267-279.

The book touches on Accra providing some basic information on the city's history. Much of it is very general, however, focusing more on the country than the city.

The Urban Environment, A special reprint from World Resources, 1996-97, The World Resources Institute, The United Nations Environment Programme, The United Nations Development Programme, The World Bank, New York, Oxford: Oxford University Press, 1996, p. 150.

A good source of urban environment information and indicators, as well as appendices of city and country statistics such as populations.

National Round Table on the Environment and the Economy (NRTEE)

**PROSPECTUS FOR A
CANADIAN SUSTAINABLE CITIES INITIATIVE IN
BUENOS AIRES, ARGENTINA¹**

SUMMARY

Buenos Aires is one of the largest urban regions in the world. The City of Buenos Aires is an autonomous district -- much like Washington D.C. or Mexico City -- located within the Province of Buenos Aires, but politically independent. The City's political status is equivalent to that of a province, and its administration wields significant authority in national issues because of this. Canadian company executives familiar with the local situation find the City much easier to work with than other authorities and believe that it offers a comparatively straight forward approach to contracts and other business dealings.

The municipal government has plans to spend US\$2.8 billion over the next 6 to 8 years on water, sewer systems, environmental products and technological assistance. Most investment is expected to come via privatization of municipal water and wastewater services, a trend which is leading to much greater investments, and an increasing demand for foreign environmental equipment and services.

In the Gran Buenos Aires area, the World Bank will provide technical assistance and finance investments in the amount of US\$5.3 million for air quality and noise monitoring, a vehicle certification laboratory and technical centre, the preparation of an air quality management plan, and the strengthening of the vehicle inspection and maintenance program.

The main Canadian opportunities appear to exist in promoting small-scale water, sewage treatment and energy services which pay for themselves quickly and thus embody lower risks than do larger systems. Some opportunities also exist to supply to major players from other countries engaged in transit and large-scale infrastructure development projects. In addition, the Argentine market for housing is growing rapidly and acceptance of Canadian wood-frame technology as an alternative to solid masonry construction appears to be increasing somewhat.

¹This prospectus was prepared for the National Round Table on the Environment and the Economy (NRTEE) by Cynthia Taha and Lisa Van Buren of The Bayswater Consulting Group, Inc. based on extensive information from the World Bank and from the Department of Foreign Affairs and International Trade, as well as other sources. Michael Cohen, then adviser to the Vice President of Environmentally Sustainable Development at the World Bank encouraged a close look at the potential of Buenos Aires. Tim Egan of the CONTACTO Group provided extensive constructive comments and suggestions, as did his colleague, Francisco. In addition, Nolberto Munier, principal of TEAMIC International Inc. offered a copy of a major report which included environmental needs of Buenos Aires. He also encouraged consideration of this urban region. David Crenna and David Morgan edited the document.

DETAILS OF OPPORTUNITIES

BOT for infrastructure projects

- In 1997, the government planned to spend some US\$720 million on infrastructure, primarily on highway and waterworks projects. In connection with these projects, consulting and engineering expertise is in demand.
- In the environmental market, the government has plans to spend US\$2.8 billion over the next 6 to 8 years on water, sewer systems, products and technological assistance. Most investment is expected to come from the privatization of municipal water and wastewater services, a trend which is leading to much greater investments, and an increasing demand for foreign environmental equipment and services.
- In the Gran Buenos Aires area, the World Bank will provide technical assistance and finance investments in the amount of US\$5.3 million for air quality and noise monitoring, a vehicle certification laboratory and technical centre, the preparation of an air quality management plan, and the strengthening of the vehicle inspection and maintenance program.

Energy-efficient housing

- Housing sector opportunities are concentrated in the greater Buenos Aires region, which accounts for 60 percent of demand and 45 percent of Argentina's population. Potential markets include low-cost, social housing and housing for the somewhat neglected middle class. The government plans to build 150,000 low cost housing units annually from 1997 to 1999. The demand for units among lower and middle class segments of the population is also being met by provincial governments which hope to have some funding in place in 1998.
- The Government of the Province of Buenos Aires has completed the first stage of the privatization of state owned electric power utility: ESEBA. ESEBA supplies electricity to 95 percent of the provinces' population. The Governor, Dr. Eduardo Duhalde has declared that the \$1 billion obtained from this privatization will go to public works and housing projects.

Linking Sustainable Cities to Sectoral Priorities

The following trade missions and events may help promote opportunities in Buenos Aires:

- In September 1998, Industry Canada is sponsoring a Canadian Environmental Technology Mission to Brazil, Chile and Argentina. The mission is in conjunction with Industry Canada's assistance to the development of environmental impact assessment legislation and capabilities in Argentina and Chile.
- In October 1998, EXPO COMM, the third international telecommunications, wireless, and broadband exhibition and conference, will be held in Buenos Aires, Argentina.

- In mid-November 1998, Natural Resources Canada is planning to lead a 10 day mission to Argentina, Chile and Peru to showcase Canadian industry expertise and technology in natural resource-related businesses and electrical power, equipment and services.

Rapid transit

- The World Bank announced in May 1997 that it will fund US\$200 million to assist in the improvement of mass transit in Buenos Aires. The Buenos Aires Urban Transport Project plans to upgrade rail and bus transfer stations, obtain new rail equipment, and improve traffic safety programmes.
- In June 1997, Metrovias (Buenos Aires subway operator), awarded Siemens AG of Germany a 12 year contract worth US\$27 million to refurbish and maintain subway trains in Buenos Aires.
- The Buenos Aires City Government has announced that it will soon call for proposals to build and operate "Line H", a project that will require over US\$1 billion in investment.

CANADIAN CAPABILITIES TO RESPOND

BOT for infrastructure projects

- Canadian consulting and engineering expertise in highway and waterworks projects will be advantageous in Buenos Aires. The recently privatized concessions offer opportunities, especially for Canadians with experience in operations management and design services.
- The Canadian environmental technology industry also has valuable products and services to offer these projects.

Energy-efficient housing

- Steel frame and other light building technologies have potential opportunity. Relevant Canadian capacities also include low-cost and energy-efficient housing construction and building technologies. Canadian firms that offer relatively advanced technologies that improve building costs and increase construction efficiency will find sales opportunities in Buenos Aires.

Rapid transit

- Canadian firms have valuable expertise in the area of mass transit and traffic safety. In particular, they may be able to provide quality new and used equipment and consulting and engineering services.
- The Siemens' subway contract creates opportunities for Canadian companies to supply Siemens AG with the equipment required to upgrade and maintain subway trains such as tracks, gauges and signalling equipment. The potential exists for Canadian companies to supply quality equipment such as tracks, cars, signalling equipment and other equipment and services to operate the new line.

SUCCESS FACTORS

1. Basic Information

Argentina is one of the most urbanized in Latin America with the unique characteristic that urbanization was well advanced before World War I. In 1991, 87 percent of the total population lived in urban areas. Despite its high level of urbanization, Argentina is still experiencing significant growth in its urban population.

Buenos Aires, the capital of Argentina, is located on the Rio de la Plata, 100 miles from the Atlantic Ocean. The city is situated on the eastern edge of Argentina's most productive agricultural area, the Pampa. As one of the busiest port cities in the world, virtually all activity in the country is centred on Buenos Aires. It is also a trade and distribution outlet for a huge area. An inland system links it with Paraguay, Uruguay and Brazil.

Greater metropolitan Buenos Aires has an estimated population of 9,677,000, making it the sixth largest in the world and the third largest in the Western Hemisphere. It has more Spanish-speaking people than any other city in the world. Approximately 13 million live in the Province of Buenos Aires, which is roughly equal to that of Chile, but in an area about the size of Italy.

The economy of Buenos Aires City rests on its position as a port city and centre for trade and industry. Major industries in the region include food processing, automobile manufacturing, oil refining, metal-working, printing and publishing, and machine building. In addition, the city boasts industries in the production of chemicals, textiles, clothing, paper, and tobacco products. Exports are primarily in linseed oil, meat, meat products, dairy products, grain, wool, flax, and hides.

Argentina is the second largest country in South America, after Brazil. It is unique in contrast to other Latin American countries. Some 97 percent of its population is Caucasian, dominated by those of Spanish and Italian ancestry. When the first Spanish colonialists established a colony in 1536 on the site of what is now Buenos Aires, few native peoples lived in the area. There has been less genealogical assimilation of native peoples than in other parts of Latin America. In the early part of the 20th century, large scale immigration from Europe promoted modernization in the area and brought economic and cultural status to Argentina.

2. Governance

Argentina has a federal system of government with three levels: central, provincial and municipal. Each Province is an autonomous entity governed by its own constitution, which also provides the basic framework for its municipal governments. Specific responsibilities for service provision and sources of revenue are set out under the province's Municipal Code. Provincial and municipal governments share responsibility for elementary and secondary education, health care, water and sewerage, regional and local roads, and fire control. Municipal governments are predominantly responsible for solid waste collection and disposal, local streets and drainage, parks, markets, cemeteries, and land use planning and control. In recent years, Argentina has pursued a policy of decentralization of services thereby increasing municipalities' responsibilities if they can provide them more efficiently.

Under the current leadership of President Carlos Menem, Argentina is engaged in a process of economic reform in an effort to stimulate growth and reduce unemployment. Mr. Menem introduced economic austerity measures which significantly damaged his popularity. Although traditionally strong supporters of Menem's party, the labour unions were alienated by labour reforms. Through corporate restructuring, the government sought to increase labour flexibility and reduce overall labour costs. These reforms and others are expected to bring down the unemployment rate and improve economic growth.

Democracy is firmly established in Argentina despite its checkered past under a military regime. The military has effectively been removed from politics. Moreover, there is a growing national commitment to the development of civil society.

Levels of education are very high, and as the economic situation continues to improve the educated populace has greater liberty to focus its attention on developing the range of organizations that make a democracy more effective. Developing "civil society" has received particular priority in the City of Buenos Aires as the political, economic and cultural hub of the country.

Corruption levels in the Province of Buenos Aires are considered to be high, but this situation does not extend to the City, which is remarkably free of corruption. Moreover, the stature of municipal politicians in the City is very high. In fact, the current mayor of the City, Fernando de la Rúa, is the likely presidential candidate for the Alianza - the principal opposition to President Menem's Peronist administration.

The country as a whole rated poorly on Transparency International's 1998 corruption index. There is, however, increasing attention being paid to efforts to root out political corruption, which has become a major issue in the national political campaign of the Alianza party.

3. Need

Urban agglomerations in Argentina have considerable unmet needs for municipal infrastructure. There is a higher absolute need in the three largest provinces (Buenos Aires, Santa Fe, and Córdoba), which have a higher concentration of households. The World Bank estimated potential demand based on a survey asking 70 municipalities to identify infrastructure needs or subprojects. The results for the Province of Buenos Aires were as follows:

Percentage of Households with Residential Site Services (1988)

Urban Centre	Street Paving	Water Mains	Sewage Mains	Street Lighting	Average
Gran Bahía Blanca	73.9	97.3	78.7	91.1	85.3
Gran La Plata	59.9	85.9	65.0	89.2	75.0
Average	57.3	90.9	54.6	90.5	73.3

Source: *Situación y Evolución Social, Síntesis, Número 2*, INDEC, 1993.

After years of neglect and the least developed environmental protection regime in the region, Argentina is giving greater attention to environmental considerations. Since Buenos Aires is Argentina's largest industrial region and has the most developed environmental regime, it also has the greatest number of opportunities.

The fact remains that while provinces such as Buenos Aires and other have strongly worded environmental laws, enforcement of those laws is minimal. Environmental protection therefore continues to be low, and the likelihood of that protection increasing via greater enforcement is not high. The opportunity will come through demonstration of cost savings that the environmental technologies can bring, and the pressures of the international market place to have goods and services of a particular environmental standard. It is the combination of the possibility of lower production costs (or cleanup costs), and the threats of international competition, that is driving environmental reform in industry in the country.

Air pollution problems are concentrated in Argentina's largest cities and industrial areas including Buenos Aires. Aside from a lack of significant emission controls on factories and power plants, a significant increase in the number of automobiles is a major cause of rising levels of urban air pollution. Trips by car in the Buenos Aires Metropolitan Area have increased from 2.7 million trips per day in 1970 to 4.5 million per day in 1991, a 60 percent increase. The sharp increase in traffic has also led to worsening noise pollution, traffic congestion, and an increasing number of traffic accidents.²

Demand for air pollution control equipment is concentrated in the electric power, industrial and transportation sectors. The government has also given high priority to the rebuilding of transportation infrastructure to address traffic and pollution problems.

Buenos Aires has the highest degree of water pollution in the country. In particular, industries such as tanneries, paper and pulp production, textiles, footwear, metallurgy, chemistry, oil refineries, and sugar and alcohol production are responsible for much of the water pollution.

According to the World Bank, groundwater pollution is Argentina's worst pollution dilemma, followed by air pollution. It is estimated that as much as 30 percent of the population of Buenos Aires drinks contaminated water. The World Bank calculates that Argentina must invest over US\$13 billion to reach water supply and treatment targets set for the year 2000, which include connecting 80 percent of the population to safe drinking water and 90 percent to drainage facilities.

Argentina's construction industry continues to recover from the economic recession in 1995. For 1998 to 1999, analysts predicted the construction industry would grow at a rate of 15%. The building or restoration of homes occupies almost half of Argentina's construction industry.

Traditional building methods of cement and masonry are becoming too expensive and time consuming. Argentine construction firms are looking for more efficient and cost-effective methods to meet rising housing demand. Suppliers should bear in mind that price and financing is the key to success in the Argentine market.

There is also a need to expand telecommunications services, particularly with plans to

²World Bank, Infrastructure and Urban Development Division, *Staff Appraisal Report: Argentina, Buenos Aires Urban Transport Project*, April 11, 1997, p. 1.

deregulate Argentina's newly privatized telecommunications market by the year 2000. There are now approximately 12,000 public telephones and an extensive modern system but many families do not have telephones. Despite extensive use of microwave radio relay, the telephone system frequently grounds out during rainstorms, even in Buenos Aires.

4. Canadian Track Record

4.1 Private Sector

Canada and Argentina are on very good terms, with cooperation occurring on an expanding range of issues. Canadian trade with Argentina generally rose from 1992 to 1995. Despite Argentina's economic downturn in 1995, many Canadian companies have found opportunities in Buenos Aires and are there on a full time basis.

Some of the recent initiatives in infrastructure development resulting from the Team Canada Mission in January 1998 are as follows:

- AGRA Earth and Environmental Ltd. and AGRA Systems Limited of Ottawa signed a memorandum of understanding (MOU) with AMBIENTAL S.A. of Buenos Aires for the joint pursuit and conduct of environmental service projects.
- The Association of Canadian Community Colleges signed an MOU with the City of Buenos Aires to establish a business relationship that will be used to develop commercial exchanges and co-operation in education and training.
- CAE Electronics Inc. signed a contract with EDESUR of Buenos Aires for the supply of high-voltage transmission SCADA system consisting of a master station and 11 remote terminal units.
- FGA Consulting Engineers signed a letter of intent with AICC Consultores S.A. of Buenos Aires that will lead to FGA's participation in projects in all sectors of Argentina's economy.
- Harris Canada Inc. signed a contract with McCaw Argentina S.A. of Buenos Aires. The project is valued at \$2.8 million and is composed of microwave radio systems manufactured in Canada for McCaw's trunking mobile radio network.
- Harris Canada also signed a technology transfer agreement with their partner in Argentina, Coasin Comunicaciones of Buenos Aires, which will allow Coasin to establish a customer service centre with component repair capabilities for improved technical support to Harris' customers.
- HYGREX Spehr Industries signed an MOU with Enertech S.A. of Buenos Aires and the National University of General San Martin for the specification, design and potential implementation of a chromium-contaminated sludge treatment plant drying facility.
- MNC Group Inc. signed an MOU with AICC Consultores S.A. of Buenos Aires to transfer technology in the environmental sector, enabling AICC to offer a broader array of services to its clients.

- Nexus Environment International and LIMSA of Buenos Aires signed an MOU to identify technology transfer projects in the environment sector that can be implemented by LIMSA and its parent company, IMPSA.
- Positron Inc. signed an agreement with DEMSIS whereby DEMSIS will become the exclusive distributor in Argentina for the sale and support of Positron's emergency response systems.
- Ontario Teklogix Inc. has signed a contract with Terminales Rio de la Plata of Buenos Aires for the purchase of radio frequency data transmission equipment used to identify and monitor the location of containers arriving and departing on maritime vessels.
- Universal Systems Inc. (CARIS) a software and systems integration company which develops, supports and markets geographic information systems, signed a business associates agreement with Smart S.A. of Buenos Aires.
- The Université of Sherbrooke and the Universidad Nacional de Lanús, in the Province of Buenos Aires, signed a memorandum of understanding for the Université de Sherbrooke to provide expertise in environmental studies in order to help develop master's level programs and research and technology activities at the Universidad Nacional de Lanús.
- Wintec EMC and NS Power Services Ltd. created NSP-Wintek, a joint venture, and signed a letter of intent with the Consorcio Gran Terminal Puerto Rosario. The project involves the delivery of a feasibility study and the design, engineering, financing and implementation of a district energy co-generation facility.

In addition, the Alliance of Manufacturers and exporters is active in international trade development and works with counterpart organizations in Argentina. Its international programs include Argentina in the Latin America Business Linkage Program.

Canada's El Grupo CONTACTO (the CONTACTO Group) has helped pave the way for financing Canadian environmental technology and service providers. With offices in Toronto, Washington, and Argentina, the company works as an information and technology brokerage firm, focusing particularly on environmental matters around urban and energy issues. The CONTACTO Group has helped to identify specific opportunities to link technology transfer from Canada with World Bank projects in Argentina.

The CONTACTO Group has worked on a variety of projects in Argentina, including remediation technology, waste management, and most recently alternative energy technologies. It obtained the support of Environment Canada's International Environmental Management Initiative to begin a project in Chubut province. Canadian money up front improved immensely the prospects of the project. In addition, the company pursued funding support from the Argentine government which eventually agreed to fund 25 percent.

4.2 *Public Sector*

The Department of Foreign Affairs led a Team Canada Trade Mission to Argentina in January 1998, which also included a number of public sector participants.

- Industry Canada's Schoolnet (Information Highway Applications Branch) signed an MOU with Roberto Noble Foundation (Fundacion Roberto Noble) - Clarin Group (Grupo Clarin) to provide Canadian expertise for the design, the transfer of technology and know how of Industry Canada's Schoolnet and programs.
- Confederation College, which specializes in educational technology with core programs in aviation, health sciences, aboriginal studies, business technology, signed a letter of intent with Maimonides University of Buenos Aires.
- Seneca College of Applied Arts and Technology and Wintec EMc signed an MOU with the National University of Lomas de Zamora for the design and development of energy and environmental training courses. Seneca College and Wintec EMC Energy Management Corporation also signed an MOU with the University of General San Martin covering academic, cultural and scientific exchange.

4.3 *Canadian Infrastructure Exports*

Total Canadian exports to Argentina have risen from approximately \$144 million in 1993 to over \$339 million in 1997. Infrastructure related exports totalled \$107 million in 1997. Over the same period, exports of telecommunications equipment grew from approximately \$8 million to \$36 million. Exports of pre-fabricated buildings rose by approximately \$7.5 million.

4.4 *International Competition*

German, Italian, French, American and British infrastructure suppliers are all active in the Argentine market. The country also has close economic ties with Spain. In undertaking large-scale BOT or BOO projects, it is likely that Canadian firms will need to consider acting as suppliers to much larger enterprises from Europe or the United States.

5. **Financing**

5.1 *Private Financing*

With recent efforts to privatize companies in Argentina, numerous infrastructure projects are in the works. These projects are financed both by concession as well as some public sector funds from privatization of state operations. Nevertheless, financing remains the most prominent constraint on Canadian involvement.

According to the Canadian Department of Foreign Affairs, infrastructure developments are quite costly and interested companies cannot count on the Argentine government to provide funding for projects. Limited financing is provided by international financial institutions, including the World Bank and the Inter-American Development Bank. The bulk of projects are awarded as concessions, which require companies to secure long-term financing.

Fortunately, the government is working to smooth the path for foreign direct investment. Changes in Argentina's economic structure mean improved access to financing and stable prices. Foreign companies may invest in Argentina on the same terms as Argentine firms, without prior government approval. Moreover, there are no restrictions on the movement of funds in and out of the country.

5.2 *State financing*

The government has also given high priority to certain projects such as rebuilding the transportation infrastructure. To aid development, some of the money raised from the sale of state-owned enterprises is reserved especially for this sector. Companies are still primarily responsible for financing arrangements.

In Argentina, the FONAVI, (Fondo Nacional de la Vivienda- National Housing Fund) mortgage loans are the only way for the low-income segment to qualify to own a family home. The FONAVI is an Agency within the Secretariat of Social Development. The price of houses ranges from \$ 20,000 to \$ 30,000 for the standard design of 50 to 70 square meters. To qualify for a loan, the monthly income of the entire family group must range from \$ 500 to \$ 1,000. The family assigns twenty-five percent of its total income to monthly repayment instalments. Terms are up to twenty-five years (300 months). Individual loans for house construction are also available.

5.3 *International Financing*

The key items identified by the World Bank for its urban policy agenda in Argentina include: improving the urban environment, poverty reduction, economic growth and increased efficiency of infrastructure services. In line with these priorities, the World Bank initiated a series of operations aimed at municipal development including a project in 1995 to assist Argentina in extending its fiscal and administrative reforms at the national level to the municipal public sector. The loan, in the amount of US\$210 million, would help over 900 municipalities improve their efficiency and fiscal discipline.

In 1997, the Bank established financing in the amount of US\$200 million for the urban transport sector in Buenos Aires. The project's objectives are to (a) support the private-public partnership in improving the service quality and coverage of mass transit; (b) support the infrastructure improvements defined in the concession agreement between the Government and the private sector; (c) assist in improving the conditions of traffic safety and environmental quality; and (d) help in developing an integrated urban transport (road and rail) system for the Metropolitan Area.

World Bank financing totalling US\$18 million will be made available starting in 1998 to improve the Government's performance and institutional capacity to provide key environmental services. There are four components to the project including (a) public-private partnerships for pollution management; (b) integrated management of environmental quality in the municipalities of Campana and Zárate (Buenos Aires Province); (c) air quality and noise management in Gran Buenos Aires; and (d) municipal and regional pollution management in the municipality of Puerto Madryn (Chubut Province) and the Patagonia region.

The International Finance Corporation has made significant contributions to the development of Argentina's infrastructure. By 1996, the IFC's Board had approved US\$562 million to finance twenty-nine projects costing US\$5.6 billion in total. These projects have covered power transmission and distribution, telecoms, railroads, gas distribution, ports, water, and a toll road.

The IFC also supported wastewater treatment projects in Argentina, Brazil and Mexico.

The IFC has favoured Argentina because of the political sustainability of its PPI program. The government has had the institutional capacity to implement new regulatory regimes and to use various mechanisms to promote PPI and competition, such as concessions. Moreover, it has been willing to accept foreign investment in politically sensitive infrastructure sectors.

The Inter-American Development Bank has helped finance two major infrastructure projects in recent years including the Buenos Aires Municipal Institutional Reform and the Argentina GIS Applications with Highways project.

5.4 *Export Development Corporation*

Some financing is available from the Export Development Corporation (EDC). The EDC provided C\$382 million in financing in 1996 to Canadian firms conducting business in Argentina. There is strong support for the telecommunications sector in Argentina. In addition to several major banks, the EDC also holds lines of credit with Stet-France Telecom S.A. and Telefonica de Argentina S.A.

5.5 *Debt Repayment Prospects*

Economic indicators show Argentina continuing to improve as a target for foreign direct investment. Increasing foreign exchange reserves between 1993 and 1997 have helped Argentina maintain a positive trade balance in recent years.

INTERNATIONAL ECONOMIC INDICATORS	1993	1994	1995	1996	1997
Foreign Direct Investment (\$bn)	3.48	0.60	1.32	1.32	?
Foreign Exchange Reserves (\$bn)	13.34	13.76	13.75	15.20	?
Total Foreign Debt (\$bn)	76.20	88.10	99.00	101.00	?
Total Foreign Debt/GDP (%)	29.6	31.3	35.3	34.7	?
Debt Service Ratio (%)	36.8	28.3	36.1	34.7	?
Current Account (\$bn)	-7.05	-9.36	-2.39	-4.10	?
Current Account/GDP (%)	-2.7	-3.3	-0.9	-1.4	?
Exports (\$bn)	13.12	15.84	20.96	22.40	?
Imports (\$bn)	15.54	20.08	18.73	21.20	?
Foreign Trade Balance (\$bn)	-2.42	-4.24	2.23	1.20	?
Currency Exchange Rate	0.99895	0.99901	0.99975	0.99966	?
Currency Change (%)	-0.8	0.0	0.1	0.0	?

Source: *Country Forecasts, Argentina*. The Political Risk Services Group. July 1997.

GDP PER CAPITA FOR ARGENTINA

ECONOMIC INDICATOR	1993	1994	1995	1996	1997
GDP (\$bn)	257.84	281.92	280.07	291.36	NA
Per Capita GDP (\$)	7,615	8,215	8,055	8,275	NA
Real Growth Rate (%)	6.0	7.4	-4.6	4.0	7.0

Source: *Country Forecasts, Argentina*. The Political Risk Services Group, July 1997.

6. Managing Risks

6.1 Overview

Argentina is projected to be one of the lowest investment risks of the ten largest emerging markets in the world. In 1998, Standard and Poor's DRI ranked Argentina just below number one ranked Poland on the basis of more than 50 variables including governmental policies, economic trends, domestic political and economic risk factors.³ Over the medium term, analysts expect the export sector to continue to lead growth. Moody's gave Argentina a Ba3 rating and Standard and Poor's gave it a BB rating.⁴

6.2 Political Risk

Argentina has enjoyed a long period of political stability under the current president, Carlos Menem. The ruling party, Partido Justicialista (known as the Peronists), as well as all others are very focused on upcoming elections in May 1999. President Menem has given up his aspirations to revise the constitution and seek a third term. The Menem camp endorsed Ramon Ortega as its Peronist candidate for 1999. Ortega is currently National Secretary of Social Development, and a former Governor of Tucuman, a northern province. Mr. Ortega will have to face the current Governor of the Province of Buenos Aires, Eduardo Duhalde in a runoff of "pre-candidates".

The legislature is currently dominated by the Alianza, an alliance of the Union Civica Radical (commonly referred to as the Radical Party) and the centre-left party, Frepaso (composed of social democrats and former Peronists). As the chief opposition to the Peronists, the Alianza has selected two presidential pre-candidates, Fernando De la Rúa, Chief of Government of Buenos Aires City (Radical Party) and Graceila Fernandez Meijide (Frepaso).

Both candidates are strong national figures, Mr. De la Rúa because of a strong anti-corruption stand, and Ms. Fernandez-Meijide because of her active involvement in human rights campaigns in the past against the military. Their respective popularity may mean that neither would take the low-profile vice-presidential position in favour of continuing as Chief of Government in the City of Buenos Aires (for De la Rúa) or a run at the governor's office of the Province of Buenos Aires (for Fernandez-Meijide).

³Poland, Argentina, and Mexico Projected to Have Lowest Investment Risk of Ten Largest Emerging Markets, Standard & Poor's DRI, News Release, Lexington, Mass., July 15, 1998.

⁴Economic Development Corporation, *Guide to Country Risks and Opportunities*, Mar 1998, pp. 32-33.

One of the major policy issues in upcoming elections is the labour sector which remains plagued by an unemployment rate of around 15 percent. Analysts argue that the benefits of strong economic growth need to be shared more equitably and the flexibility of the labour market increased to insure continued stability.⁵

6.3 *Economic and Financial Risk*

Argentina had the fastest growing economy in Latin America in 1997, with GDP expanding by about 8.1 percent. Given the current regime's consistent economic policy, local and foreign investors have remained very confident about Argentina's economy, which went through structural reforms in public finance in the 90s. Improved revenue systems, government downsizing and re-structuring, and privatization boosted investor confidence. Argentina's peso is pegged to the US dollar and was able to maintain that linkage despite the crisis that ensued following Mexico's financial debacle in 1994.

In the short term, economic growth is expected to slow down with the reduction in activity in Brazil. Moreover, as a result of Argentina's current account deficit and investors' concerns with the fate of the monetary region of Hong Kong, China, there has been some cooling off in the economy. Certain sectors continue to attract much of the investment, particularly mining and oil.⁶

Obtaining credit locally is very difficult. This results from a lack of liquidity in the financial system and current banking practices in general. Letters of credit and drafts are the most common forms of payment.

6.4 *Commercial Risk*

Foreign lenders' concerns have been reduced by the convertibility of Argentina's exchange rate and the parity of its currency with the U.S. dollar.

Investors need to consider obtaining intellectual property rights protection. Patent law remains undeveloped and poorly enforced.

⁵Ibid.

⁶Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, p. 32.



CONTACT INFORMATION

Canadian Organizations

Doreen Rousseau
Latin America Business Linkage Program
Alliance of Manufacturers and Exporters of Canada
National Office
400-75 International Boulevard
Toronto, Ontario M9W 6L9
Tel: (416) 798 8000, ext. 230
Fax: (416) 798-8050
Email: national@the-alliance.com

Adrian Foster
AGRA Systems Limited of Ottawa
1145 Hunt Club Road, Suite 600
Ottawa, Ontario K1V 0Y3
Tel: (613) 526-1661
Fax: (613) 526-5326

Robert Giroux
President
The Association of Canadian Community Colleges
350 Albert Street, Suite 600
Constitution Square
Ottawa, Ontario K1R 1B1
Tel: (613) 563-1236
Fax: (613) 563-9745

Patrice Rousseau
CAE Electronics Inc.
8585 Côte d'Église
Ville St. Laurent (Québec) H4T 1G6
Tel: (514) 341-6780, ext. 3966
Fax: (514) 341-7600

Tim Kerbashian
Confederation College
International Department
P.O. Box 398
Thunder Bay, Ontario P7C 4W1
Tel: (807) 475-6172
Fax: (807) 623-7250

Timothy Egan, President
CONTACTO Group
Suite 2, 263 Roncesvalles
Toronto, Ontario M6R 2L9
Tel: (416) 535-2815
Fax: (416) 531-4769
Email: tegan@spectranet.ca

W. F. Flanagan
Vice President
FGA Consulting Engineers
P.O. Box 207
Fredericton, New Brunswick E3B 4Y9
Tel: (506) 458-8455
Fax: (506) 452-2729
Email: fga@fga.nb.ca

Pasteur Ntake
Vice President
Harris Canada Inc.
3 Hotel de ville
D.D.O. (Québec) H9B 3G4
Tel: (514) 421-8400
Fax: (514) 421-4222

Erwin Spehr
HYGREX Spehr Industries
P.O. 346
680 Hardwick Drive
Bolton, Ontario L7E 5T3
Tel: (905) 951-3145
Fax: (905) 951-3214

Moya Cahill
MNC Group Inc.
1874 Brunswick Street
Halifax, Nova Scotia B3J 2G7
Tel: (902) 420-8950
Fax: (902) 420-8949

Denis Stevens
President
Nexus Environment International
550 Sherbrooke St. West
Suite 890, W. Tower
Montreal (Québec) H3A 1B9
Tel: (514) 844-4048
Fax: (514) 844-5257

Michael Redmond
Manager Economic Development
Nova Scotia Power
P.O. Box 910
Halifax, Nova Scotia B3J 2W5
Tel: (902) 428-6724
Fax: (902) 428-6407

Jacques Zekry
Director of International Development
Positron Inc.
5101 Buchan Street
Montreal, Quebec H4P 2R9
Tel: (514) 345-2200
Fax: (514) 731-8662

J.R. Couttes
President
Teklogix Inc.
2100 Meadowvale Boulevard
Mississauga, Ontario L5N 7J9
Tel: (905) 813-9900
Fax: (905) 812-6300

Wolfgang Weitzel
Senior Vice President
Siemens International
Toronto Office, Headquarters, 2185 Derry Road West
Mississauga, Ontario
L5N 7A6
Tel: (905) 819-8000
Fax: (905) 819-5777

Maurice Platero
Seneca College of Applied Arts and Technology
1750 Finch Avenue East
North York, Ontario M2J 2X5
Tel: (416) 491-5050
Fax: (416) 492-9243

Kevin Barry
President
Universal Systems Inc.
264 Rookwood Avenue
Fredericton, New Brunswick B3B 2M2
Fax: (506) 459-3849
Tel: (506) 458-8533

Victor J. Garcia, President and CEO
Wintec EMC, Energy Management Corporation
135 Queen's Plate Drive
Toronto, Ontario M9W 6V1
Tel: (416) 745-6111
Fax: (416) 748-3664
Email: wintec1@istar.ca

Canadian Government

Ms. S. Harper
Canadian Embassy in Argentina
Tagle 2828
1425 Buenos Aires, Argentina
Postal address:
Casilla de Correo 1598
Buenos Aires, Argentina
Telephone: (54-1) 381-3351

Joanne Goulet
A/Regional Director
South America Division
Canadian International Development Agency
200 Promenade du Portage
Hull, Quebec K1A 0G4
Tel: (819) 997-3198
Fax: (819) 994-4259

Marcel Lebleu
Deputy Director, Trade
Department of Foreign Affairs and International Trade
South America Division (LSR)
125 Sussex Drive
Ottawa, Ontario K1A 0G2
Tel: (613) 996-4198
Fax: (613) 943-8808

Mark Bowman
Financing Services
Export Development Corporation
151 O'Connor Street
Ottawa, Ontario K1A 1K3
Tel: (613) 598-6647
Fax: (613) 598-3167

International Financial Institutions

George Shannon
Office of the Canadian Executive Director
Inter-American Development Bank
1300 New York Avenue, NW
Washington, D.C. 20577
Tel: (202) 623-1023
Fax: (202) 623-3609

Mario del Carril
Latin America/Caribbean
World Bank
1818 H Street N. W.
Washington, D.C. 20433
Tel: (202) 473-6189
Fax: (202) 522-3698

Monica Echeverria-Cota
World Bank
1818 H Street N. W.
Washington, D.C. 20433
Tel: (202) 473-1315
Fax: (202) 522-3698

Stine Andresen
Political Risk Insurance
Multilateral Investment Guarantee Agency
Washington, D.C. 20433
Tel: (202) 473-6157
Fax: (202) 522-2630

Karl Voltaire
International Finance Corporation
2121 Pennsylvania Avenue
Washington, D.C. 20433
Tel: (202) 473-0558
Fax: (202) 974-4394

Local Government Contacts

Francisco Ferro
Minister of Commerce
Embassy of the Argentine Republic
Royal Bank Centre
90 Sparks Street
Ottawa, Ontario K1P 5B4
Tel: (613) 236-9431/2
Fax: (613) 563-7925

Juan Guevara
Commerce
Consulate of the Argentine Republic
Commercial Section
1 First Canadian Place, Suite 5840
Toronto, Ontario M5X 1K2
Tel: (416) 955-9190
Fax: (416) 955-9293

Secretariat of Public Works and Communications
Sarmiento 151
1041 Buenos Aires
Tel: (54-1) 49-9481, 312, 1283

Secretariat of Transportation
Av. 9 de julio 1925
1332 Buenos Aires
Tel: (54-1) 381-1435/ 4007

Secretariat of Trade and Commerce
Hipolito Yrigoyen 250 1310
Buenos Aires, Argentina
Tel: (54-1) 331-2808
Fax: (54-1) 331-0292

Argentine National Organizations

Argentine Construction Chamber
Av. Paso Colon 823. Piso 9o. 1063
Capital Federal, Argentina
Tel: (54-1) 361-8778
Fax: (54-1) 361-4724

Argentine Chamber of Urban Housing and Equipment
Av. Callao 66. Piso 4o. 1022
Capital Federal, Argentina
Tel: (54-1) 951-7543
Fax: (54-1) 951-7865

Woodhouse Argentina
Sicsa Constructora
(Ecological urban and rural houses)
Delgado 1324
(1426) Buenos Aires, Argentina
Tel/ Fax: 54-1 551-8025

REFERENCES

ACR Associates, *Argentina trip leads to new opportunities*, Environment Canada, Ottawa, 1997.

Very limited information, providing only a brief profile on the International Environmental Management Initiative's efforts in Argentina.

Country Forecasts, Argentina, Vol. XVII, no. 1, East Syracuse, New York: The Political Risk Services Group, July 1997, pp. 15-18.

A good, fairly recent source of information on international business risks in the country with useful statistics and basic data on the government, economy and social indicators.

Department of Foreign Affairs and International Trade, *Argentina: Country Profile and Fact Sheet*, July 1998, <http://www.infoexport.gc.ca>.

An excellent source of information on various sectors of the Argentine economy with relatively current research on potential business opportunities and lengthy contact lists. Includes some specific information on opportunities in Buenos Aires, but practically no municipal contact information.

Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 32-33.

These summaries provide a brief description of Argentina's current economic outlook and a statistical profile on the country's economy and its trading relationship to Canada.

Prime Minister's Web Site, *List of New Canadian Business Initiatives in Argentina*, January 20, 1998, http://pm.gc.ca/cgi-win/pmo_view.exe.

Strategis Trade Data Online, *Canadian Domestic Exports - Top 25 Products*, <http://strategis.ic.gc.ca/cgi-bin/t...in/wow/wow.code>

The Urban Environment, A special reprint from World Resources, 1996-97, The World Resources Institute, The United Nations Environment Programme, The United Nations Development Programme, The World Bank, New York, Oxford: Oxford University Press, 1996, pp. 150-151.

A good source of urban environment information and indicators, as well as appendices of city and country statistics such as populations.

U.S. Department of Commerce, *Argentina - Prefabricated Housing - Competitive Situation*, <http://strategis.ic.gc.ca/SSG/dd85451e.html> Publishing date: 1997-10-01

World Bank, Environmental, Rural and Socially Sustainable Development Sector Unit, *Project Appraisal Document on a Proposed Loan in the Amount of US\$18 Million to the Argentine Republic for a Pollution Management Project*, Report No. 17305-AR, January 21, 1998.

World Bank, Environment and Urban Development Operations Division, *Staff Appraisal Report, Argentina: Second Municipal Development Project*, Report No. 13600-AR, March 6, 1995.

World Bank, Infrastructure and Urban Development Division, *Staff Appraisal Report, Argentina: Buenos Aires Urban Transportation Project*, Report No. 15951-AR, April 11, 1997.

World Bank and International Finance Corporation, *Financing Private Infrastructure: Lessons of Experience*, Washington D.C.: World Bank, 1996, p. 45.

Yound, Margaret Walsh and Susan L. Stetler, eds., *Cities of the World, The Western Hemisphere*, 3rd Ed., Vol. 2, Detroit, Michigan: Gale Research Company Book Tower, 1987, pp. 17-18.

The book touches on Buenos Aires providing some basic information on the city's history. Much of it is very general, however, focusing more on the country than the city.

**PROSPECTUS FOR
A CANADIAN SUSTAINABLE CITIES INITIATIVE
IN HANOI, VIETNAM¹**

SUMMARY

Hanoi, the capital of Vietnam, has a population estimated at 3.5 million people, and has been growing rapidly. Recent economic reforms are expected to accelerate urban growth further, and populations of Hanoi and nearby Haiphong are expected to double by 2010, far beyond the capacity of current infrastructure to support them.

Industrial development and construction activities in cities are thought to be growing at 15-16% per year. Foreign investment – which stood at zero just a few years ago – now exceeds \$30 billion in commitments and around \$8 billion in actual inflows. As foreign investment accelerates, contrasts between the older lagging and environmentally-burdensome industrial sector and more technologically-sophisticated new industries are expected to be sharp.

As a result of combined urbanization and industrialization, demand for electrical power is projected to grow by at least 11.6% per year between now and 2010. The short term target is to add 3,000 megawatts to the existing capacity by 2000, at an estimated cost of US\$1-1.5 billion. Private and foreign-invested power plants constructed under build-operate-transfer (BOT) agreements will be encouraged to do this work. These investments present real opportunities for complementing conventional hydro-electric and other large-scale power sources with environment-friendly renewable energy, co-generation and energy conservation technologies. Such alternatives are both cheaper and more sustainable. The current Asian financial crisis is likely to create a favourable climate for lower-cost options that can be carried in many locations at once, rather than a few more vulnerable mega-projects.

Canadians could build on current excellent relations with national, provincial and municipal governments in the Hanoi and Haiphong region to develop immediately feasible community energy supply and conservation initiatives. They might begin with micro-cogeneration, low-head hydro, wave-mill, and similar tested options that reach well into the surrounding countryside. Complementing these efforts would be work to transfer building and industrial process energy and water conservation technologies, and energy from waste technologies that could be locally produced. While previous work has largely been in sanitation and water pollution control, this has less prospect of immediate financial returns than do energy options.

¹ This profile was prepared for the National Round Table on the Environment and the Economy (NRTEE) by Lisa Van Buren of The Bayswater Consulting Group, Inc., supported by Cynthia Taha, using information from the World Bank, DFAIT, CIDA, and other sources. Tim Campbell of the World Bank provided useful information on the port of Haiphong, as well as encouraging the inclusion of Hanoi as potential starting city. Robert Kalnins of Sodexen provided comments on the current Canadian involvement in Hanoi, as did Flora Liebich of CIDA. Responsibility for all contents of the profile remains with Bayswater Consulting at this stage, however.

DETAILING THE OPPORTUNITIES

Public-Private Investment Partnerships: Energy Generation and Conservation

- Demand for electrical power will grow by at least 11.6 per cent per year between now and 2010. The short term target is to add 3,000 megawatts to the existing capacity by 2000, at an estimated cost of US\$1-1.5 billion. Private and foreign-invested power plants constructed under build-operate-transfer (BOT) agreements will be encouraged.
- Vietnam plans to build 15 new power stations by 2010. The plans for electric power development have been ratified by the country's Prime Minister and reflect investment opportunities for new power plants equipped with modern technology. Plans also call for major renovations to the 12 existing power sources, which generate a total of 4,400 MW annually, 67 per cent of which comes from hydroelectric plants. A target of 30 billion kWh by the year 2000 is set for national power production. These investments present real opportunities for complementing conventional power sources with environment-friendly renewable energy, co-generation and energy conservation technologies. Such alternatives are both potentially cheaper and more sustainable.

Green Building Products

- The building industry in Vietnam is a major area for new investment. Hanoi has gone from 382 international quality hotel rooms in 1994 to over 5,000 rooms in 1997. Growth projections for the year 2000 indicated a total of over 8,000 rooms available. As well, the supply of residential units in Hanoi has increased from 166 units in 1994 to 943 units in 1997. By the year 2000, Hanoi is expected to have a total supply of 3,000 units. This does not include the homes built by individual landowners, which is two or three times this number.

PPI: Infrastructure Services and Waste Management

- The World Bank has two substantial, infrastructure-focused projects currently in the pipeline for Hanoi including a project to rehabilitate the city's water supply for US\$98 million, and an institutional capacity building project worth US\$45 million to improve the efficiency and safety of Hanoi's urban transport systems.
- Solid waste and wastewater management in Hanoi are top priorities of the government's Environment Committee. Both CIDA and IDRC have funded research into ways and means of dealing with the growing needs. A number of Canadian companies have completed environmental projects on various stages of waste management in Hanoi, from needs assessment to technology transfer.

New Cities: Marketing to Principals

- A future area of growth will be the "New Cities" being developed outside of Hanoi and Ho Chi Minh City. Large projects planned for Hanoi include the \$40 billion Hanoi New Town and the \$2.1 billion Citra West Lake City. Daewoo Corporation is the developer of Hanoi New Town and has hired Bechtel Engineers to develop the master plan.

The West Lake project covers 350 hectares (865 acres) and involves relocating of over 3,000 people. Both projects are complete cities to be developed in phases over the next 20 years. The developers expect to begin the projects by late 1998.

CANADIAN CAPABILITIES TO RESPOND

Public-Private Investment Partnerships: Energy Generation and Conservation

- Canadian companies can offer their experience in Vietnam and Asia as well as hydro and other types of electrical capabilities. NRCAN and provincial hydro corporations such as B.C. Hydro International also have expertise to offer.

Green Building Products

- Canadian companies can offer environment-friendly products such as bathroom fixtures, tiles, carpeting, doors, doorframes, windows, fire and security protection equipment, lighting and lighting systems, pre-fabricated structures, and modular homes.
- Investment opportunities for Canadian companies include local manufacturing of electrical products, fire and security protection equipment, lighting and lighting systems, and pre-fabricated structures including modular homes.

PPI: Infrastructure Services and Waste Management

- There are opportunities for companies with experience in Vietnam and/or Asia with the relevant capabilities in infrastructure services including urban transport systems and solid waste and wastewater management as well as a potential for the involvement of Environment Canada, Transport Canada, CIDA, and IDRC.

New Cities: Marketing to Principals

- Development of Hanoi's New Town provides a potential for Canadian Centres of Excellence as well as companies with experience in Vietnam and Asia, who have the products and services relevant to these projects.

SUCCESS FACTORS

1. Basic Information

Hanoi, the capital of Vietnam, is located in the Red River Delta in the northern section of the country. The 1996 population of Hanoi was estimated at 3.5 million people. 19% of Vietnam's population is urban, while 65% of the work force is involved in agriculture. Under recent economic reforms that are expected to accelerate urban growth rates from nearly 4% presently to 5-7% by the year 2000, total urban population would be 21-24 million with the aggregate populations of Hanoi, Ho Chi Minh City and Haiphong expected to total between 10-12 million.

Vietnam's economic growth averaged 8-9% a year for the past five years. In 1996, it grew 9.5%. Industry and construction are growing 15-16% per year. Foreign investment – which stood at zero just a few years ago – now exceeds \$30 billion in commitments and around \$8 billion in actual inflows. As foreign investment accelerates, the contrast between the present industrial sector and the more technologically sophisticated industries is expected to be sharp.

Economic growth has created a middle and upper class of society, as well as opportunities for the Vietnamese to become consumers in a developing market economy. One of the main outcroppings of this growth has been a boom in real estate development and construction. International quality hotels, office complexes and residential units for foreign workers have been developed at a rapid pace.

Vietnam's foreign trade is also growing quickly. Vietnam exports coal, textiles, footwear, coffee, rice, seafood, and oil. Bilateral trade with the United States has grown rapidly and exceeds \$1 billion a year. Overseas Development Assistance (ODA) plays an important role in Vietnam. Capital commitments at the end of 1996 totalled \$8.4 billion per year with actual cash disbursements of \$2.7 billion.

2. Governance

Vietnam has been changing from a centralized, largely controlled, socialist economy to one which is primarily market driven. The Vietnam Communist Party (VCP) has a president, Tran Duc Luong, and a new head of government, Prime Minister Phan Van Khai, who came to power in September 1997.

Despite the party's entrenchment, the VCP launched a process of market reform in 1986. Known in Vietnamese as "Doi Moi" ("renewal"), the process aims to restructure Vietnam's regulatory, legal, administrative, business, investment, and foreign trade policies to produce a market economy "with socialist characteristics" under state management. Reform helped decentralize economic decision-making, encouraged small-scale private enterprises and largely dismantled agricultural collectivization.

Vietnam can boast considerable progress in creating a legal framework for business. But as with its newly reformed judicial system, these laws are new, remaining largely unstructured and informal. The World Bank assessed the system as having overlapping authority between legislative and executive branches and inconsistent standards set out by multiple levels of government. This duplication often results in uncertainty and increased transaction costs.

Transparency International's corruption index ranked Vietnam just above Venezuela and India. Vietnam scored a very low 2.79, with 10 being a totally corruption-free country.

3. Need

Investment in sanitation and drainage has lagged behind investment in urban water supply. Population and industrial growth have overwhelmed the capacity of urban infrastructure and institutions to protect waterways and air quality in Vietnam's larger cities. Urban pollution, due to inadequate domestic, industrial and solid waste treatment and disposal, has become an issue of concern to Hanoi's government.

Constraints on transportation, housing, and livability within central Hanoi is pressuring development of Hanoi's infrastructure and of satellite cities. In Hanoi, specifically, the increasingly dense population of the central core and large number of deteriorating buildings are overwhelming the city's infrastructure, making it very difficult to provide basic water, sanitation, transportation, and telecommunications services. Moreover, as Vietnam progresses toward a market economy within a socialist political system, its bureaucratic financial and legal systems require modernization. Priorities for infrastructure development in Hanoi include high speed telecommunications, modern mass transit, parking, and adequate sewage facilities.

4. Canadian Track Record

4.1 *Private Sector*

Sodexen Incorporated is working with the Environment Committee of Hanoi on a study of solid waste disposal systems and sanitation equipment needs.

SNC-Environmental has a project for environmental monitoring and planning, pollution management, impact assessment, and solid waste management;

Dessau International has experience in Asia and specifically in Vietnam. The company specializes in engineering, environmental and construction services.

Porter Dillon has experience in Vietnam and has comprehensive expertise in pollution and risk assessment, monitoring, prevention and conservation, as well as waste site remediation.

Queneco International Inc. has worked on repairing and maintaining ships in Vietnam. It also has capabilities in water and wastewater treatment technologies and in aquaculture treatment.

4.2 *Public Sector*

IDRC is working on sampling and analysis to determine the impacts of contamination problems in Hanoi's urban waste water and food supply. It is also funding the University of Montreal in a socioeconomic study to improve shelter for the urban poor.

The University of Montreal is involved in other projects in Hanoi, one to develop partnerships for urban development, and others funded by CIDA.

CIDA is funding a number of projects in Hanoi, including:

- a training session on real estate through the Corporation professionnelle des urbanites du Quebec, and the Institut d'urbanisme, University of Montreal;
- a project to improve Hanoi's governance, implemented by a consortium of Montreal and La Baie cities with the University of Montreal;
- a project through the Bureau de la recherche et de la coopération internationale, University of Sherbrooke to conduct a rural and urban environmental assessment of the Red River Delta;
- a training project focused on environmental and resource management through the Institute for Environmental Studies, University of Toronto.

4.3 *Canadian Infrastructure Exports*

Total Canadian exports to Vietnam have risen from approximately \$12 million in 1993 to over \$50 million in 1997. Infrastructure-related exports totalled an estimated \$9 million in 1997. Over the same period, exports of telecommunications equipment grew by approximately \$4.6 million. Exports to Vietnam of machines and mechanical appliances, including parts, rose by some \$1.3 million.

4.4 *International Competition*

Japanese, American, Australian and other foreign infrastructure suppliers are all interested and active in the Vietnamese market.

5. **Financing**

Vietnamese Public-Private Investment Legislation

Under new foreign investment procedures introduced in 1987 by reform-minded leaders, about 1,026 investment applications were approved through August 1994, of which 515 (50%) were for industrial enterprises accounting for 37% of total investment capital. Several of these investments upgrade existing industries, but most finance new light industries. The Foreign

Investment Law also sets out three forms of business enterprise, joint ventures, contractual business cooperation (CBC), and enterprises with 100% foreign-owned capital.

Foreign Financing

Vietnam's positive balance of payments is largely due to continued foreign financing, Foreign Direct Investment (FDI) and Overseas Development Assistance (ODA). Vietnam's foreign currency reserves are fairly strong and the government believes the current account deficit trend can be curtailed. The government contends that a large proportion of imports is capital equipment, which soon will be producing export goods.

The World Bank has two substantial, infrastructure-focused projects currently in the pipeline for Hanoi. They include a project to rehabilitate the city's water supply for US \$98 million, and an institutional capacity building project worth US \$45 million to improve the efficiency and safety of Hanoi's urban transport systems.

INTERNATIONAL ECONOMIC INDICATORS	1993	1994	1995	1996	1997
Foreign Direct Investment (\$bn)	0.71	0.65	1.80	2.20	7.50
Foreign Exchange Reserves (\$bn)	0.64	0.78	1.08	1.70	2.20
Total Foreign Debt (\$bn)	17.70	19.60	26.80	30.80	36.00
Total Foreign Debt/GDP (%)	114.0	116.0	141.8	143.3	148.1
Debt Service Ratio (%)	28.5	12.0	5.1	5.0	5.0
Current Account (\$bn)	-0.87	-0.88	-1.50	-3.40	-4.52
Current Account/GDP (%)	-5.6	-5.2	-7.9	-15.8	-18.6
Exports (\$bn)	2.80	3.60	5.30	7.08	8.85
Imports (\$bn)	3.50	4.00	7.50	11.18	14.19
Foreign Trade Balance (\$bn)	-0.70	-0.40	-2.20	-4.10	-5.34
Currency Exchange Rate	10639.7	10946.9	11074.3	11037.5	11523.6
Currency Change (%)	4.1	-2.9	-1.2	0.3	-4.

Source: *Country Forecasts, Vietnam*. The Political Risk Services Group, January 1998.

GROSS DOMESTIC PRODUCT PER CAPITA

ECONOMIC INDICATOR	1993	1994	1995	1996	1997
GDP (\$bn)	15.52	16.89	18.90	21.50	24.30
Per Capita GDP (\$)	220	235	255	285	325
Real Growth Rate (%)	8.1	8.8	9.5	9.3	6.5

Source: *Country Forecasts, Vietnam*. The Political Risk Services Group, January 1998.

6. Managing Risks

Foreign Direct Investment in Vietnam faces risks associated with corruption, "red tape" and the absence of clear private property rights. FDI fell by over 50% in 1997 and continues to decline as a result of East Asia's financial turmoil. Despite the crisis, Vietnam's new government appears committed to reform. Moody's gives Vietnam a rating of Ba3, and Standard and Poor's does not rate Vietnam.²

6.1 Political Risk at a National Scale

Vietnam recently experienced some political instability because of its evolving system for succession. Fortunately, the Government managed to resolve its leadership dilemma with the selection of a new president and prime minister in 1997. The new leadership is supportive of reform. However, political risks now arise from lack of consensus regarding the pace and extent of economic reforms. Analysts predict that a replacement for the Communist Party's Secretary General will be someone pragmatic; i.e., interested in maintaining liberal economic policies without threatening the Party's power base.

6.2 Economic and Financial Risk at a National Scale

The present Government remains inclined to protect state industries at the expense of competing foreign investments. Inflation should decline slightly, but policy uncertainties, ambivalence of foreign investors, and the heavy debt will retard economic growth, keeping it below the levels of recent years.

However, the economy will be sustained by increased oil production, foreign exchange receipts and foreign aid, improved infrastructure and increased efficiency as a result of less government control. The Government is unlikely to meet its goals of reducing inflation to 3% annually through 2000; or its target of 9% economic growth annually. The drag on economic improvement may be continuing state interference in the economy, including preservation of the state sector, and inefficiencies resulting from corruption, bureaucracy, and retention of a Marxist economic system. In this context, smaller-scale, locally-developed and controlled projects are likely to be far less risky than large-scale or mega-projects.

²Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 126-127.

International Financial Institutions (such as the World Bank and the International Monetary Fund) note that a worrisome amount of imports may be consumption goods, bought on credit. Also, the IMF estimates that as much as 70% of Foreign Direct Investment is debt, not equity. However, Vietnam's debt service payments are estimated at 16% of exports, well within a manageable range. The Vietnamese Government is under pressure from the IMF to make further progress with enterprise, banking sector and tax reforms before assistance in the amount of US\$120.8 million will be released. There is a strong interest in the Canadian system of intergovernmental transfer payments, and an apparent desire to increase the authorities and functions of municipalities. Such reforms may occur sooner in regions close to the capital, where there is trust in local authorities.

6.3 *Operational Risk*

As in most command economies and former Communist countries, there is a substantial amount of bureaucratic process involved in doing business in Vietnam. Bureaucracy in Vietnam is both vertical and horizontal. Authority is spread throughout divisions and/or departments. Hence, there is a tendency for peripheral interests to surface during negotiations.

The legal system is still developing and judicial enforcement can be inconsistent. Consequently, it may be difficult to recover losses if contractual obligations are not fulfilled. In addition, laws are changing rapidly. The interpretation of these laws is occasionally inconsistent and some regulations may be in conflict with others. The concept of a contract is new. There is some tendency for negotiations to begin with signing the contract, after which problems are revealed. Although not legally enforceable, Memorandums of Understanding (MOUs) are useful as these documents bring problems to light relatively early in the negotiation process.

Trade financing should be approached with caution. It is recommended that all new-to-market companies should use L/Cs for every transaction. Even after an extended period of time, foreign suppliers should not offer unsecured trade financing to local distributors or importers, even though everything looks right.

Canadian companies should be prepared for hidden costs. Labour rates in Vietnam may be low, but hidden cost can be high, such as rent, personal taxes, and telecommunication costs.

Highlighting the importance of personal connections in Vietnam, the best way to enter the market is to use the services of local agencies. These include local Vietnamese and international management consulting firms, law firms, and local accountants. These firms are likely to know the system and have the necessary connections to facilitate market entry. Companies should always insist on several references of past clients who have successfully completed transactions in Vietnam.

CONTACT INFORMATION

Canadian Organizations

Robert Kalnins
Director of Marketing
Sodexen Incorporated
2519 Chomedey Blvd.
Laval, Québec H7T 2R2
Tel: (514) 333-5766
Fax: (514) 333-5759

Robert Racine
Public Affairs
SNC-Lavalin Group Inc.
455 Rene-Levesque Blvd. West
Montréal, Québec H2Z 1Z3
Tel: (514) 393-1000
Fax: (514) 875-4877

René Parenteau
Professeur
Institut d'urbanisme
Université de Montréal
C.P. 6128, Succ. Centre-Ville
Montréal (Québec) H3C 3J7
Tel: (514) 343-6495, 343-6865
Fax: (514) 343-2338
Email: Urbaname@ere.umontreal.ca
Website: www.ame.umontreal.ca/ecoles/urb/corr.htm

Gisele Rousselle
Directrice generale
Corporation professional des urbanistes du Québec
85 rue St-Paul Ouest 4e etage, B5
Montréal (Québec) H2Y 3V4
Tel: (514) 849-1177
Fax: (514) 849-7176

Francois Gilbert
Conseiller en relations internationales
Bureau des relations internationales - Montréal
Ville de Montréal
275, rue Notre-Dame est, 4e étage
Montréal (Québec) H2Y 1C6
Tel: (514) 872-8259
Fax: (514) 872-6067

Pierre Richard Gaudreault
Directeur
Bureau de la recherche et de la coopération internationale
Université de Sherbrooke
2500 boulevard de l'Université
Sherbrooke (Québec) J1K 2R1
Tel: (819) 821-7555
Fax: (819) 821-8053

Rodney R. White
Director
Institute for Environmental Studies
University of Toronto
1016-33 Willcocks Street
Toronto, Ontario M5S 3E8
Tel: (416) 978-6526
Fax: (416) 978-3884
Email: rwhite@gpu.utcc.utoronto.ca
Website: www.utoronto.ca/env/es.htm

Van Tran
Trade and Investment Director
Vietnam Canada Trade Council
70 Gloucester Street
Ottawa, Ontario K2A 2G7
Tel: (613) 231-6369
Fax: (613) 235-1515

Canadian Government

Alain Berranger, Director
Partnerships & Business Development Office
International Development Research Centre (IDRC)
250 Albert Street, P.O. Box 8500
Ottawa, Ontario K1G 3H9
Tel: (613) 236-6163
Fax: (613) 567-4349
Email: aberranger@idrc.ca
Website: www.idrc.ca

Doug Paterson
Southeast, Asia Division
Department of Foreign Affairs and International Trade
125 Sussex Drive
Ottawa, Ontario K1A 0G2
Tel: (613) 995-7662
Fax: (613) 944-1604

David C. Dix
Counsellor (Commercial)
Canadian Embassy
31 Hung Vuong Street
Hanoi, Vietnam
Tel: 011 (844) 823-5500
Fax: 011 (844) 823-5351

Susan Davies, Director
Asian and Regional Programming Division
Asia Branch
Canadian International Development Agency
200 Promenade du Portage, 7th floor
Hull QC K1A 0G4
Tel: (819) 997-4752
Fax: (819) 997-0945

International Financial Institutions

Lincklaen Arriens
Office of the Environment
Asian Development Bank
6 ADB Avenue, Mandaluyong
P.O. Box 789
0401 Metro Manila, Philippines
Tel: (632) 632-6812
Fax: (632) 632-6816

Paul Mitchell
World Bank
1818 H Street N. W.
Washington, D.C. 20433
South Asia
Tel: (202) 458-1423
Fax: (202) 522-0321

Rebecca Robboy
World Bank
1818 H Street N. W.
Washington, D.C. 20433
South Asia
Tel: (202) 473-0699
Fax: (202) 522-0321

Philippe Valahu
Multilateral Investment Guarantee Agency
Washington, D.C. 20433
Political Risk Insurance
Tel: (202) 473-8043
Fax: (202) 522-2630

Rashad-Rudolf Kaldany
International Finance Corporation
2121 Pennsylvania Avenue
Washington, D.C. 20433
South Asia

Nguyen Thanh
National Country Officer
UNDP-World Bank
53 Tran Phu Street
Hanoi, Vietnam
Tel: (844) 843-2461
Fax: (844) 843-2471

REFERENCES

Asian Development Bank, *How Canadian Firms Can Profit in Asia's Infrastructure Market*, January 1998.

This very well produced report is a practical, intelligent and information packed documentation on how projects are financed in Asia's infrastructure market. It provides contact information for successful infrastructure firms active in the market.

Blakely, Edward J., John Rocca, and Allison Tom, eds., *Hanoi Revitalization Plan*, Working Paper No. LCRI-97-02P, Lusk Center Research Institute, School of Urban and Regional Planning, University of Southern California, May 1996.

This report provides a plan to revitalize Hanoi through the strategies of promoting business retention and attraction, preservation of historic and culturally significant resources, and improving vital infrastructure systems. It briefly describes Hanoi's infrastructure dilemmas focusing largely on the proposed development projects.

Cima, Ronald J., ed., *Vietnam: A Country Study*, US Government Printing Office: Washington, D.C., research completed in December 1987.

A section in this profile addresses living conditions in Vietnam and some of the factors leading to Vietnam's current economic situation.

Country Forecasts, Vietnam, Vol. XVII, no. 1, East Syracuse, New York: The Political Risk Services Group, January 1998, pp. 391-394.

A good, fairly recent source of information on international business risks in the country with useful statistics and basic data on the government, economy and social indicators.

Doyle, Michael R., *Opportunities for Canadian Construction & Building Materials In Vietnam*, A Study Prepared For: Consulate General of Canada, Ho Chi Minh City, Vietnam, October 1997.

This is an excellent source of information for anyone interested in Vietnam's construction and building materials industries. It includes detailed information on the opportunities and business risks in the sector and how to do business in Vietnam.

Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 126-127.

These summaries provide a brief description of Vietnam's current economic outlook and a statistical profile on the country's economy and its trading relationship to Canada.

Freedom House, *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties 1996-1997*, New Brunswick: Transaction Publishers, 1997, pp. 525-527.

These country reports provide largely background information on each country. The information has little value in terms of up-to-date market opportunities or country risks.

Strategis Trade Data Online, *Canadian Domestic Exports - Top 25 Products*, <http://strategis.ic.gc.ca/cgi-bin/t...in/wow/wow.code>

Thurmond, J.D., Joe Reif, *World Trade Almanac 1996-1997: Economic, Marketing, Trade, Cultural, Legal, & Travel Surveys for the World's Top 100 Countries*, San Rafael, California: World Trade Press, p. 836.

van Thuyet, Pham, *The emerging legal framework for private sector development in Viet Nam's transitional economy*, World Bank: Washington, D.C., 1995, pp. 20-35.

Although somewhat out-of-date already, a section on foreign investment laws and regulations provides a starting point for understanding the rules governing foreign direct investment.

The Urban Environment, A special reprint from World Resources, 1996-97, The World Resources Institute, The United Nations Environment Programme, The United Nations Development Programme, The World Bank, New York, Oxford: Oxford University Press, 1996, pp. 150-151.

A good source of urban environment information and indicators, as well as appendices of city and country statistics such as populations.

World Bank, Agriculture and Environment Operations Division, *Viet Nam Environmental Program and Policy Priorities for a Socialist Economy in Transition*, Volume I: Executive Summary and Main Report and Volume II: The Supporting Annexes, Report No. 13200-VN, February 27, 1995.

National Round Table on the Environment and the Economy (NRTEE)

**PROSPECTUS FOR A
CANADIAN SUSTAINABLE CITIES INITIATIVE
IN KATOWICE, POLAND¹**

SUMMARY

The Katowice region is the heart of the largest and historically most important industrial region of Central Europe, and is dominated both physically and economically by its massive complex of coal mines, metallurgic and chemical industries, and other heavy industries. The region is a conurbation of fifteen adjoining cities, with a combined population of approximately 2.3 million, covering 1250 square kilometres. All are independent legal jurisdictions, but they formed an official Union of Municipalities in August 1994, in order to address the daunting urban environmental issues more effectively. Katowice accounts for 97.3% of Poland's mined coal, 19% of electricity sales and 55.2% of steel production. It produces 15% of national GDP with 10% of the Polish citizenry on 2% of the country's land mass. Residents tend to be more prosperous than in other parts of the country with lower than average unemployment rates and 21% higher than average national wages.

Canadian activities in the region are already well established. The International Centre for Sustainable Cities (ICSC) based in Vancouver is leading the Sustainable Katowice Agglomeration Project which promotes infrastructure renewal in the region. ICSC currently has demonstration projects for developing a municipal garbage sorting and composting plant in the region, and improving the region's sewage sludge residue management. ICSC is coordinating a consortium of four firms to provide expertise to these pilot projects. This project and others in the region have received support from CIDA to supply Canadian technical expertise.

There are two main opportunities on the horizon: to expand, deepen, and accelerate the Canadian involvement in solid waste management and waste reduction through composting and recycling; or to pursue a vigorous initiative to help the region to consume less coal for basic energy needs. Both have substantial prospects of rather immediate financial and environmental returns. Of the two tracks, experts involved in the region appear to favour opening up the second, at least through small-scale pilot efforts, without in any way reducing the first. An "off-coal" energy initiative would have multiple environmental benefits, for local urban air quality as well as reduced greenhouse gas emissions. Starting points could include conversion of buses to natural gas, micro-cogeneration for apartment buildings, energy conservation in buildings, and renovation of district heating systems.

¹This prospectus was prepared for the National Round Table on the Environment and the Economy (NRTEE) by Lisa Van Buren of The Bayswater Consulting Group, Inc. with support from Cynthia Taha and David Crenna. Martin Crilly of the International Centre for Sustainable Cities provided extensive comments on drafts prior to this one, as well as encouragement to include Katowice among the list of starting cities. In addition, Wit Siemieniuk of AGRA Earth & Environmental International. Final responsibility for the contents of the profile rests with Bayswater Consulting, however. John Herbert, an individual consultant also provided comments on the opportunities in the Polish environmental industries.

DETAILING THE OPPORTUNITIES

Integrated solid waste management

- The International Centre for Sustainable Cities (ICSC) is leading the Sustainable Katowice Agglomeration Project which promotes infrastructure renewal in the region. ICSC currently has several operational demonstration projects that involve the development of a municipal garbage sorting and composting plant in the Katowice region, and improvement in the region's sewage sludge residue management. ICSC is coordinating a consortium of four firms to provide expertise to these pilot-projects.
- In the City of Zabrze in Katowice Agglomeration, AGRA Earth and Environmental Ltd. worked on a feasibility study for a facility to process recyclable products and to compost municipal solid waste and sewage. The project is currently in the process of construction. The city is providing the site for the plant and making a substantial financial contribution. This project and others in the region have received support from CIDA to supply Canadian technical expertise.
- The European Union's PHARE Programme provides economic aid to advance investment in the private sectors of Poland. With PHARE assistance, Poland began implementation of its National Environmental Policy (NEP). The plan's tighter pollution standards are spurring investments in environmental equipment for the mining and energy industry. In the short term, the government is also focused on building wastewater treatment plants and implementing a management system for industrial and municipal solid and toxic waste.

CANADIAN CAPABILITIES TO RESPOND

Integrated solid waste management

- The ICSC's project needs Canadian companies with professional technical expertise in the areas of industrial/economic renewal, pollution abatement and environmental clean-up as well as investors for specific capital projects.
- Canada also has many companies with capabilities in solid waste management technologies that demonstrate significant short-term gains and that have a significant effect on pollution reduction.

Alternative energy generation technologies

- There are several Canadian niche areas of strength in community energy production and conservation, including micro-cogeneration, natural gas vehicle conversion kits, energy retrofit technologies, individual high-efficiency heating units, and software for renewable energy decision-making.

SUCCESS FACTORS

1. Basic Information

The Katowice region is the heart of the largest and historically most important industrial region of Central Europe, and is dominated both physically and economically by its massive complex of coal mines, metallurgic and chemical industries, and other heavy industries.

The region is a single mass of fifteen adjoining cities, with a combined population of approximately 2.3 million, covering 1250 square kilometres. The largest municipality is Katowice, with a 1990 population of 367,000. Eight other municipalities have a population in excess of 100,000, and there are also seven smaller municipalities. All are independent legal jurisdictions. The region formed an official Union of Municipalities in August 1994, in order to more efficiently address urban environmental issues.

The Katowice region plays an important role in Poland's economy as the primary source of key raw materials. Katowice accounts for 97.3% of mined coal, 19% of electricity sales and 55.2% of steel production. It produces 15% of national GDP with 10% of the Polish citizenry on 2% of the country's land mass. Residents tend to be more prosperous than in other parts of the country with lower than average unemployment rates and 21% higher than average national wages.

2. Governance

Poland has a presidential system with a parliamentary democracy. The economy can be characterized as "mixed capitalist" given the country's recent command economy past. Industries have been privatized rapidly, following the end of the command economy system. The Democratic Left Alliance party, a group dominated by former Communists heads the government.

Poland ranked 29th on Transparency International's corruption index, just below Belgium, and two other economies in transition, the Czech Republic and Hungary, with a score of 5.08. In brief, it is one of the more stable and congenial of the transitional economies in which to do private sector business.

Support for Poland's economic reform process remains strongly embedded in the current government. The Organization for Economic Cooperation and Development (OECD) recognized this and admitted Poland as a member. The government continues to be plagued, however, by party conflict over the pace and extent of privatization and government restructuring. Current obstacles identified by the IMF and the World Bank include slow privatization, high household debt and inadequate legal regime. Despite the obstacles to Poland's economic recovery, production and real wages grew, while unemployment and inflation fell in 1996.

Although environmental protection remains subservient to economic issues, Poland has made a serious commitment to improving the state of its environment, exemplified in part by its signing and ratification of many international environmental agreements, including the *Montreal Protocol on Substances that Deplete the Ozone*. Major drivers behind the Government's efforts to improve the environment include privatization, modernization and eventual accession to the European Union. Poland has also had some success attracting large amounts of international aid to solve its severe environmental problems, such as the eco-conversion of Poland's debt.

Municipal governance has benefited in recent years from the Local Self-Government Act of 1990, which transferred to over 2,400 municipalities the provision of a broad range of local infrastructure and services including water and sanitation, drainage, land development, urban streets, mass transit, and district heating. Given their new ownership of public service assets, local governments have assumed responsibility to mobilize resources for operation, maintenance and expansion of these services.

While central authorities play a large role in the establishment of standards and policies for solid and toxic waste management, it is at the regional and local level that solid waste management projects are undertaken. The Province of Katowice, as with all others, runs a Department of Environmental Protection that is responsible for policy implementation. The department issues permits, collects fees, sets limits on pollution rates for all sources within a facility, and operates its own environmental funds.

Many Polish municipalities, including Katowice, are implementing broad-based pollution prevention strategies. Local officials in Katowice worked in cooperation with the Minister of Environmental Protection to produce a list of the most polluting industries which were subsequently ordered to reduce their emissions. The city also expanded its air quality monitoring system, now one of most extensive systems in Poland.

3. Need

Post World War Two industrialization in Poland was characterized by profligate use of natural resources, reliance upon energy-intensive technology, and frequent disregard for externalities, such as pollution. Under this regime, the Katowice region suffered the worst environmental damage in the country, and is today one of the most polluted areas in Europe.

Though Katowice is relatively well off in terms of income and employment when compared to the rest of the country, it is much worse off in terms of quality of life. About 28 percent of all compensable occupational diseases in Poland occurred in Katowice Province, primarily occupational deafness, pneumoconiosis, lead poisoning, vibration syndrome and hepatitis. High infant mortality rates are caused by dust fall, ambient levels of lead, tar, phenols and other chemicals. Children suffer from anaemia, gastro-intestinal diseases, encephalic changes, chromosome damage, and problems with the peripheral nervous system. Environmental degradation results in about 2000 cases of excess mortality annually along with high morbidity rates.

As with most cities in Central Europe, Katowice experienced a drop in air pollution as industrial production slowed down during the transition to a market economy. However, the large number of old and inefficient cars contribute to poor air quality levels. In Katowice, it is estimated that 75 percent of lead emissions come from cars that are 10 to 30 years old and still burn leaded fuel.

Moreover, extensive use of coal for home and building heating contributes to the city's poor air quality. Katowice produces 23% of Poland's total SO₂ emissions in 1992. Air pollution clearly affects the population which has seen increased rates of acute and chronic illnesses such as asthma and bronchitis and a higher risk of lung cancer.

Urban residents are also facing increasing risks from crumbling infrastructure and deteriorating health services. The incident of diseases associated with lower income groups in particular has risen. Diphtheria, tuberculosis, and hepatitis all relate to a decline in sanitary conditions, hygiene and nutrition.

Two-thirds of waterways in the Katowice region are contaminated to a level below the lowest quality classification. Only one quarter of municipal sewage is properly treated, and 44% is not treated at all. The worst pollutants come from coal mining including saline leakage and radioactive elements. Water shortages are a real problem for the region particularly during droughts. An average 8,000 breaks in sewer lines are reported each year primarily because of land subsidence.

The implementing agency for the Sustainable Katowice Agglomeration Project, the Union for Sustainable Development of the Cities of the Katowice Agglomeration, identified a number of priority issues. These include environmental management; local needs and environmental problems; discharge of municipal sewage; water system supply in municipalities; and revitalization of post-industrial barren areas.

4. Canadian Track Record

4.1 *Private Sector*

The International Centre for Sustainable Cities has a project in Katowice to regenerate contaminated urban areas. AGRA Earth and Environmental Limited is supplying technology for the solid waste management in Poland within the context of this project.

Avalon Mechanical Consultants have experience in Poland and specialize in environmental policy, assessments, monitoring, and pollution auditing.

Diesel Controls manufactures air quality control equipment and has experience in over 100 countries, including Poland.

Geomatics International specializes in environmental analysis, designing Environmental Information Systems and Utility Information Systems for cities.

Wastewater Technology International Corporation has a joint venture agreement with Biala Przemysla Municipal Association to develop and operate water and waste water infrastructure.

WCI Waste Conversion established a Polish-Canadian joint venture company WCI Natol of Katowice to develop solid waste management and recycling plants.

4.2 *Public Sector*

Canada is active in the UNESCO program of the Sustainable Cities Initiative in Katowice through a consortium of the Centre for Urban and Community Studies, University of Toronto, and INRS - Urbanisation of Quebec.

4.3 *Canadian Infrastructure Exports*

Total Canadian exports to Poland have risen from approximately \$80 million in 1993 to over \$135 million in 1997. Infrastructure related exports totalled \$20 million in 1997. Over the same period, exports of telecommunications equipment grew by a factor of approximately \$5 million. Parts and structures for buildings including mountings and fittings rose by approximately \$6 million.

4.4 *International Competition*

In the environment industry, foreign suppliers from Germany and elsewhere in Western Europe dominate the equipment market. It is a very competitive market, however, with an increasing number of domestic environmental consulting and engineering firms offering relatively advanced Western consulting services in such areas as risk assessment, pollution prevention, and waste minimization at a fraction of the cost of North American firms. Due to the size and severity of environmental problems, both Polish and foreign companies continue to find attractive opportunities.

5. **Financing**

5.1 *Local Financing*

Environmental protection relies on local government authorities and industry for the vast majority of technical and financial resources. However, external aid and technical know-how play a valuable supporting role. One key strategy here is to focus limited external resources within a framework of complementary activities, so that they are complementary to (not substitutes for) local efforts and thus help to achieve the greatest impact on local problems.

The environmental protection process in the Katowice agglomeration was able to build on and link into a number of related initiatives: the regional economic policy programme; the regional environmental project; the Silesia integrated risk management programme; the "Contract for Silesia"; and the PHARE-STRUDER economic reconversion and redevelopment programme.

5.2 *International Financing*

Financing is available from the PHARE programme for projects aimed at the advancement of investment in the private sectors of countries across Eastern and Central Europe. Among the areas given highest priority are the: energy sector (energy efficiency), transportation (railways, air traffic, roads, ports), telecommunications, education, the development of civil administration, development of business, and privatisation.

The International Finance Corporation (IFC) manages the Polish Business Advisory Service (PBAS). Services range from preparation of business plans to accessing financing sources and information on marketing and management. With funding of \$15 million, PBAS has completed 185 projects, which generated or saved 3,000 jobs and a 10 percent investment in small and medium businesses.

The International Finance Corporation (IFC) recently approved commitments of US\$445 million on 24 large infrastructure projects involving foreign partners, mostly on projects based on privatization. IFC's involvement is critical to foreign investors because of IFC's political risk umbrella and generally limited sources of long-term finance available for major projects.

The IFC has also committed significant resources (US\$100 - \$150 million) for several smaller infrastructure projects, especially in the power sector. Promoting these projects through policy dialogue with the Polish government is among the World Bank Group's most important tasks for supporting private-sector development.

World Bank projects in Poland cover a number of municipal infrastructure sectors. In 1994, the Katowice District Heating Enterprise was the recipient of US\$45 million in loans for a project to enhance energy conservation and efficiency in the district heating sector. In the same year, the Global Environmental Facility Fund and Norway provided financing in the amount of US\$1.0 million to promote coal-to-gas conversion in small and medium-size boilers and to improve the overall energy efficiency throughout the heat supply chain, as a means of reducing carbon dioxide emissions. Polish consumers also benefited from a US\$5 million grant by the Global Environmental Facility and private sector participants, which accelerated the introduction of compact florescent lamps into the Polish residential lighting market.

More recently, the World Bank proposed loans totalling US\$22.0 million to finance a program of long-term sub-loans issued by borrowing banks to municipalities and revenue-earning municipal service enterprises. The project, which began in June 1997, is designed as a pilot operation to demonstrate how term-financing of municipal investments at commercial terms can work.

Because Poland is now a member of OECD and the economy is on the up-swing, multinationals can now raise project financing and corporate loans from both foreign and local banks. The biggest local firms are also well serviced. More initiatives are needed to accelerate privatization and generate momentum in certain key sectors, such as steel and building infrastructure, which will require massive private capital to finance modernization and expansion needs.

5.3 *Development Cooperation*

The UNDP and UNCHS have also been active in technical assistance for urban activities in Poland. The Sustainable Cities Programme (SCP) was established in the early 1990s to put into practice the concepts and approaches developed in the UNEP/UNCHS (Habitat) document "Environmental Guidelines for Settlements Planning and Management". The programme strives to build capacities in urban planning and management at the local, national, and regional levels.

Partners include, Canada (International Centre for Sustainable Cities) - financial support; Japan (International Environmental Technology Centre) - financial support; UNCHS/UNEP - consultation support; and the UNDP Office for Poland - project support.

5.4 *Debt Repayment Prospects*

Economic indicators show Poland continuing to improve as a target for foreign direct investment. With the ratio of foreign debt to GDP declining, Poland's foreign exchange reserves have more than quadrupled between 1993 and 1997.

INTERNATIONAL ECONOMIC INDICATORS	1993	1994	1995	1996	1997
Foreign Direct Investment (\$bn)	1.72	1.88	3.66	5.20	6.02
Foreign Exchange Reserves (\$bn)	3.99	5.73	14.66	17.73	19.98
Total Foreign Debt (\$bn)	45.39	44.00	43.90	44.39	45.19
Total Foreign Debt/GDP (%)	52.7	47.5	37.3	33.0	31.8
Debt Service Ratio (%)	10.6	13.9	11.0	6.3	7.8
Current Account (\$bn)	-5.79	-2.59	-4.25	-1.40	-6.00
Current Account/GDP (%)	-6.7	-2.8	-3.6	-1.0	-4.2
Exports (\$bn)	13.58	17.12	23.46	25.00	27.00
Imports (\$bn)	17.09	18.93	26.69	34.49	40.00
Foreign Trade Balance (\$bn)	-3.51	-1.81	-3.23	-9.49	-13.00
Currency Exchange Rate	1.81	2.27	2.43	2.70	3.00
Currency Change (%)	-33.1	-25.4	-7.0	-11.1	-14.4

Source: *Country Forecasts, Poland*. The Political Risk Services Group. January 1998.

Most of the growth in Poland since 1991 has come from the booming private sector, which now accounts for more than 60% of GDP, attributable mostly to the creation of new private firms. Large-scale industry still remains largely in state hands. The trade and current account balances officially are in deficit but in fact both have comfortable surpluses because of large, unrecorded sales to cross-border visitors.

GDP PER CAPITA FOR POLAND

ECONOMIC INDICATOR	1993	1994	1995	1996	1997
GDP (\$bn)	86.07	92.69	117.71	134.50	141.90
Per Capita GDP (\$)	2,240	2,405	3,050	3,485	3,665
Real Growth Rate (%)	3.8	6.0	7.0	6.1	5.5

Source: *Country Forecasts, Poland*. The Political Risk Services Group. January 1998.

6. Managing Risks

6.1 Overview

Poland is projected to be the lowest investment risk of the ten largest emerging markets in the world. In 1998, Standard and Poor's DRI ranked Poland on the basis of more than 50 variables including governmental policies, economic trends, domestic political and economic risk factors.

Nariman Behraves, chief international economist for Standard and Poor's DRI notes that "A continued upswing in industrial output together with declining inflation, fuelled by a recent cut in interest rates, has strengthened Poland's economic outlook and raised its ranking to the least risky top ten emerging market for business investment today."² In the medium to long-term, Poland's main risks surround ongoing efforts to reduce the fiscal deficit and to accelerate structural reforms. Moody's gave Poland a rating of Baa3, and Standard and Poor's gave it a BBB-.³

6.2 Political Risk at a National Level

Despite a good economic outlook, the government faces internal and external challenges as it seeks to maintain market reforms while also satisfying public demands for social spending. Labour pressures for increased wages will also challenge the stability of the government. The Freedom Union party which formed the coalition government with the Solidarity Election Action, will try to guide the government toward less expansionary fiscal policies.

Under a government of shared power, turmoil might intensify because of the strained relations between the president and the legislature. At the same time, improved economic conditions would keep any increases within tolerable bounds. The government will likely maintain the privatization effort and continue the country's movement toward integration with West Europe. However, the government is likely to show less consistency than its predecessor in pursuing closer political and economic ties with European countries.

6.3 Economic and Financial Risk at a National Level

Economic growth in 1997 was a robust 6.9 percent, making Poland one of the fastest-growing economies in the world and the leader among transition economies. The business climate is expected to remain attractive, as adjustments from austerity measures and market reforms are consolidated. Growth is fuelled primarily by domestic demand and by foreign and domestic investment. Inflation will remain in double digits at least in 1998 because of pre-election spending. According to the OECD, the main risk continues to be that the government will be slow to reduce the fiscal deficit and tackle structural problems, retarding economic growth over the long run.

² Poland, Argentina, and Mexico Projected to Have Lowest Investment Risk of Ten Largest Emerging Markets, Standard & Poor's DRI, News Release, Lexington, Mass., July 15, 1998.

³ Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 94-95.

Abundant foreign investment and aid flows are facilitating Poland's debt servicing and repayment. Despite this, Poland's deficit is expected to increase because of the burden of debt repayment and the country's heavy reliance on imports.

6.4 *Operational Risk*

Petty crime is common and increasing in some areas, particularly in and around public transportation. The larger cities have a more serious crime problem, especially Warsaw, with prevalent car thefts and break-ins, street crimes, and residential burglaries. Violent crime is rare but on the rise. A blackmarket in currency transactions also continues to exist. The Katowice region itself poses no unique risks to operational personnel, except for the effects of higher pollution levels on health.

CONTACT INFORMATION

Canadian Organizations

Dr. Martin Crilly
Executive Director
International Centre for Sustainable Cities
744 West Hastings Street, Suite 510
Vancouver, British Columbia V6C 1A5
Tel: (604) 666-2323
Fax: (604) 666-0009
Email: icsc@direct.ca

Dr. Mario Polèse
Directeur
INRS - Urbanisation
3254, Durocher
Montréal (Québec) H2X 2C6
Tel: (514) 499-4070
Fax: (514) 499-4065
Email: MARIO_POLES@INRS-URB.UQUEBEC.CA
Website: www.er.uqam.ca/nobel/r26360

Dr. Richard Stren
Director
Centre for Urban and Community Studies
University of Toronto
455 Spadina Avenue, Room 426
Toronto, Ontario M5S 2G8
Tel: (416) 978-2072
Fax: (416) 978-7162
Email: cucs@epas.utoronto.ca
Website: www.chass.utoronto.ca/guri/

Mike Berezowski
Manager, Business Development
AGRA Earth & Environmental Ltd.
221 - 18th Street S.E.
Calgary, Alberta T2E 6J5
Tel: (403) 248-4331
Fax: (403) 248-2188
Website: www.kingsu.ab.ca/~agra/agra.html

Bruce Jank
Chairman & CEO
Wastewater Technology International
867 Lakeshore Road, P.O. Box 5086
Burlington, Ontario L7R 4L7
Tel: (905) 336-4855
Fax: (905) 336-4765

Joe Kennedy
WCI Waste Conversion
Station C, Box 3396
Ottawa, Ontario K1Y 4J6
Tel: (819) 778-7096
Fax: (819) 778-3128

Bob Landell
Avalon Mechanical Consultants
1322A Government Street, #4
Victoria, British Columbia V8W 1Y8
Tel: (250) 384-4128
Fax: (250) 384-4143

David M. Archer
Export Sales Manager
Diesel Controls Ltd.
P.O. Box 850, Station B
Willowdale, Ontario M2K 2R1
Tel: (905) 660-6450
Fax: (905) 660-6435

Michael Simmons
Director general
Geomatics International
P.O. Box 14, Suite 720
Vancouver, British Columbia V6E 4G1
Tel: (604) 689-4415
Fax: (604) 669-8066
E-Mail: micbael_simmons@geomatics.com

Canadian Government

Linda McDonald
Counsellor (Commercial)
Canadian Embassy
Ulica Jana Matjki 1/5
00-481 Warsaw, Poland
Tel: (011-48-22) 629-80-51
Fax: (011-48-22) 629-64-57
E-Mail: commerce@wsaw01.x400.gc.ca

Andrew Kenyon
Canadian International Development Agency
200 Promenade du Portage
Hull, Quebec K1A 0G4
Tel: (819) 994-2363
Fax: (819) 953-6356
Email: andrew.kenyon@acdii-cida.gc.ca

Mark Bowman
Financing Services
Export Development Corporation
151 O'Connor Street
Ottawa, Ontario K1A 1K3
Tel: (613) 598-6647
Fax: (613) 598-3167

International Financial Institutions

European Commission, Information Unit-PHARE
MO 34 3/80 Wetstraat, 200 Rue de la Loi
B-1049 Brussels, Belgium
Tel: (32-2) 299-14-44/ 299-16-00/ 299-15-55
Fax: (32-2) 299-17-77
E-mail: phare.info@dgla.cec.be
Internet: www.cec.lu/en/comm/dgla/phare.html

Jan Pakulski
Europe/Central Asia
World Bank
1818 H Street N. W.
Washington, D.C. 20433
Tel: (202) 473-1797
Fax: (202) 522-3362

Barbara Crosby
Europe/Central Asia
World Bank
1818 H Street N. W.
Washington, D.C. 20433
Tel: (202) 473-1379
Fax: (202) 522-3362

Edward Coppola
Political Risk Insurance
Multilateral Investment Guarantee Agency
Washington, D.C. 20433
Tel: (202) 473-0511
Fax: (202) 522-2630

Harold Rosen
Europe I
International Finance Corporation
2121 Pennsylvania Avenue
Washington, D.C. 20433
Tel: (202) 473-8841
Fax: (202) 974-4314

Local Government Contacts

Ms. Justyna Gorgon
Project Manager
Union for Sustainable Development of
the Cities of the Katowice Agglomeration
Sustainable Katowice Agglomeration Project
ul. Warszawska 4
40-006 Katowice, Poland
Tel: (48-31) 539 210
Fax: (48-31) 539 209
E-mail: daniel.flood@unep.no

International Cooperation Department
Ministry of Physical Planning and Construction
ul. Wspolna 2/4
00-926 Warszawa
Tel: (48-22) 6285519
Fax: (48-22) 6254842

Foreign Relations Department
Ministry of Economy
Tel: (48-32) 1553226
Fax: (480-32) 1555453

International Cooperation Department
Ministry of Economy
pl. Trzech Krzyzy 5
00-507 Warsaw
Tel: (48-22) 6935858
Fax: (48-22) 6286806

Zba Gospodarcza
Energetyki i Ochrony Srodowiska
(Chamber of Energy Supply
and Environmental Industry)
ul. Krucza 6/14
00-950 Warszawa
Tel: (48-22) 6216572

(The chamber represents manufacturers and tenderers dealing with equipment and services in power generation and environmental protection.)

REFERENCES

Country Forecasts, Poland, Vol. XVII, no. 1, East Syracuse, New York: The Political Risk Services Group, January 1998, pp. 279-282.

Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 94-95.

These summaries provide a brief description of Poland's current economic outlook and a statistical profile on the country's economy and its trading relationship to Canada.

Freedom House, *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties 1996-1997*. New Brunswick, New Jersey: Transaction Publishers, 1997, pp. 410-413.

These country reports provide background information on each country. The information contributes to an understanding of governance and operating conditions, but does not offer information on market opportunities or on specific country risks.

International Centre for Sustainable Cities, *The Sweet Smell of... Sludge and Compost in Poland*, Newsletter No. 8, Fall 1996.

International Centre for Sustainable Cities, *Urban Alliance: Regeneration in Southern Poland*, Newsletter No. 8, Fall 1995.

Landau, Louis, *Poland Country Assistance Review: Partnership in a Transition Economy*, World Bank, Operations Evaluations Dept.: Washington, D.C., 1997.

The review outlines the strategies taken by the IFC and the World Bank in supporting the development of Poland's private sector and infrastructure. It provides only a broad sketch of IFI activities and difficulties encountered.

Organization for Economic Cooperation and Development, *OECD Economic Outlook*, June 1998.

Strategis Trade Data Online, *Canadian Domestic Exports - Top 25 Products*, <http://strategis.ic.gc.ca/cgi-bin/t....in/wow/wow.code>

Team Canada Market Research Centre, Department of Foreign Affairs and International Trade, *Environmental Business Opportunities in Poland's Mining and Energy Industry: October 1997*, <http://www.infoexport.gc.ca>

An excellent source for companies and others interested in a broad view of Poland's environment industry. Provides a good starting point with general information on where the opportunities are and whom to contact.

Thurmond, J.D., Joe Reif, *World Trade Almanac 1996-1997: Economic, Marketing, Trade, Cultural, Legal, & Travel Surveys for the World's Top 100 Countries*, San Rafael, California: World Trade Press, p. 614.

World Bank, Country Operations Division, *Staff Appraisal Report, Poland: Municipal Finance Project*, Report No. 16076-POL, June 19, 1997.

World Bank, Energy and Environment Division, *Staff Appraisal Report, Poland: Katowice Heat Supply and Conservation Project*, Report No. 11814-POL, October 1, 1994.

World Bank, Global Environment Coordination Division, *Poland: Coal-to-Gas Conversion Project*, Project Document, Report No. 13054-POL, October 1994.

World Bank, Global Environmental Division, *Republic of Poland: Poland Efficient Lighting Project*, Project Document, March 1997.

National Round Table on the Environment and the Economy (NRTEE)

**PROSPECTUS FOR A CANADIAN SUSTAINABLE CITIES INITIATIVE
IN SANTIAGO, CHILE¹**

SUMMARY

Apart from New York, London, Los Angeles, Washington, Detroit and Mexico City, the Santiago region is one of the most important cities on the globe for fostering future Canadian economic relations. It is the decision-making centre for the Canada-Chile Free Trade Agreement, the main point of governmental contact for many Canadian mining investors, and a large and discerning urban market in its own right. Reflecting Chile's stable economic and political system, the Export Development Corporation offers foreign investment insurance with no restrictions, and will support the full range of trading terms. The Standard and Poor's Rating for the country is A-, and Moody's is Baa1. The country as a whole is among the highest ranking among developing economies for low corruption and ease of doing business.

Santiago's environmental needs are large, and while legislation is in place, the pace of investment in clean-up is slow. Canadians would do best to concentrate on urban pollution prevention in a number of key contexts which hold out the prospect of financing from savings: air pollution control through conversion to natural gas for vehicles and buildings, water treatment in the context of new development with resulting revenues, and energy-efficient building technology. As regulations become more effective, there will also be a growing market for industrial pollution prevention through clean technologies and for conventional industrial pollution control, especially in tanneries and in food-processing plants.

A major Canadian selling point, apart from a competitive Canadian dollar and an 11% tariff advantage over the United States, is that Canadians have been working on sustainable solutions for Santiago for some time, notably through the "Sustainable Santiago" project of the Toronto-based International Council for Local Environmental Initiatives. In addition, Canada Mortgage and Housing Corporation is making significant inroads in transferring Canadian frame housing technologies to Chile, and this can become a focal point for sustainable infrastructure at a community scale as well.

¹This profile was prepared for the National Round Table on the Environment and the Economy (NRTEE) by Lisa Van Buren, Cynthia Taha, and David Crenna of The Bayswater Consulting Group, Inc., using information supplied by Nolberto Munier of TEAMIC International Canada, Jacques Rostenne of Perwit International, and Sandra Makinson of ICLEI. It also draws on information from the Prime Minister's Office, Foreign Affairs and International Trade Canada, the Export Development Corporation, the World Bank, and other sources.

DETAILS OF OPPORTUNITIES

Linking Sustainable Cities With Sectoral Priorities

The following initiatives will help promote sustainable development venturing opportunities in Santiago:

- On August 31, 1998, the Canadian government and private sector helped sponsor two industry round tables with the Organization of American States focusing on the transfer and effective management of environmentally responsible technologies and practices to Brazil and Chile.
- In September 1998, Industry Canada is sponsoring a Canadian Environmental Technology Mission to Brazil, Chile and Argentina. The mission is in conjunction with Industry Canada's assistance to the development of environmental impact assessment legislation and capabilities in Argentina and Chile.
- At the end of September (September 28 to October 6), CMHC is sponsoring a trade mission to Chile and the EDIFICA Trade Fair in Santiago. The initiative offers opportunities to increase housing exports and explore new business opportunities. This is part of CMHC's forward marketing strategy which also includes sponsoring an incoming mission for the Chilean Minister of Housing and Urban Development as well as incoming buyers mission and constructing a demonstration home in Santiago.
- In October 1998, EXPO COMM, the third international telecommunications, wireless, and broadband exhibition and conference, will be held in Buenos Aires, Argentina.
- In mid-November 1998, Natural Resources Canada is planning to lead a 10 day mission to Argentina, Chile and Peru to showcase Canadian industry expertise and technology in natural resource-related businesses and electrical power, equipment and services.

Public-Private Investment Partnerships: Focusing on Environmental Needs

The main environmental needs in Santiago, and in Chile generally, relate to three areas: air emission control; industrial wastewater treatment; and industrial solid waste treatment. The primary sources of urban pollution include the food industry, fruit processing, tanneries, and pulp and paper production.

- Air quality is targeted as a priority for municipal environmental assessment in Santiago, and as an area for action in the Sustainable Santiago Project. The Sustainable Santiago Project is a joint initiative of the International Council for Local Environmental Initiatives (ICLEI), the Municipality of Santiago and the Corporation for the Development of Santiago and is funded in part by the Canadian International Development Agency (CIDA) Southern Cone Technology Transfer Fund.

- Chile's total investment in water treatment plants was US\$ 168.2 million in 1996 and 1997, and will be US\$ 83.8 million between 1997 and 2000, and about US\$ 20 million annually after that. A 65% share of these amounts is expected to be invested in activated sludge equipment, with U.S. manufacturers supplying about 60% of the equipment. Imports are expected to cover 80% of total demand.
- Industrial waste treatment requires both in-plant and prevention technologies, as well as remedial and site cleanup technologies.

Energy-efficient Housing

- The Chilean economy's sustained growth is driving a robust construction sector. Growing about 10 per cent in 1996, it is generating demand for wood products and pre-fabricated housing systems. As Chile's population is to reach 15.3 million by 2000 from its current level of 14.7 million, the demand for housing is high. An estimated 400,000 new housing units need to be built by that date, bringing total housing stock to nearly 4.4 million.
- There is a need for: low- and moderate-cost housing; multiple-unit condominiums built with wood-frame construction (the greatest potential is in southern region); and low-cost concrete technologies and local materials for light building technologies.

CANADIAN CAPABILITIES TO RESPOND

Public-Private Investment Partnerships Focusing on Environmental Needs

- Controlling air pollution requires both industrial emission controls and vehicle emission technologies. Industrial waste requires both in-plant treatment and prevention technologies, as well as remedial and site cleanup technologies. Opportunities exist for technology transfer from Environment Canada, CIDA, IDRC, and Canadian companies with experience in Chile and have the relevant capabilities.

Energy-efficient Housing

- Canadian companies can provide technologies for energy-efficient and lower-cost housing production. A current need for housing is for miners working for Canadian-owned or joint-venture companies. Wood-frame building technologies have a great potential in Chile's southernmost regions. The opportunities are there for CMHC and for Canadian companies with experience in Chile that have the relevant housing-related products and services.

SUCCESS FACTORS

1. Basic Information

Santiago lies in a basin between the coastal range and some of the highest peaks in the Andes. Metropolitan Santiago retains little of its colonial past, with low adobe buildings in typical Latin American style in older parts of town, a centre with modern office buildings, and mix of hastily built settlements and fine modern homes in the suburbs. Foreigners are often impressed by its more European atmosphere than most cities in Latin America.

Over one third of Chile's population lives in and around the capital of Santiago. Projected population figures for Santiago are as follows:

CITY	1970	1995	2015
Santiago (000's)	1,332	4,891	6,066

Source: Urban Data Tables, *World Resources: The Urban Environment*, 1998-99.

Chile's open market economy, stable political system, and clearly stated investment regulations have created the most dynamic market in Latin America. The Santiago Metropolitan Region is Chile's largest and most immediate market.

Chile has the fastest-growing economy in the region, with annual economic growth averaging almost 7 per cent over the last decade. With low unemployment (6.8 per cent), falling inflation (6.2 per cent) and rising wages (7 per cent), this country has established its credentials as a desirable trade and investment partner.

Total trade between Canada and Chile has increased dramatically, more than doubling from \$357 million in 1992 to \$760 million in 1996, with Canada enjoying a positive trade balance of \$75 million. Chile's growth has been mainly in natural resource-based industries such as mining, forestry, agriculture and fishing, but trade is booming in all areas, a sign of the nation's outstanding economic performance.

2. Governance

Chile's current policy direction continues to focus on a competitive market economy directed principally by private sector decisions. Even the presidential election in 2000 is not likely to result in fundamental economic policy changes.

Transparency International's 1997 corruption index gave Chile a score of 6.05, out of a possible 10 indicating a relatively low level of corruption. Although this is a slight decrease in its score from its 6.80 rating in 1996, Chile is still the highest ranked country of those profiled for sustainable city opportunities including Argentina, China, Poland, and Vietnam.

The government is actively responding to Santiago's environmental problems. The Special Commission for Pollution Prevention and Reduction in the Metropolitan Region (CEDRM), established in 1990, works with ministries when specific courses of action are recommended. The Commission sponsors studies, publishes air quality data, and has devised emergency measures to reduce pollution and exposure on "crisis" days, as well as creating a master plan of regulations for improving Santiago's environment. However, environmental regulations have tended to be enforced for only new firms.

The National Commission for the Protection of the Environment (CONAMA), is the official body charged with establishing environmental regulations. It completed the regulations for liquid wastes in 1997. Given a recently finished inventory of industries and their discharges, the regulations may be used to target polluting industries and to require control measures. Some technological services do exist for industrial wastewater treatment. However, regulation of industrial solid waste is minimal.

The Ministry of Health conducted a survey requiring industries and hospitals to report on their solid waste production. Unfortunately, while they have an obligation to report, no corresponding requirement exists to treat waste production.

The government also took measures to prevent a reoccurrence of the 1991 cholera outbreak including: a ban on vegetables grown with wastewater irrigation and restrictions on selling irrigated vegetables and fruits outside of Santiago; stepped-up water quality monitoring; chlorination of irrigation water in canals; a public information campaign about the risks of eating raw vegetables and a ban on serving raw vegetables in restaurants. These measures rely, however, on public cooperation and the political will to continue monitoring.

3. Need

Expanding infrastructure is a major challenge for the Chilean economy. Rapid economic growth is requiring massive investment in energy, telecommunications, roads, railroads, ports, airports, water supply, and irrigation. Chile's railway system is fairly extensive, but old; no rail passenger service operates north of Santiago. In the next six years, the economy is expected to grow at about 6.0% annually and total investment requirements in infrastructure are estimated at more than \$18 billion.

As growth has proceeded at a rapid pace, the health and productivity costs of environmental degradation have become apparent. Chile's main environmental issues are: (a) urban pollution of air and water; (b) industrial pollution by localized industries, in particular mining; and (c) the intensive use of natural resources. The primary sources of urban pollution include the food industry, fruit processing, tanneries, and pulp and paper production.

Santiago experiences very high levels of air pollution, in many instances substantially exceeding guidelines suggested by the World Health Organization. Air pollution in Santiago causes significant health damage, including premature death and serious respiratory diseases. Air pollution in Santiago is caused by industrial and vehicle emissions as well as street dust blown from unpaved roads and eroded hillsides, and is aggravated by thermic inversion and the city's location in an enclosed valley. Industrial boilers account for more than half of sulphur oxide emissions, with vehicle accounting for another one forth.

Sanitation services in Santiago are considered well developed because most urban households have access to potable water and adequate sewerage. However, the disposal of collected waste water remains inadequate. Only 10% of Chilean sewage systems had effluent treatment processes in 1993. In 1993, 65.4% of industrial liquid waste in Santiago was discharged into the municipal sewer network, and 68.1% of the total volume handled by the municipal sewer systems went to rivers. Except for a small pilot plant that treats about 4% of the city's wastewater, most sewage is dumped untreated into open watercourses.

Contaminated surface water has been used to irrigate about 130,000 hectares of nearby farmland, including about 7,000 hectares used to grow vegetables for raw consumption, resulting in high rates of typhoid, hepatitis, and a 1991 outbreak of cholera in Chile. Considering the risks posed to human health by irrigating vegetable crops with water containing untreated sewage, water pollution in Chile may be far more serious than the more visible air pollution. The Chilean water quality standard specifies a maximum of 1,000 faecal coliforms per 100 ml. However, water samples taken from various waterways in the Santiago region have exceeded this value by more than one thousand-fold.

4. Canadian Track Record

4.1 Private Sector

Private sector initiatives include:

Environmental technologies:

- A major project through the International Centre for Local Environmental Initiatives (ICLEI) entitled, "Sustainable Santiago", for environmental technology transfer, pollution prevention programs and transportation management expertise; ICLEI also has a water conservation pilot project in Santiago.
- Fonds de Solidarité and Celdex Technologies, to develop a solid waste landfill for 13 municipalities in metropolitan Santiago;
- Ecolo Odor Control Systems Worldwide, to distribute Ecolo's products and services;
- Golder Associates Ltd., to open an office in Santiago to provide environmental and engineering services in Chile;

- Waterloo Hydrogeologic Inc., to form Waterloo Hydrogeologic Latino America - consulting services;
- Wintec EMC Energy Management Corporation and NS Power, to implement energy efficiency projects;
- Genesis Organic Inc. to construct a waste management composting facility;
- M.G. Environmental, to build a waste water treatment plant;
- Martec Liquid Products Ltd., to distribute "Fuel Clean" products;

Housing and related services:

- Loewen Windows, to distribute windows to a condominium project in Santiago, as well as to builders and architects of the Santiago area.
- Comité de solidarité de Trois-Rivières is supporting Canadian interns working in Santiago in urban development projects, architecture, communications, education, and community development initiatives.
- Pacific Homes is working on steel-frame housing exports to Chile.

Commercial initiatives:

- Northstar Trade Finance has given monetary support to Arch Latin America to purchase telecommunications equipment.
- The Alliance of Manufacturers and Exporters is active in international trade development and works with counterpart organizations in Chile. Its international programs include the Latin America Business Linkage Program focused on Mexico, Argentina and Chile.
- FGA Consulting Engineers, to provide services and technology transfer in welding;
- Positron Inc., to distribute emergency response systems.
- Astra Telecom Inc., to establish a marketing and distribution program for telephone equipment;
- Bayly Communications Inc., to provide technical support services;

4.2 *Public Sector*

Canada has substantive involvement in Santiago, through both research and development initiatives including:

- IDRC project to promote pine timber in construction and conduct training in timber house construction;
- Centre for Urban and Community Studies, University of Toronto, as part of the Global Urban Research Initiative, to develop an urban research network;
- University of Regina, to conduct joint research in social studies and sustainable development with the Universidad de la Serena.
- CMHC, to provide technical training seminars and coordinate trade missions;

4.3 *Canadian Infrastructure Exports*

Total Canadian exports to Chile have risen from approximately \$194 million in 1993 to over \$366 million in 1997. Infrastructure related exports totalled \$52 million in 1997. Exports of telecommunications equipment grew from approximately \$6 million in 1993, to \$26 million in 1996 and \$10.5 million in 1997. Parts and structures for buildings rose from \$92 thousand in 1993 to approximately \$3.7 million in 1997.

Exports were also particularly high in 1997 for parts of machines and mechanical appliances, at \$6.3 million, and for digital processing units, at \$6.2 million.

4.4 *International Competition*

American infrastructure suppliers and also building products manufacturers are very active in developing the Chilean market. European firms engaged include those from Spain, Germany and the United Kingdom.

5. **Financing**

Local Financing

Prolonged under-investment in public sector goods and services has created a significant shortage of public-use infrastructure in Chile. In 1995, the government sent two innovative and comprehensive projects to Congress, aimed at increasing private participation in this type of infrastructure: the *Concessions Act* and the *Financing of Infrastructure Act*.

The *Concessions Act* provides guarantees and flexibility in financing to foreign and domestic agents interested in investing in infrastructure projects through concessions. The objective of the *Financing of Infrastructure Act* is to facilitate channelling of resources from institutional investors to infrastructure projects. This Act introduces important changes in the regulation of capital markets, authorizes new sources of financing for infrastructure, and grants greater investment margins.

Backed by enabling government policies, the private sector will take the lead in infrastructure development. Private companies are expected to meet almost all new investment requirements in telecommunications and energy and a major share in the remaining sectors. In the next six years, private investment in infrastructure should account for about \$13 billion, or more than 70% of required investment.

The Metropolitan Company Sanitary Works, EMOS (Empresa Metropolitana de Obras Sanitarias) is responsible for private sector activities in two main areas: investment, and maintenance, quality control and general services. Under the 1989 law on sanitary services, EMOS acquired concessions in drinking water production, drinking water distribution, sewerage collection and sewerage disposal.

Contracts for maintaining water distribution and sewerage networks often involve leak repairs, repairs to valves and fire hydrants and blockages in sewers and house connections. In addition, funding is available for tasks such as the replacement of pipes that have reached the end of their service life, for earthworks and road repair, and for rehabilitation. Maintenance contracts are renewed every 2 to 3 years through a system of public or private tendering.

CIDA Financing

CIDA maintains very close partnership ties with Chile, particularly in institutional and industrial cooperation. Canada's initiatives in Chile are principally designed to support efforts to achieve sustainable development through long-term partnerships.

The Canada Fund for Local Initiatives supports projects responding to small-scale, local needs. Currently, the Canada Fund focuses on small projects providing economic, technical, educational and social development assistance. The Canada Fund is managed by the Canadian embassy and currently has an annual budget of \$250,000.

Chile benefits from a number of regional initiatives, including the Canadian Technology Transfer Project, which focuses on the countries of the Southern Cone, including Chile.

International Financing

With successive fiscal surpluses, the country's overall debt burden is being held constant. Foreign investment was about US\$5 billion in 1996, about US\$3 billion of which was direct investment.

As a partner in financing Chile's development, the World Bank has concentrated on lending and technical assistance that addresses new approaches in human resources development and poverty alleviation, infrastructure development, and institutional strengthening. Environmental management and decentralizing of public sector functions have been focal points.

Within the World Bank Group, the International Finance Corporation (IFC) objective in Chile is involved in projects where it brings added value, such as "greenfield" projects, nontraditional industries, cross-border operations, large infrastructure projects requiring longer terms than those usually available, and projects with complex risk-mitigation provisions. The Corporation's gross commitments to Chilean companies over 1991-96 totalled about \$524 million. IFC perceives future opportunities in asset securitization, particularly in connection with housing and infrastructure finance. The IFC has a private sector international capital project development initiative worth US \$30 million to upgrade Santiago's rail infrastructure.

The following table is a summary of Chile's international economic indicators for the years 1993 to 1997:

INTERNATIONAL ECONOMIC INDICATORS	1993	1994	1995	1996	1997
Foreign Direct Investment (\$bn)	0.81	1.77	1.67	4.09	6.00
Foreign Exchange Reserves (\$bn)	9.64	13.09	14.14	14.78	16.50
Total Foreign Debt (\$bn)	20.60	24.50	25.60	27.20	28.00
Total Foreign Debt/GDP (%)	45.1	47.0	38.0	37.8	33.8
Debt Service Ratio (%)	23.1	19.6	25.7	26.0	26.0
Current Account (\$bn)	-2.07	-0.64	0.14	-2.92	-2.40
Current Account/GDP (%)	-4.5	-1.2	0.2	-4.1	-2.9
Exports (\$bn)	9.20	11.60	16.14	15.35	16.50
Imports (\$bn)	10.18	10.88	14.66	16.50	17.60
Foreign Trade Balance (\$bn)	-0.98	0.72	1.48	-1.15	-1.10
Currency Exchange Rate	404.17	420.18	396.77	412.27	417.73
Currency Change (%)	-11.5	-3.9	5.5	-3.9	-1.3

Source: *Country Forecasts, Chile*. The Political Risk Services Group. January 1998.

GDP PER CAPITA FOR CHILE

ECONOMIC INDICATOR	1993	1994	1995	1996	1997
GDP (\$bn)	45.66	52.16	67.30	71.91	82.75
Per Capita GDP (\$)	3,315	3,730	4,740	4,985	5,645
Real Growth Rate (%)	6.6	4.2	8.5	7.2	5.8

Source: *Country Forecasts, Chile*. The Political Risk Services Group. January 1998.

6. Managing Risks

6.1 Overview

Although Chile is among the countries in Latin America hit hardest by the financial turmoil in Asia, medium to long term prospects are considered good for the country. Moody's gave Chile a Baa1 rating and Standard & Poor's rated it an A-. Chile's fiscal policy continues to be well managed, with the 1996 surplus of about 1% being maintained in 1997, and privatization continued. It has also been a leader in the efforts to create regional free markets and has already reduced its own trade barriers.²

6.2 Political Risk at a National Level

Under president Eduardo Frei Ruiz-Tagle, Chile is expected to remain politically and economically stable. This is forecasted to continue for the next five years. In spring of 1998, Gen. Augusto Pinochet stepped down from his position as commander in chief of the Chilean armed forces, an important step in the securing of Chilean democracy. President Frei is pursuing policies that enjoy the support of the right. Because of the disarray of the opposition and Frei's popularity, the political base for the current positive business environment appears firm.

6.3 Economic Risk at a National Level

Economic growth is expected to slow slightly, but still remain robust. Despite the impressive amount of diversification, Chile's economic success depends on the price of copper, which accounts for about 30% of export earnings and 15% of government revenues. Chile's financial markets have particularly felt the negative turbulence in Asia. Exports to Asia account for about 7% of Chile's GDP.³

²Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 40-41.

³Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, p. 40.

Along with the slowing of economic growth, inflation will likely fall. Although capital inflows and rapid growth will contribute upward pressure on inflation, the overall rate is expected to decline because of tight government control over fiscal and monetary policy. Sustaining economic growth will depend on the continuation of high levels of foreign and domestic investment.

After years of steady increases, the national savings rate appears to be levelling off at around 26% of GDP, still well short of the levels attained by such rapidly growing countries as South Korea and Singapore. The country will therefore remain dependent on foreign borrowing and on investment in capital-intensive, extractive industries, chiefly copper and mining. The result will be upward pressure on the Chilean peso. Rises in the peso in 1995 and 1997 have already threatened growth in the traditional high-employment industries such as textiles and footwear, and will threaten the global competitiveness of other important exports, including fruit and wine.

6.3 Operational Risks

In general, Chile has fewer safety problems than any other Latin America or third-world countries. However, in Santiago and other large cities, there is some risk of robbery, particularly in downtown areas on weekends and after dark.

CONTACT INFORMATION

Canadian Organizations

Sandra Makinson
Sustainable Santiago Project
International Centre for Local Environmental Initiatives (ICLEI)
ICLEI World Secretariat
City Hall, East Tower, 8th Floor
100 Queen Street West
Toronto, Ontario M5H 2N2
Tel: (416) 392-1462
Fax: (416) 392-1478
E-mail: 75361.3043@compuserve.com
Website: www.iclei.org

Alliance of Manufacturers and Exporters of Canada
1 Nicholas Street, Suite 1500
Ottawa, Ontario K1N 7B7
Tel: (613) 238-8888
Fax: (613) 563-9218
Doreen Rousseau
Latin America Business Linkage Program
Tel: (416) 798 8000, ext. 230

Dr. Richard Stren
Director
Centre for Urban and Community Studies
University of Toronto
455 Spadina Avenue, Room 426
Toronto, Ontario M5S 2G8
Tel: (416) 978-2072
Fax: (416) 978-7162
E-mail: cucs@epas.utoronto.ca
Website: www.chass.utoronto.ca/guri/

Sel Murray
International Office
University of Regina
Regina, Saskatchewan
Tel: (306) 585-4111
Fax: (306) 585-4957

Claudia Lopez
Marketing Manager
Aastra Telecom Inc.
1685 Flint Road
North York, Ontario M3J 2W8
Tel: (416) 736-7070
Fax: (416) 736-7178
E-mail: clopez@aastra.com
Website: www.aastra.com

Brian Sherk
Bayly Communications Inc.
105 Greencourt
Ajax, Ontario L1S 6W9
Tel: (905) 686-1011
Fax: (905) 686-2935

Ivan Salazar
Canadian & Chilean Marketing Consultant
2204-100 Plaza Drive
Winnipeg, Manitoba R3T 5K8
Tel: (204) 275-1656
Fax: (204) 275-6022
E-mail: slazar@cc.umanitoba.ca

Marie Claude Bibeau
Celdex Environmental Technologies
1717 boul. Rene-Levesque
Montréal (Québec) H2L 4T3
Tel: (514) 590-4160
Fax: (514) 590-4169

Ian Howard
Ecolo Odor Control Systems Worldwide
1222 Fewster Drive, Unit 9
Mississauga, Ontario L4W 1A1
Tel: (905) 625-8664
Fax: (905) 625-8892

W.F. Flanagan
Vice President
FGA Consulting Engineers
P.O. Box 207
Fredericton, New Brunswick E3B 4Y9
Tel: (506) 458-8455
Fax: (506) 452-2729

M. Michel Begin
Fonds de Solidarité
8717 rue Berri
Montréal (Québec) H2M 2T9
Tel: (514) 383-8383
Fax: (514) 383-2505

David A. Fernet
Principal
Golder Associates Ltd.
1011 - 6 Avenue S.W.
Calgary, Alberta T2P 0W1
Tel: (403) 299-5600
Fax: (403) 299-5606
E-mail: dfernet@golder.com
Website: <http://www.golder.com>

Clyde Loewen
Loewen Windows
P.O. Box 2260
77 PPTH 52 West
Steinbach, Manitoba R0A 2A0
Tel: (204) 326-6446
Fax: (204) 326-5227

Nick Nikolov
M.G. Environmental Equipment Ltd.
c/o The Aquarius Group Inc.
Suite 7, 297 Lakeshore Road East
Oakville, Ontario L6J 1J3
Tel: (905) 339-1098
Fax: (905) 849-0933
E-mail: janick@interlog.com

Lance Miller
Martec Liquid Products Ltd.
P.O. Box 2263
Lethbridge, Alberta T1J 4K7
Tel: (403) 382-9647
Fax: (403) 758-0008

Juan Ubeda
Business Development Officer
Latin America
Northstar Trade Finance
205 - 5811 Cooney Road
Richmond, British Columbia V6X 3M1
Tel: (604) 664-5828
Fax: (604) 664-5838

Michael Redmond
Manager Economic Development
International Business, Nova Scotia Power
P.O. Box 910
Halifax, Nova Scotia B3J 2W5
Tel: (902) 428-6724
Fax: (902) 428-6407

Jacques Rostenne
Perwit International
505 Westminster Avenue
Ottawa, Ontario
Tel: (613) 729-2090
Fax: (613) 729-2144
E-mail: rostenne@perwit.com

Nolberto Munier, Principal
TEAMIC International Canada
108 Woodbury Crescent
Ottawa, Ontario K1G 5E2
Tel: (613) 247-7586
Fax: (613) 247-9687

Nilson Guiguer, President
Waterloo Hydrogeologic Inc.
180 Columbia St. West
Unit 1104
Waterloo, Ontario N2L 3L3
Tel: (519) 746-1798
Fax: (519) 885-5262

Victor J. Garcia, President and CEO
Wintec EMC, Energy Management Corporation
135 Queen's Plate Drive
Toronto, Ontario M9W 6V1
Tel: (416) 745-6111
Fax: (416) 745-4292
E-mail: wintec1@istar.ca

Melanie Collins
Positron Inc.
5101 Buchan Street
Montreal, Quebec H4P 2R9
Tel: (514) 345-2200
Fax: (514) 731-8662

Tom Vasko
Genesis Organic Inc.
Sales and Marketing Dept.
19 White Cedar Drive
Markham, Ontario L3S 4B6
Tel: (905) 471-1316
Fax: (905) 471-1316

Canadian Government

Alain Berranger
Director
Partnerships & Business Development Office
International Development Research Centre (IDRC)
250 Albert Street
P.O. Box 8500
Ottawa, Ontario K1G 3H9
Tel: (613) 236-6163
Fax: (613) 567-4349
E-mail: aberranger@idrc.ca
Website: www.idrc.ca

Michelle Samme
Senior Development Officer
South America Branch
Canadian International Development Agency
200 Promenade du Portage
Hull, Quebec K1A 0G4
Tel: (819) 994-4439
Fax: (819) 997-0602

Charles Chenard
Director, Americas
Canadian Housing Export Centre
Canada Mortgage and Housing Corporation
700 Montreal Road
Ottawa, Ontario K1A 0P7
Tel: (613) 748-2441
Fax: (613) 748-2302
E-mail: cchenard@cmhc-schl.gc.ca

Mark Bowman
Financing Services
Export Development Corporation
151 O'Connor Street
Ottawa, Ontario K1A 1K3
Tel: (613) 598-6647
Fax: (613) 598-3167

Canadian Embassy in Chile
Nueva Tajamar 481, Torre
Notre, Piso 12
Casilla 139, Correo 10
Santiago, Chile
Tel: (011-56-2) 362-9660
Fax: (011-56-2) 362-9664
E-mail: stago.td@stago01.x400.gc.ca

International Financial Institutions

Mario del Carril
Latin America/Caribbean
The World Bank
1818 H Street, N.W.
Washington, D.C., U.S.A. 20433
Tel: (202) 473-6189
Fax: (202) 522-3698

Monica Echeverria-Cota
Latin America/Caribbean
The World Bank
1818 H Street, N.W.
Washington, D.C., U.S.A. 20433
Tel: (202) 473-1315
Fax: (202) 522-3698

Stine Andresen
Political Risk Insurance
Multilateral Investment Guarantee Agency
Washington, D.C. 20433
Tel: (202) 473-6157
Fax: (202) 522-2630

Karl Voltaire
International Finance Corporation (IFC)
2121 Pennsylvania Avenue
Washington, D.C. 20433
Tel: (202) 473-0558
Fax: (202) 974-4394

REFERENCES

The Bayswater Consulting Group, Inc., *Market Information Packages For Countries with the Largest Number of Major Cities*, produced for the National Round Table On The Environment and The Economy: Sustainable Cities Solutions, February 1998.

Provides an overview of urban and environmental issues and opportunities in Chile and other countries.

Coplin, William D., & Michael K. O'Leary, *Country Forecasts*, New York: PRS Group, Vol. XVII, Number 1, January 1998, pp. 59 - 62.

Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 40-41.

These summaries provide a brief statistical profile on Chile's economy and its trading relationship to Canada. Information tends to be quickly outdated.

Freedom House, *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties 1996-1997*, New Brunswick: Transaction Publishers, 1997, pp. 190-192.

These country reports provide background information on governance in each country.

Ministry of Public Works, *General Information on Present Situation and Issues of Infrastructure*, <http://www.moc.go.jp/cgi-bin/binran2.pl>.

This website provides some basic information on investments by the Ministry of Public Works in construction, roads, and housing as well as some of its priorities around water issues and the condition of city infrastructure.

R., Alfaro, "Contracting of Private Companies in Santiago, Chile" in Gidman, Philip et al., *Public-Private Partnerships in Urban Infrastructure Services*, Urban Management Programme, Working Paper Series 4, January 1995, p. 6.

Strategis Trade Data Online, *Canadian Domestic Exports - Top 25 Products*, <http://strategis.ic.gc.ca/cgi-bin/t....in/wow/wow.code>

TEAMIC International-Canada, *Enviro - News IV on South American Environmental Business Opportunities*, December 1997.

The publication provides some background information on Chile and its environmental issues. In addition, useful contacts are provided for potential projects identified.

World Bank, Environment and Urban Development Division, *Chile Managing Environmental Problems: Economic Analysis of Selected Issues*, Report No. 13061-CH, December 19, 1994.

The report provides a wealth of information on environmental problems in Chile generally along with fairly extensive reporting on pollution problems in Santiago.

Yound, Margaret Walsh and Susan L. Stetler, eds., *Cities of the World, The Western Hemisphere*, 3rd Ed., Vol. 2, Detroit, Michigan: Gale Research Company Book Tower, 1987, pp. 235, 248-253.

The book touches on Santiago providing some basic information on the city's history. Much of it is very general, however, focusing more on the country than the city.

Thurmond, J.D., Joe Reif, *World Trade Almanac 1996-1997: Economic, Marketing, Trade, Cultural, Legal, & Travel Surveys for the World's Top 100 Countries*, San Rafael, California: World Trade Press, p.156.

The Urban Environment, A special reprint from World Resources, 1996-97, The World Resources Institute, The United Nations Environment Programme, The United Nations Development Programme, The World Bank, New York, Oxford: Oxford University Press, 1996, pp. 150-151.

A good source of urban environment information and indicators, as well as appendices of city and country statistics such as populations.

PROSPECTUS FOR TIANJIN, CHINA: CANADIAN SUSTAINABLE CITIES INITIATIVE¹

SUMMARY

Tianjin Municipality is strategically located in the Greater Bohai Economic Region which offers a growing industrial and consumer market of over 350 million people. The region is only 90 minutes away from Beijing by motor vehicle along the recently completed expressway. Canadian companies have been active there for some time and have a good reputation for doing quality work. However, linking Canadian efforts to present a comprehensive package to local and provincial authorities, as well as to foreign-owned manufacturing enterprises, remains a challenge.

Tianjin is the third largest urban region in China after Shanghai and Beijing. It offers an excellent opportunity to link Canadian expertise in development-oriented site services with financing and technologies for upgraded urban infrastructure, particularly in what is called the "Coastal City", composed of three different districts. Tanggu is the most interesting district of the three, because it includes the largest coastal city. Also located within Tanggu district is the Port, administered by Tianjin municipality, and the Tianjin Economic and Technological Development Area (TEDA) – a special economic development zone designed to attract foreign investment – under its separate administration. Within the Tianjin municipal government, a Coastal City planning office oversees development planning for the region as a whole.

Attracting investment to address the backlog of air pollution control, wastewater, energy and transport infrastructure problems in the Coastal City is a priority for local authorities. Current expectations are that most population and industrial growth in Tianjin Municipality will take place in TEDA and in the Port area, and other parts of the Coastal City. Of specific interest are: alternative energy sources for industry, e.g., cogeneration based on natural gas; waste-to-energy systems; industrial wastewater treatment with recovery of valuable materials and energy from effluents; energy efficiency in buildings; rapid transit; and renovation of the urban fabric. In comparison with many other regions of China, Tianjin has current and potential revenue sources to finance environmental upgrading. However, projects which pay for themselves, and which create local employment will obviously be given the highest priority by municipal authorities.

DETAILING THE OPPORTUNITIES

¹This profile was prepared for the National Round Table on the Environment and the Economy (NRTEE) by Lisa Van Buren and Cynthia Taha of The Bayswater Consulting Group, Inc., using information and supplied by Edward Leman and Derek Ireland of Chreod Limited, Ottawa, as well as by the World Bank, the Canadian International Development Agency, the Department of Foreign Affairs and International Trade, and other sources. Aspects of the profile were also discussed with Graham McGarva of the Vancouver firm Baker McGarva Hart, and Haiyan Zhang of ChinaBridge Communications. The Bayswater Consulting Group, Inc. takes responsibility for any errors or omissions in this profile however.

Renewal of the Urban Environment of Tanggu Port

- Tianjin province is the site of the largest and one of the most modern ports in North China, with a capacity to handle both bulk cargoes and containers. Opportunities to develop the port area on the Bohai Bay are expected into the next century. It has been argued that the Bohai Bay region should become the nation's third highest priority development region after the Pearl River and Yangtze Delta.
- Attracting investment to address pollution and infrastructure problems in the Coastal City is a priority to the local authorities. Current expectations are that much of the population and increases in industrial output in the Tianjin Municipality will take place in TEDA and in the Port area, and other parts of the Coastal City.
- Of specific interest in Tanggu are: alternative energy sources for industry, e.g., cogeneration based on natural gas; waste-to-energy systems; industrial wastewater treatment with recovery of valuable materials and energy from effluents; energy efficiency in buildings; public transit infrastructure; and renovation of the urban fabric.

Sustainable Infrastructure for the Special Economic Zone

- TEDA is ranked as one of the fastest growing and best managed economic development zones in the country. A significant opportunity exists in the Beijing and Tianjin central governments' strategy to establish a sophisticated high technology corridor from Beijing through Tianjin to the Coastal City over the long term. TEDA, in particular, is seen as critical to this strategy.
- United Telecommunications Corporation or Unicom, is China's second public network carrier. Unicom is expanding the number of cities covered by its GSM networks. In 1997, Unicom began operation of its first local fixed-line network in Tianjin, and will expand its own long-distance network. Because of its lack of capital for infrastructure development, Unicom has been flexible in working with foreign companies, including equipment suppliers and operators, to build mobile networks.

Waste to Energy Conversion

- There is growing interest in environmental technologies such as Waste to Energy (WTE). An energy analyst in a Western embassy says he has heard of interest in WTE from almost 200 Chinese cities. An Australian company, Great Pacific Financial Group, is already in Tianjin heading a consortium for a new \$US 50 million waste to energy project and plans to build more plants there and elsewhere in China.

CANADIAN CAPABILITIES TO RESPOND

Renewal of the Urban Environment of Tanggu Including the Port Area

- Companies offering environmental technologies as well as companies with an expertise in service sector and residential development will find opportunities in Tanggu. Demand is strongest for water and wastewater treatment and associated instrumentation.
- Canadian capabilities are needed to coordinate and integrate the economic and infrastructure development strategies, investment promotion initiatives and urban planning of Tianjin City and the Coastal City.

Sustainable Infrastructure for Economic Zone

- TEDA will require Canadian capabilities and infrastructure investment in highways, public transit and telecommunications to link it to surrounding regions.
- The potential is also good for companies interested in developing joint ventures to produce Canadian environmental technologies locally. Environmental monitoring equipment and low-cost desulfurization systems offer significant opportunities.

Waste to Energy

- There are also opportunities for Canadian capabilities in waste to energy technologies, and generally systems that find cost-effective ways to reduce waste.

SUCCESS FACTORS

1. Basic Information

Tianjin is considered the gateway to the capital Beijing, with fairly good transportation infrastructure and links to Korea and Japan as well. The Municipality is located on the Bohai Bay and sits near the Yanshan and Taihang Mountains and between the plains of North China and Northeast China. The United Nations estimates that the population of Tianjin city proper is 5,855,044, with the surrounding region raising the total to approximately 9.5 million, third largest agglomeration in China. An estimated 500,000 of Tianjin's population are migrant workers.

Tianjin's large industrial sector is quite diversified, with production in both light and heavy industrial products. The city leads Chinese production in steel, oil and gas, clothing and textiles, chemicals, petrochemicals, precision equipment, electronics, and many consumer items such as motor vehicles, washing machines, television sets, watches and bicycles.

Tianjin municipality has the status of a province. It is located in the middle of a region offering a growing industrial and consumer market of over 350 million people, and only 90 minutes from Beijing by motor vehicle along a recently completed expressway. Tianjin's infrastructure facilities and services compare quite well with other Chinese cities, in part due to rebuilding which took place after the 1976 earthquake.

2. Governance

Changes in China's central government bode well for future investment opportunities. With the death of Deng Xiaoping, the Chinese government has initiated the boldest economic reforms since China opened its doors to world in 1978. Political consensus has coalesced around support for president Jiang Zemin's planned economic reforms in the context of a "socialist-market economy". A significant driving force behind reforms is the new Prime Minister Zhu Rhongji who recently replaced Li Peng.

Zhu Rhongji reportedly has a passionate dislike of corruption and has focused reforms on levelling the playing field for honest, productive enterprises. Based on a survey of businesses active in China, Transparency International's corruption index gave China as a whole a low score of 2.88 out of 10 and ranks it just above Argentina and Vietnam.

Those Canadians familiar with Tianjin after working there for some time find it to have a slower and more conservative pace than do other large Chinese cities. They also find local authorities to be comparatively straight forward to deal with, and do not report requests for unexpected payments, etc. The key issue of governance in Tianjin appears to be the complexity of responsibilities and authorities in a multi-layered region.

According to the Export Development Corporation, the need for reform in China as a whole is pressing. The leadership realises that its main near-term challenge is maintain growth in real GDP at a level sufficient to at least prevent unemployment from worsening much further. Sustainable growth requires the retreat of the state from the economic sector. It is suggested that state-owned industry may have to shrink by two-thirds, with the loss of 70 million urban jobs. Moreover, some 200 million of the 800 million who currently live on the land will need to find jobs in the towns.²

How reforms will affect Tianjin Municipality is difficult to say, although it may benefit from greater decision making authority than previously. The central Chinese government is no longer a monolith and does not have the leverage it once had. China's political apparatus is having trouble getting orders obeyed in localities and even collecting taxes due to it, notes the Economist.³

"China's Political Cage", *The Economist*, August 8-14, 1998, p. 16.

"China's Political Cage", *The Economist*, August 8-14, 1998, p. 16.

There are examples in the past of central efforts to address development and environmental problems in the Tianjin region. As early as the mid-70s, the central government began cooperation with municipal governments on numerous studies and surveys to evaluate the region's ecology. The Chinese Academy of Sciences carried out environmental analysis to pinpoint sources of pollution in the region. In the 80s, authorities developed a monitoring system using remote sensing and incorporated protection of the environment as a planning objective.

Today Tianjin continues to maintain a fairly close working relationship to the state government as many Government of China bureaucrats spend time working at the municipal level in Tianjin. However, reform efforts have been less aggressive in the area than in other parts of China with a more conservative attitude toward reforms. Some would argue that the slow pace of reforms has created a relatively more orderly climate for investment.⁴

3. Need at a National and Regional Level

A United Nations report identified China's cities as having some of the worst water contamination in urban Asia. More than half of the 191 rivers in the Haihe system, which provides water for Beijing, Tianjin, and other cities in four provinces, are so contaminated that they are deemed to be biologically "dead" or non-functional. The incidence of cancer and intestinal diseases has seen a parallel rise.

Urban air quality has been getting worse. The Chinese Government expects ambient SO₂ levels to increase through the decade and, given the rapid increase in motor vehicle miles and lack of effective abatement, NO_x can be expected to increase as well in major cities. It was reported in one newsletter that in Tianjin this past April, 14 people died and more than 1,000 were hospitalized in a disastrous climatically induced outbreak of carbon-monoxide poisoning.⁵

Infrastructure bottlenecks also pose a threat to future growth in Tianjin and in China generally. Investment in transport, telecommunications, and energy has lagged behind that in industry, resulting in chronic shortages of transport services and increased urban congestion. Transport shortages in turn contribute to power shortages, since coal accounts for 70 percent of China's power generation and is mostly transported by rail throughout the country.

Raising capital for infrastructure improvements is a major task: an estimated \$75 billion will be required over the next decade. Although the private sector is expected to play a key role in meeting China's huge infrastructure needs, public spending will also be required.

A high degree of urbanization and a large volume of trade in the Tianjin region impacts heavily on

Interview with Derek Ireland, Chreod Ltd., August 12, 1998.

"Urban Energy Goes to Waste: Trash Power", *China Infrastructure Newsletter*, Vol. 3, Issue III, April 1998, p. 8

its environment. Authorities expect the degree of urbanization to rise, since Tianjin is one of the leading areas of economic growth due to the development of modern industry and agriculture sectors. As the number of oil and gas fields and chemical production bases increases, more railways and express highways are being built.

Over the next 15 years, the new Master Plan for Tianjin foresees a period of economic renewal, renovation, restoration and restructuring. The Plan contains many initiatives to address the challenges of the coastal region. These challenges include improving transportation links from Tianjin to the coastal cities and enhancing the area's urban amenities, physical environment, and residential quality of life.

4. Canadian Track Record

4.1 *Private Sector*

SNC-Lavalin and Klohn-Crippen are developing an expressway and working on a proposed rapid transit system for Tianjin.

Barker McGarva Hart worked on a conceptual framework for local planners in Tianjin and is studying the impact of the expressway on the development as well as possible financial returns for builders of the expressway.

Chreod Associates, Reid Crowther, City Formation International, A.G. Levinsohn Consultants Inc., and other Canadian consultants are involved in infrastructure and environmental planning and management improvement initiatives in Tianjin. In particular, Chreod has been involved in Tianjin for four years carrying out planning and feasibility studies for the Tianjin Municipal Government, TEDA and the World Bank.

The Federation of Canadian Municipalities has included Tianjin in its "China Open Cities Project", which is designed for municipal capacity building.

4.2 *Public Sector*

The Institute for Environmental Studies, University of Toronto has an environmental management program in Tianjin, focused on water resources.

CIDA was last involved in the Tianjin area in 1994 under a project to improve livestock quarantine facilities at the Port. The Tanggu Animal Quarantine Project was run by primarily by Agriculture Canada.

4.3 *Canadian Infrastructure Exports*

Total Canadian exports to China have risen from approximately \$1.5 billion in 1993 to over \$2 billion in 1997. Infrastructure related exports totalled almost \$239 million in 1997. Over the same period, there was a sharp rise in exports of transmission/ reception apparatus and in telephonic switching apparatus, which grew by approximately \$11 million. Parts for electric motors and generators etc. also grew rapidly from \$62 thousand in 1993 to \$38.5 million in 1997.

4.4 *International Competition*

Virtually all major infrastructure designers, builders, financiers and product suppliers from Canada's major competitors are working somewhere in China. This market is of interest to Japanese, German, American, British and Australian companies, as well as to firms located close to China in the Asia Pacific region. In addition, Chinese construction companies are becoming increasingly able to carry out complex domestic projects as well as more routine infrastructure and buildings, and should be assumed to be the main bidders on many projects financed by International Financial Institutions.

5. Financing

5.1 *Local Financing*

Municipal fiscal capacities remain weak in most cities, including those along the coast. As a result of a rapid decline in central government investment in local infrastructure over the past decade, and tight central controls over credit allocations, local governments are increasingly relying on extra-budgetary revenues and administrative direction to State Owned Enterprises (SOEs) to invest or borrow for infrastructure. Since local governments are not allowed to issue bonds, and local SOEs are not likely to obtain central approval for corporate bond issues ahead of State-level SOEs, investment capital formation is becoming an increasingly difficult challenge for municipalities.

Financing is a major challenge for Tianjin, which must make full use of foreign financing, expertise and managerial experience if it is to modernise its infrastructure sector. In response to reductions in central government spending, a growing number of local governments, including Tianjin, are seeking to have non-state firms, particularly foreign investors, finance local infrastructure investments. The primary investment vehicles are concession contracts to cooperative and equity joint ventures, such as build-operate-transfer (BOT) agreements.

Overall, Tianjin region presents foreign and domestic investors with the following benefits:

- a relatively abundant labour supply which is quite well educated and highly skilled, and has a solid reputation for reliability;
- good access to many natural resources in the surrounding northern provinces;
- excellent port and other transportation facilities which, with current and proposed improvements and expansions make Tianjin a major hub for North China;

- a potential revenue stream for Public-Private Infrastructure projects from both port facilities and residents earning incomes well above the Chinese average;
- large tracts of undeveloped land for industrial and commercial development which surround the city and are often close to the port facilities;
- a growing financial sector whose future development may receive increasing attention from the Central Government authorities in the future; and
- lower wage, land and other costs than in most other coastal cities in China.

Lower costs in the region reflect the relatively slower population growth and more modest pace of economic development and reform than in many other parts of coastal China - notably Shanghai and Guangdong Province.

5.2 *National Financing*

Financing in China has to take into account the central government where much of the decision-making power still resides. Central government spending on Tianjin's infrastructure is likely to grow to meet the needs of expanding output in both heavy and light industry. Plans include a shift in allocation of resources to large-scale energy and transportation projects. The government also expects foreign investment to be a key factor in spurring growth.

China has not used BOT financing for any highway projects thus far, although there are five large projects waiting for approval from the State Planning Commission (SPC). These projects, located in Guangdong, Hubei, Fujian, Jiangsu and Tianjin, are expected to win approval by the latter half of 1998. The SPC is currently developing BOT framework legislation and regulations with a view to systematically channelling foreign direct investment into local infrastructure.

The Chinese government has conducted extensive environmental and infrastructure studies as to the potential of this type of arrangement. The World Bank has been developing a pilot BOT concession model (one of the aforementioned five projects, a bridge to be built across the Yangtze River near Wuhan in Hubei Province) usable for Chinese toll road projects

The Bank regards BOT as a good way to increase private investment in China's infrastructure as the Bank decreases its own support for such projects. China's growing enthusiasm for BOT contracts will most likely make more rewarding opportunities available to foreign investors. Bankers expect BOT to ease China's infrastructure investment bottleneck, and believe that the number of profitable projects will increase in coming years.

The Chinese government is financing a new Waste to Energy (WTE) project in Tianjin. The plant is expected to process about 420,000 tons of trash annually, creating 20 megawatts of power. Australia's Great Pacific Financial Group is heading the project consortium and is the first Western company to execute a WTE deal on China's mainland. The project is worth \$50 million and has a 25 year BOT agreement.

5.3

International Financing

China has been the World Bank's largest borrower since 1992. In FY97, \$2.8 billion of Bank funds went to China. The Bank's Country Assistance Strategy for China identifies four areas to focus on operationally: macroeconomic and structural reforms, removal of infrastructure bottlenecks, poverty alleviation, and environmental protection. Urban environmental issues are specified as important challenges relevant to the latter three focus areas. The Bank's most recent assistance to Chinese policy-makers is its 1997 environmental study, "Clear Water, Blue Skies", produced in close collaboration with China's National Environmental Protection Agency and the SPC.

Other studies include urban environmental management, the environmental impact of coal use, energy conservation, options in greenhouse gas emissions control, and biodiversity conservation. Based on the findings of these studies the Bank has channelled almost \$3 billion to improve air and water quality in urban centres nationwide and to other developments to improve the quality of life in China's cities.

In FY97, the largest share of World Bank support was directed to China's goal of alleviating major infrastructure bottlenecks. The Bank approved \$1.52 billion for five projects aimed at improving and expanding transport systems and power capacity. A World Bank project to facilitate inland transportation, including increasing efficiency at Tianjin Port is in the pipeline. The project is worth US \$100 million.

In the past few years, lending for environmental protection has become the fastest growing area of the World Bank's program in China. Lending to this sector in FY96 totalled \$720 million for four projects addressing industrial and commercial environmental problems and reforming environmental protection policies in the Yangtze Basin (Shanghai, Yunnan, Chongqing, and Hubei).

In 1997, the Hubei Urban Environmental Protection, Yunnan Environment, Second Shanghai Sewerage, and Chongqing Industrial Reform and Pollution Control Projects were approved, to address urban air and water pollution.

Other agencies and institutions have been increasingly involved in China's urban environment sector. For example, the Asian Development Bank (AsDB) has recently commenced lending in urban water resources, water supply and wastewater treatment in China. AsDB's Technical Assistance program has recently included considerable advisory work on urban environmental planning, infrastructure services cost recovery, and municipal finance.

Bilateral agencies, including Japan's Overseas Economic Cooperation Fund, Japanese International Cooperation Agency, British Department for International Development, Danish International Development Agency and CIDA have been providing financing and technical assistance on several urban environment initiatives.

The UNDP/UNCHS/World Bank's Urban Management Programme is currently seeking to support initiatives in individual cities in China on urban poverty, urban environmental management and participatory urban governance.

Both the International Finance Corporation and AsDB's Private Sector Group are actively pursuing equity and debt investments in urban infrastructure projects involving participation by non-state sector, particularly direct foreign investors.

INTERNATIONAL ECONOMIC INDICATORS	1993	1994	1995	1996	1997
Foreign Direct Investment (\$bn)	27.52	33.79	35.85	42.00	30.00
Foreign Exchange Reserves (\$bn)	21.20	51.62	73.58	105.00	123.21
Total Foreign Debt (\$bn)	84.00	93.10	106.50	113.00	118.00
Total Foreign Debt/GDP (%)	14.0	17.2	15.4	14.3	13.6
Debt Service Ratio (%)	11.1	8.3	9.6	10.1	10.4
Current Account (\$bn)	-11.61	6.91	1.62	4.50	4.00
Current Account/GDP (%)	-1.9	1.3	0.2	0.6	0.5
Exports (\$bn)	75.66	102.56	128.11	134.52	148.00
Imports (\$bn)	86.31	95.27	110.06	122.50	132.00
Foreign Trade Balance (\$bn)	-10.65	7.29	18.05	12.02	16.00
Currency Exchange Rate	5.7620	8.6187	8.3514	8.3142	8.2952
Currency Change (%)	-4.5	-49.6	3.1	0.4	0.2

Source: *Country Forecasts, China*. The Political Risk Services Group. January 1998.

GDP PER CAPITA FOR CHINA

ECONOMIC INDICATOR	1993	1994	1995	1996	1997
GDP (\$bn)	601.08	540.51	691.32	789.14	868.05
Per Capita GDP (\$)	500	445	565	640	695
Real Growth Rate (%)	13.5	12.7	10.5	9.7	10.0

Source: *Country Forecasts, China*. The Political Risk Services Group. January 1998. Note that the GDP per capita for Tianjin is several times the national figure.

6. Managing Risks

According to the 1998 Standard and Poor's DRI Country Risk Review, China ranks third riskiest among the top ten emerging markets in terms of risk after Indonesia and South Africa. The report notes that the "outlook for China... remains problematic largely because of a likely devaluation of the renminbi next year, a continued decline in the growth of exports because of falling demand in Asia overall and rising domestic deflation there."⁶ Moody's gave China a rating of A3, and Standard and Poor's gave it a BBB+.⁷

6.1 Political Risks

Although the current Chinese government remains committed to reform efforts, analysts suggest the support for Communist Party leader Jiang Zemin could falter if confronted by a foreign policy reversal, political or financial unrest in Hong Kong, or economic difficulties. Canada's Export Development Corporation is concerned that the government may lack the political resolve to implement meaningful enterprise and banking sector reform without an overhaul of the social safety net. Structural reforms will likely lead to increasing numbers of displaced persons who represent a potential source of unrest. Unless growth is high enough to absorb the workers displaced, it could be difficult to sustain the social and political consensus necessary to carry the reforms through.

Political risks in Tianjin could be somewhat more lower than for China as a whole given the Province's relatively measured approach to economic reform and less dramatic population and economic growth as compared to other areas. The Tianjin Government supports city planning efforts and has been less opportunistic than other regions in developing the Municipality. Moreover, Tianjin's provincial status gives it legislative independence and fiscal powers not enjoyed by other cities, with the exception of Shanghai and Beijing. Power sharing with the state and decentralized decision making will improve the Municipality's ability to implement changes.

6.2 Economic and Financial Risks

As a result of expected moderate growth, the Government of China could face increasing demands, and possibly overt protest, for political liberalization and economic changes benefitting consumers. Despite these risks, officials favour continued gradual movement in the direction of economic liberalization. The climate for international business may also be affected by disagreements between the central and regional governments and by international political tensions.

Poland, Argentina, and Mexico Projected to Have Lowest Investment Risk of Ten Largest Emerging Markets, Standard & Poor's DRI, News Release, Lexington, Mass., July 15, 1998.

Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 42-43.

China's overall prospects for economic growth depend critically and increasingly on the government's success in reforming the state-owned enterprise (SOE) sector and repairing the badly weakened financial position of banks. Many of the highly-indebted SOEs are effectively bankrupt and overburdened with redundant workers. Although the SOE sector accounts for less than 20% of GDP, it employs two-thirds of the urban labour force and provides essential social welfare functions for its work force.⁸

A sharp decline in contracted foreign direct investment in 1997 resulted in part from growing investor uncertainty about Asia's and China's economic outlook. Concerns about pervasive corruption and red tape have hindered development across China generally. However, there are opportunities for development in regions such as Tianjin, which continue to provide investors with relatively low risk opportunities.

6.3 *Commercial Risks*

Commercial risks in China depend on the sector of the city or the Chinese agency with whom a Canadian company is dealing. Getting paid for services can be a risk as it is in many countries. In the power business for example, one industry source said he thought "almost all Western developers" have power bills going unpaid.

Most companies had received similar explanations as to why their clients, the power grids, were not paying. "They tell us that they are gaining no revenues to pass on," said a Beijing-based power executive. Although most companies do not completely believe this, there may be little they can do except to keep providing the power, and hope. Many are afraid to go public with their information out of fear they will anger the Chinese power authorities. Nevertheless in some cases, there are measures that can be taken, including the option of resorting to commercial courts.

The risks to operational personnel are minimal. The crime rate is still very low in China, but has increased recently in large cities. Theft is becoming more common, but violent crimes are very unusual.

OECD Economic Outlook, June 1998, p. 148.

CONTACT INFORMATION

Canadian Organizations

Graham McGarva
Baker McGarva Hart
Suite 105, 1285 West Pender
Vancouver, British Columbia V6E 4B1
Tel: (604) 683-1024
Fax: (604) 683-0774

Edward Lemay
President
Chreod Associates Inc.
111 Sparks Street, Suite 200
Ottawa, Ontario K1P 5B5
Tel: (613) 238-3954
Fax: (613) 238-4668
Email: 72204.255@compuserve.com

E. Brock Carlton
Deputy Director, International Office
Federation of Canadian Municipalities
24 Clarence Street
Ottawa, Ontario K1N 5P3
Tel: (613) 241-5221
Fax: (613) 241-7440

Art Alexander
Klohn-Crippen Consultants Ltd.
510 Burrard Street, Suite 600
Vancouver, BC V6C 3A8
Tel: (604) 664-2000
Fax: (604) 664-2051
E-mail: aalexand@vcr.klohn.com
Internet: www.klohn.com

Allan Levinsohn, Principal
A.G. Levinsohn Consulting Inc.
P.O. Box 8126
Canmore, Alberta T1W 1T1
Tel: (403) 678-4591
Fax: (403) 678-4597
E-mail: aglcinc@agt.net

Robert Racine
Public Affairs
SNC-Lavalin Group Inc.
455 Rene-Levesque Blvd. West
Montréal, Québec H2Z 1Z3
Tel: (514) 393-1000
Fax: (514) 875-4877

Dr. Rodney R. White
Director
Institute for Environmental Studies
University of Toronto
1016-33 Willcocks Street
Toronto, Ontario M5S 3E8
Tel: (416) 978-6526
Fax: (416) 978-3884
Email: rwhite@gpu.utcc.utoronto.ca
Website: www.utoronto.ca/env/es.htmlInstitute for Environmental Studies

Canadian Government

Chen Shibiao
Minister of Commercial Affairs
Embassy of the People's Republic of China
515 St. Patric Street
Ottawa, Ontario K1N 5H3
Tel: (613) 789-3511
Fax: (613) 789-3515

Ian P. Wright
A/Director General
China Division, Asia Branch
Canadian International Development Agency
200 Promenade du Portage
Hull, Quebec K1A 0G4
Tel: (819) 994-3429
Fax: (819) 997-4759

Mark Bowman
Financing Services
Export Development Corporation
151 O'Connor Street
Ottawa, Ontario K1A 1K3
Tel: (613) 598-2500
Fax: (613) 237-2690

Robert Collette
Minister of Commerce and Economics
Canadian Embassy
The People's Republic of China
19 Dong Zhi Men Wai Street
Chaoyang District
Beijing 100600
People's Republic of China
Tel: (011-86-10) 6532-3536
Fax: (011-86-10) 6532-4072
Email: td.begjing@beijing03.x400.gc.ca

International Financial Institutions

A. Jorgensen
Water Supply, Urban Development and Housing Division (East)
Asian Development Bank
6 ADB Avenue, Mandaluyong
0401 Metro Manila, Philippines
P.O. Box 789
Manila Central Post Office
Tel: (632) 632-6812
Fax: (632) 632-6816

Graham Barrett
East Asia
World Bank
1818 H Street N. W.
Washington, D.C. 20433
Tel: (202) 458-0344
Fax: (202) 522-3405

Kimberely Versak
East Asia
World Bank
1818 H Street N. W.
Washington, D.C. 20433
Tel: (202) 458-1423
Fax: (202) 522-3405

Philippe Valahu
Political Risk Insurance
Multilateral Investment Guarantee Agency
Washington, D.C. 20433
Tel: (202) 473-8043
Fax: (202) 522-2630

Javed Hamid
East Asia
International Finance Corporation
2121 Pennsylvania Avenue
Washington, D.C. 20433
Tel: (202) 473-0400
Fax: (202) 974-4340

REFERENCES

Asian Development Bank, *How Canadian Firms Can Profit in Asia's Infrastructure Market*, January 1998.

This very well produced report is a practical, intelligent and information packed documentation on how projects are financed in Asia's infrastructure market. It provides contact information for successful infrastructure firms active in the market.

Atlas of the ecological environment in the Beijing - Tianjin area, Beijing: Beijing Science Press, 1990.

This atlas provides detailed maps of the Beijing - Tianjin area, many of which are remote sensing photos of various geographic phenomenon.

The Bayswater Consulting Group, Inc., *Market Information Packages For Countries with the Largest Number of Major Cities*, produced for the National Round Table On The Environment and The Economy: Sustainable Cities Solutions, February 1998.

China Infrastructure Newsletter, "Clear thinking: solutions & analysis", Vol. 3, Issue III, April 1998.

The newsletter is a good overview of China's infrastructure sector with updates on construction, energy, and transportation issues in the country, including some analysis of developing waste-to-energy technology.

Chreod Ltd., *An Overview of the Tianjin Economy*, July 15, 1998.

Department of Foreign Affairs and International Trade, *China and Hong Kong Trade Action Plan 1998*.

Economic Development Corporation, *Guide to Country Risks and Opportunities*, March 1998, pp. 42-43.

These summaries provide a brief description of China's current economic outlook and a statistical profile on the country's economy and its trading relationship to Canada.

Freedom House, *Freedom in the World: The Annual Survey of Political Rights and Civil Liberties 1996-1997*, New Brunswick: Transaction Publishers, 1997, pp. 192-193.

These country reports provide largely background information on each country. The information has little value in terms of up-to-date market opportunities or country risks.

Strategis Trade Data Online, *Canadian Domestic Exports - Top 25 Products*, <http://strategis.ic.gc.ca/cgi-bin/t....in/wow/wow.code>

Thurmond, J.D., Joe Reif, *World Trade Almanac 1996-1997: Economic, Marketing, Trade, Cultural, Legal, & Travel Surveys for the World's Top 100 Countries*, San Rafael, California: World Trade Press, p. 166.

The Urban Environment, A special reprint from World Resources, 1996-97, The World Resources Institute, The United Nations Environment Programme, The United Nations Development Programme, The World Bank, New York, Oxford: Oxford University Press, 1996, p. 150.

A good source of urban environment information and indicators, as well as appendices of city and country statistics such as populations.

U.S. Department of Commerce, *Highway Construction Industry - Market Access*
<http://strategis.ic.gc.ca/SSG/dd83179e.html> Publishing date: 1998-03-17.

World Bank, Environment and Urban Development Division, *China, Urban Environmental Service Management*, Report No. 13073-CHA, December 31, 1994.

World Resources Institute, *A Guide to the Global Environment: The Urban Environment 1991-1997*, New York: World Resources Institute, 1997.