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**A REPORT BY  
THE SECTOR TASK FORCE ON**

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**THE CANADIAN PRIMARY IRON AND  
STEEL INDUSTRY**

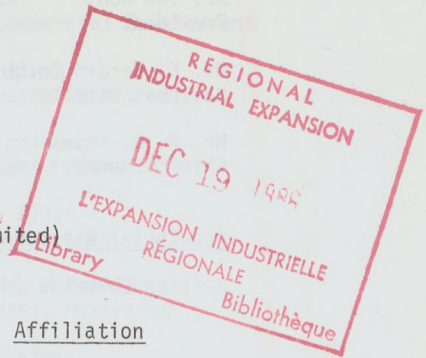
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Chairman A. V. Orr

CONSULTATIVE TASK FORCE  
CANADIAN IRON AND STEEL INDUSTRY

CHAIRMAN

Mr. A. V. Orr  
Vice-President and General Manager  
Atlas Steels (a Division of Rio Algom Limited)



MEMBERS

<u>Representative</u>	<u>Affiliation</u>
Mr. C. Ohlson Vice-President, Marketing	Atlas Steels (a Division of Rio Algom Limited) Welland, Ontario
Mr. Carson Weeks Senior Vice-President	The Algoma Steel Corporation, Limited Sault Ste. Marie, Ontario
Mr. R. Ross Craig Executive Vice-President, Commercial	Dominion Foundries and Steel Limited Hamilton, Ontario
Mr. Bruce Yeo Vice-President, Research and Development	Interprovincial Steel and Pipe Corporation Limited Regina, Saskatchewan
Mr. Paul Ivanier President	Ivaco Industries Limited Marieville, Québec
Mr. Jack Blucher Vice-President, Sales	Lake Ontario Steel Company Ltd. Whitby, Ontario
Mr. J. S. Campbell Vice-President and General Manager	Manitoba Rolling Mills Division of Dominion Bridge Co. Ltd.
Dr. K. Stegemann Associate Professor of Economics	Queen's University Kingston, Ontario
Mr. Jean-Paul Gignac President	Sidbec-Dosco Ltée Montréal, Québec
Mr. Bruce M. Hamilton President	Slater Steel Industries Limited and Burlington Steel Company Hamilton, Ontario
Mr. A. R. McMurrich Vice-President	The Steel Company of Canada, Limited Toronto and Hamilton, Ontario
Mr. W. Walsh Vice-President	Steel Alberta Limited Calgary, Alberta

Mr. Tom Kent  
President

Sydney Steel Corporation  
Sydney, Nova Scotia

Mr. E. Gerard Docquier  
National Director

United Steelworkers of America (1)  
Toronto, Ontario

Mr. R. W. Keyes  
Chief Economist

Western Canada Steel Limited  
Vancouver, British Columbia

Provincial Representatives

British Columbia

Mr. Lorne Sivertson  
Director  
Ministry of Economic Development

Manitoba

Mr. Donald Elliott  
Director  
Department of Industry and Commerce

Ontario

Mr. Frank Plumb  
Senior Policy Coordinator  
Ministry of Industry and Tourism

Québec

M. Patrick Hyndman  
Assistant Deputy Minister

M. Jean Racine  
Industrial Counsellor

M. Alain de Condé  
Assistant Director  
Ministry of Industry and Commerce

Saskatchewan

Mr. Donald Jesse  
Program Manager  
Department of Industry  
and Commerce

Industry Observers

The Algoma Steel Corporation, Limited  
Sault Ste. Marie, Ontario

Mr. Fred Potter  
Manager of Commercial Research

(1) The United Steelworkers of America have advised that, regretfully, they must disassociate themselves from this Task Force Report.

Dominion Foundries and Steel Limited  
Hamilton, Ontario

Mr. R. Varah  
Director, Commercial Development

Interprovincial Steel and Pipe  
Corporation Limited

Mr. John Tulloch  
Market Research Supervisor

Lake Ontario Steel Company Limited  
Whitby, Ontario

Mr. Lew Hutchinson  
Vice-President, Operations

Sidbec-Dosco Ltée  
Montréal, Québec

Mr. John M. Ellis  
Senior Vice-President

Burlington Steel Company  
Hamilton, Ontario

Mr. A. Gordon McDonald  
Vice-President, Marketing

The Steel Company of Canada, Limited  
Hamilton, Ontario

Mr. George Waters  
General Marketing Manager

Mr. Richard Chataway  
Manager, Economics Department

Mr. Jock C. McKay  
Director, Research and Development

#### Labour Alternates

Mr. Stewart Cooke  
Director

United Steelworkers of America  
Toronto, Ontario

Mr. Paul Lepage  
Directeur

United Steelworkers of America  
Bathurst, New Brunswick

Mr. Paul Brennan  
Research Department

United Steelworkers of America  
Toronto, Ontario

#### Federal Observers

Department of Finance

Department of Energy, Mines and Resources

Department of the Environment

Department of Industry, Trade and Commerce

Department of Labour

Department of Regional Economic Expansion

Secretary: Mr. E. J. Ward  
Director General  
Resource Industries Branch  
Department of Industry, Trade and Commerce

REPORT OF THE STEEL INDUSTRY CONSULTATIVE TASK FORCE

REPORT OF THE STEEL INDUSTRY CONSULTATIVE  
TASK FORCE

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1. Objectives of the Report

In light of Canada's need for increasing economic activity and growth of employment, the objectives of the Steel Industry Task Force were:

- (i) To examine economic and institutional factors influencing the performance of the Canadian steel industry.
- (ii) To record specific recommendations for actions by governments which will lead to improvement in the business environment in which the industry has to operate.

2. Recommendations

The Canadian steel industry is a vital link in the Canadian economy and provides the fundamental base for the continuing expansion of a competitive, Canadian secondary manufacturing sector. In recent years, however, the strengths and competitiveness of the Canadian steel industry have been threatened by widespread uncertainty, pervasive inflation, a hostile world trading environment for steel, and declining profitability.

In the light of these problems and to permit the industry to continue and expand upon its significant contribution to the Canadian economy, the steel industry makes the following recommendations for governments' consideration:

- (i) The creation of an international trading environment that removes obstacles to fair trade, especially non-tariff barriers, while protecting the domestic industry from unfair trading practices such as subsidies or predatory pricing.
- (ii) A commitment by all levels of government to reduce the public sector's share of the Gross National Product. Concomitantly, governments should create a more attractive investment climate and, through imaginative fiscal policies, increase the appeal of business investment in the private sector.
- (iii) Government policies should recognize certain problems unique to regional steel mills notably their vulnerability to scrap shortage, the regional impact of dumping, and inconsistencies in current transportation policies.
- (iv) The industry urges that the total impact of environmental legislation be fully evaluated on a cost-benefit basis recognizing both the interests of society and the steel industry. Legislation should be formulated and enacted in such a manner as to permit rational, long-term planning.
- (v) Federal and provincial governments should review transportation policies and practices with the aim of encouraging a fair, equitable, and efficient transportation network which will reflect the real costs of moving material.
- (vi) Although concerned about the whole question of export subsidies, the industry believes it prudent to await the outcome of the current GATT/MTN negotiations before making specific recommendations. The industry recommends that the federal government should be more selective in its financing of projects in foreign countries, to avoid any irreparable injury being inflicted upon efficient domestic producers.
- (vii) As Canada is a scrap deficient country, scrap exports to offshore countries should be monitored, and, if necessary, controlled, if Canadian

supply is threatened. The federal government should investigate the possibility of negotiating a reciprocal scrap trade agreement with the U.S.

- (viii) Government policies should encourage the exploration and development of competitive domestic energy supplies, encourage research and development on alternative forms of energy, and establish appropriate incentives to encourage reduced energy consumption.
- (ix) Government research organizations should be structured along industry sectoral lines to enable improved interface with, and participation by, industry representatives. Government research and development programs should be simple, efficiently administered, and equitable for all companies, irrespective of size.

### 3. Industry Background

The Canadian steel industry is primarily privately owned, with the exception of some provincial government ownership in Québec, Nova Scotia, and Saskatchewan. Foreign ownership is not significant. Employment approximates 50,000 persons and annual sales approach \$4 billion. There are producing plants in seven of the provinces. In addition to being a major purchaser of raw materials, notably iron ore, as well as equipment, supplies and services in Canada, the industry is a fundamental source of steel for Canada's manufacturing sector.

The Canadian steel industry is largely domestically oriented, although it exports in the order of 15 per cent of production, mainly to the U.S. Companies are in two main categories -- large integrated producers, who smelt from ore, and smaller non-integrated regional producers who operate electric furnaces fed primarily by scrap. The three largest integrated plants are located in Ontario but there are provincially-owned integrated producers in Québec and Nova Scotia. The integrated companies produce the greatest diversity of product including bars, rods, rails, structurals, shapes, plate and sheet. The non-integrated mills have concentrated on producing rods and bars, except Ipsco which produces only flat-rolled products, most of which are further processed into tubular products. There are twelve non-integrated, scrap-based plants located across the country.

Canada has only one full line specialty steel producer -- Atlas Steels -- operating one plant in each of Ontario and Québec. Its product range comprises bars, rods, and forgings, as well as flat-rolled forms including sheet, plate and strip.

It is generally accepted internationally that Canada's steel industry has been progressive. It has contributed significantly to Canada's growth in manufacturing output and employment. Despite its domestic orientation, the industry is exposed to substantial adverse effects from the actions of foreign steel producers, notably dumping and predatory pricing.

Two main features tend to characterize current world steel capacity. First, it is heavily concentrated in the mature economies (the U.S., EEC and Japan account for approximately 75 per cent of the free world's steel capacity), and second, it is substantially influenced by governments (virtually 75 per cent of the world's steel capacity is government owned or controlled).

Recent operating rates in Europe, Japan and the United States have been disastrously low for such a capital intensive industry, leading to greater rationalization of plant facilities, plant closures, shelved expansion plans and a variety of government support and assistance programs. Despite these cutbacks, surplus world steel capacity is expected to continue through the medium term.

The longer term outlook indicates a growing shift in the balance of steel capacity away from the mature economies. The developing countries, conscious of their internal steel demand growth needs and perceiving a world steel market available for absorption of excess production, are embarking on very deliberate, often government supported, steel industry creation programs. Lower labour and construction costs, coupled with a

perceived widespread availability of raw materials and steelmaking technology, support this almost universal desire of governments to have their own steel industries. A major shift in steel capacity location is inevitable and by 1980, it has been estimated that 84 countries will be producing steel, compared to 32 countries in 1950. While many planned projects now lie dormant, they can be quickly reactivated. As a bloc, the developing countries are said to be targeting to produce 30 per cent of the world's steel output by the year 2000 compared to approximately 10 per cent of current levels. In trade terms, this trend will have a double-barreled effect. As an import displacement program, it will affect world steel exporters who have traditionally served these developing countries. In addition, the conscious drive to develop export markets for surplus production poses a serious threat to the domestic markets of all steel producing countries, but particularly Canada and the U.S. where the steel industries are largely privately-owned.

#### 4. Economic Assumptions

In its examination of issues, the Task Force began with the following assumptions:

- that there will be a stable political and economic climate in Canada;
- that the long-run growth rate in the Canadian economy will probably approximate 4 per cent annually, somewhat lower than the rate prevailing in the last two decades;
- that growth in Canada's secondary manufacturing sector will be encouraged by governments at all levels;
- that government in pursuing policies of trade liberalization under the stated objectives of the MTN will take due account of the increased vulnerability of the industry arising from reduction of tariffs, and of the need for appropriate safeguards against unfair foreign competition in the domestic market;
- that the industry will not become an instrument of public policy. Decisions to operate, develop and expand the industry will be based on normal forces within the marketplace;
- that the private sector will continue to be the major source for funding investment in the industry.

#### 5. Issues

The Task Force has delineated a number of major issues which it feels require immediate government consideration and concerted action to ensure the continuance of a healthy, viable steelmaking industry in Canada.

- These are:
- A. Tariffs and Trade
  - B. Finance
  - C. Regional Development
  - D. Environment
  - E. Transportation
  - F. Export Incentives
  - G. Scrap
  - H. Energy
  - I. Research and Development
  - J. Industrial Relations

This list is by no means conclusive. Time constraints imposed on the Task Force precluded wider examination.

#### A. TARIFFS AND TRADE

The Task Force is conscious of Canada's dependence on international trade and supports the government's general commitment to trade liberalization to ensure continuing access to export markets for Canadian goods. However, greater tariff



reductions alone may not be beneficial to Canada under current world trade conditions in the steel sector. Steel development has become closely linked throughout the world to national and social policies and has been singled out in other countries for preferred government treatment, either as a target industry to be pushed for growth, or as a highly visible industry to be supported in order to maintain social objectives, such as full employment.

Recent protective actions by the EEC and the United States are the latest evidence that international trade forces do not run natural courses in the steel sector. Because of this high degree of government sensitivity and involvement, steel trade is unlikely to follow the predicted course of trade liberalization theory.

Even if genuine trade liberalization could be achieved for steel, a number of other factors limit the export ability of the Canadian steel industry. As independent studies, and the industry's own operating experience, have indicated, Canada has no significant cost advantages in steel production.

The continuing health of the Canadian steel industry, thus, continue to depend on the future growth of the Canadian secondary manufacturing sector. The relatively open Canadian market is vulnerable to dumped and subsidized imports from third world countries, especially during international market recessions. These periodic market disruptions accentuate the normal swings in steel demand, bringing particular hardship to both national and regional producers, and distort the planning ability of the entire steel industry. Deprived of markets and earnings, equipment modernization is curtailed and opportunities for diversification, expansion of capacity, and increase in employment are lost.

In light of these factors, the Task Force puts forward the following recommendations for consideration:

- (i) Since the future of the industry depends on a sound and growing domestic market demand, governments must attach greater importance than in the past to Canada's need for a strong, growing domestic secondary industry, and develop appropriate policies.
- (ii) Reduction of Canadian tariffs increases the vulnerability of Canadian steel producers and their domestic customers to foreign competition. Mechanisms must be established to identify and control unfair trading practices. Our MTN negotiators should press for an international code of conduct in respect to subsidized exports and delineation of practices considered unfair, which recognize the wide variety of government assistances and reliefs apparently available to steel producers in foreign countries. Canada must set up a system for early identification of imports supported by such practices, and for the speedy application of appropriate countervailing measures.
- (iii) Multilateral tariff reductions in themselves are not expected to create additional export opportunities for Canadian steel products. Liberalization of trade will be a positive development only if solutions can be found to a number of other problems associated with steel trade especially non-tariff barriers, subsidies and safeguard measures.
- (iv) The results of the Tokyo Round will have differing impact on companies within the industry. Any boards set up to examine dislocation and adjustment assistance should include representatives of both industry and labour.
- (v) With the increase of world-scale export-oriented steel production in developing countries, the relatively open-ended nature of the Canadian General Preferential Tariff is of concern. Consideration should be given to establishing a specified ceiling on imports under the G.P.T. for steel and steel-consuming products, similar to those applied by the EEC, or Japan. The U.S. has excluded steel products from its G.P.T. agreement.

- (vi) Separation of alloy, including specialty steels, from carbon steels should be undertaken in the Customs Tariff. Rates of duty for alloy and specialty steels should be set at levels which are consistent and equitable with those of our trading partners.
- (vii) With the overall maturing of the Canadian economy, many "end-use" tariff items have long outlived their historical justification. Similarly, tariff items for steel and steel-consuming products that carry specific duty rates have become emasculated by price changes and inflation. A government task force should be set up to examine such items, and should include representatives of the steel producers, and the steel consuming sectors that might be affected.
- (viii) There is increasing international demand for design, supply and construction related to large-scale development projects. As an aid to efficiency and international competitiveness, Canada needs a mechanism, beyond conventional export financing, to encourage the formation of consortia for such undertakings. Active government involvement would be advantageous.
- (ix) Arising from recent protectionist moves in Europe and the United States, trilateral discussions are taking place among the EEC, Japan and the U.S., apparently aimed at resolving steel trade issues either within the GATT or in some other forum. Since there are many implications for the Canadian steel industry, we urge our government to monitor these developments closely and to participate to the maximum extent possible.

The Task Force recognizes that the cost of any protective measures must be evaluated within the framework of the Canadian economy as a whole. Care must be taken not to place Canada's steel-using industries at a disadvantage compared to their major world competition.

#### B. FINANCE

A firm commitment by governments to reduce the public sector's total revenue as a per cent of Gross National Product is necessary to restore business confidence; piecemeal modifications to the Canadian tax structure are not a substitute.

Enormous amounts of capital are required if business is to carry out essential expansion and modernization programs. A serious problem is the scarcity of investment capital induced by low rates of return on investment. The private sector's financing problems have been accentuated in recent years as a result of rampant inflation, economic and political uncertainties, increased government interference in business activities, as well as an apparent attitude of indifference to the requirements of private enterprise. As a consequence, many companies are saddled with a large debt burden and insufficient share ownership in their capital structures. In the future, there is a risk that the increased borrowing requirements of governments will reduce financial resources available to the private sector. Recent government tax initiatives are beneficial, but further solutions must be found to enable corporations to raise needed equity capital in the financial markets and to increase internally-generated cash flow, an important source of funds for expansion and modernization projects.

The primary need at this time is for improved profitability in the steel industry to provide the large cash flows required for capital investment. As the international competitive environment can only get tougher over the next decade, the underlying thrust of government policy should be investment-oriented to encourage capital formation, thereby improving Canada's industrial base and increasing employment.

It is in this context that the following recommendations are made (time constraints and confidentiality of individual company information preclude an estimate of the financial impact of these measures):

- (i) Government policy should concentrate on making business investment in the private sector more attractive to investors. In particular, equity investment must be encouraged to assist companies with heavy fixed debt

positions in raising essential share capital. The government should encourage innovative forms of equity financing such as floating-term preferred shares.

- (ii) Government policies should be aimed at creating a stable tax structure to minimize uncertainty and to facilitate a rationalized long-range planning program in the business sector.
- (iii) Governments have recognized, to a degree, the adverse impact of inflation on real profit margins by introducing the 3 per cent inventory allowance. Consideration should be given to increasing the inventory allowance to reflect the actual rate of inflation, or to permit the LIFO method of inventory valuation.
- (iv) In applying the investment tax credit on the cost of new production equipment, buildings and eligible research and development, the capital cost of the asset used for computing depreciation should not be reduced by the amount of the tax credit. To ensure the tax credit can be fully utilized, it should apply for longer periods with generous carry back and unlimited carry forward provisions for unused credits. To encourage capital investment, consideration should be given to an additional general increase in the investment tax credit rate.
- (v) Pollution-control facilities are not revenue-producing assets, and in fact increase operating costs. Consideration should be given to setting the investment tax credit on pollution control equipment at a higher rate than that applicable to production machinery and equipment.
- (vi) Pre-existing federal tax incentives for iron ore mining and processing should be restored to encourage development of new Canadian mines. Thus the three-year tax exemptions for new mines, automatic depletion allowances and depletion allowances on dividends should be re-installed. The 25 per cent resource allowance currently allowed on profits accruing from domestic iron ore processing should be extended to the processing of foreign ores in Canada. Provincial governments should harmonize their tax environments to ensure increased exploitation of domestic iron ore resources.
- (vii) All machinery and equipment used directly or indirectly in manufacturing and processing operations should be exempt from federal and provincial sales taxes. The present definition of such machinery and equipment in the federal statute should be adopted by the provinces.
- (viii) The government should guarantee that the present regulations allowing manufacturing companies a two-year write-off period for production equipment will not be changed without advance notice of at least five years. Planning for capital-intensive projects can take from one to two years, then require a construction period of another one to two years. A five-year guarantee for fast write-offs would be of significant help to manufacturing companies in planning their expansion programs.
- (ix) A greater degree of fiscal harmony between federal and provincial governments leading to the adoption of a uniform income tax act for both federal and provincial purposes would reduce administrative costs. Both levels of government should permit filing of consolidated tax returns.
- (x) Municipal taxes also represent a substantial cost to industry. Provincial governments should ensure that there is no significant shift in the tax burden to industry resulting from changes in assessment valuation practices.

C. REGIONAL DEVELOPMENT

Regional steel mills are confronted by a special set of problems, relative to raw materials (notably scrap), trade policies, and transportation costs.

Many regional steel mills are entirely dependent on scrap as their prime raw material ingredient. Both the volume of supply and the prices at which scrap is available have significant effects on the viability of scrap based steelmaking operations.

Regional producers located near salt water are particularly vulnerable to competition from offshore imports. A reduction in tariffs will accentuate this vulnerability and increase the need for protection against unfair trade. Greater emphasis must be placed on regional consideration in appraising "material injury" by government officials and tribunals than heretofore.

The question of transportation cost effects on regional mills is controversial, and requires in-depth study. Although transportation issues are a major concern of regional steel mills, they are also part of a wider problem affecting the steel industry country-wide, and, as such, are discussed in more detail in the transportation subsection of this report.

The Task Force agrees with the basic conclusions of the First Ministers' Conference with respect to regional policies and recommends the following initiatives:

- (i) Canada's export policy for scrap should be formulated with due recognition of regional needs.
- (ii) Procedures under Anti-dumping and Countervail Legislation should recognize the vulnerability of regional mills.
- (iii) Provincially controlled steel plants have incurred substantial deficits in recent years. Government investment or support of deficits in the steel industry should be based on economic viability. Investment programs by governments should be complementary to, rather than competitive with, the profitable segments of the industry.

#### D. ENVIRONMENT

The steel industry in Canada accepts the need for and has responded to the challenge of improving pollution controls at its facilities. However, because of its capital-intensive nature, the low rates of return on investment and vulnerability to international price competition for its products, the industry is concerned that non-rational legislation or legislation subjected to rapid change in content, interpretation and application will seriously impair its viability. The industry, therefore, urges that the total impact of environmental protection be fully evaluated. Legislation should be formulated and enacted in such a manner as to permit rational long-term planning.

The Task Force, while recognizing the need for protecting the environment, makes the following recommendations:

- (i) That standards should be based on broadly accepted scientific principles and developed in consultation with the industry on a cost-benefit basis recognizing both the interests of society and those of the industry.
- (ii) That there be greater co-ordination of federal and provincial jurisdiction in pollution control standards.
- (iii) That governments continue to recognize that the economic cost of enforcing new standards on existing plants may be excessive and, in turn, may inflict undue hardship on the community, local and national.
- (iv) That part of the cost of installation of pollution-control equipment be undertaken as a social cost by the community rather than solely as a private cost to the company.

E. TRANSPORTATION

Transportation is often a significant component in the final delivered costs of bulk commodities such as steel and many steelmaking raw materials. High freight rates are a major factor inhibiting increased consumption of domestic raw materials, such as iron ore, coal and scrap, and the resulting widespread dependence on non-Canadian sources raises important security of supply considerations. Rapidly escalating rail freight rates on supplies and finished steel products continue to erode the markets for many Canadian steel producers. Freight cost differentials are accentuated in world recessions, when ocean freight rates become severely depressed, greatly increasing the competitiveness of offshore steel at the expense of domestic supplies that are handicapped by ever-increasing internal freight costs. The industry is also concerned about the high transportation cost component in the final delivered costs of many forms of energy.

The industry thus recommends:

- (i) That federal and provincial governments should review thoroughly transportation policies and practices with the aim of encouraging a fair, equitable and low cost transportation network, which will reflect the real costs of moving materials including energy commodities.
- (ii) That national rail carriers adopt more consistent and competitive pricing policies to assist long-term planning within the steel industry.
- (iii) That government policies designed to restrict coastal trade to solely Canadian vessels be reviewed. The steel industry is deeply concerned that current policies will result in markedly higher freight rates for domestic users, compared with those prevailing through unrestricted shipping trade.

F. EXPORT INCENTIVES

Canadian exporters benefit from certain export incentives such as duty drawbacks, EDC financing, and the Program for Export Market Development. On the other hand, the Task Force recognizes that export subsidies are an undesirable element in international trade. The Task Force recommends:

- (i) Changes in export incentives should await the outcome of further examination in the current GAAT/MTN negotiations.
- (ii) Given a general international acceptance of export incentives and subsidies, however, Canadian steel producers would expect equivalency, particularly with regard to practices adopted by the U.S., its predominant export market.
- (iii) The federal government should direct the Export Development Corporation to limit participation in foreign developments to those that respond to local consumer demand or high export demand not already being adequately satisfied. Additionally, the government should seek the support and agreement of other OECD nations with respect to the adoption of this policy by member nations.

G. SCRAP

The Canadian steel industry requires long-term and competitive scrap supplies. Canada has a significant scrap deficiency, although the seriousness of the problem varies substantially on a regional basis. The future demand for scrap is expected to accentuate the deficiency further, even though pre-reduced iron could, to some extent provide some compensatory iron units. Against this background of scrap deficiency, the steel industry is deeply concerned about the level of scrap exports and seeks to ensure reasonable availability of domestic scrap for Canadian steel producers. The major problem is the export of scrap to offshore countries where steel plants are often government-owned and the price paid for scrap is of secondary importance.

The Task Force recommends:

- Revision of the export permit system to control and monitor scrap exports to offshore countries and to restrict these exports if Canadian supply is threatened. Restriction of scrap sales to the U.S. market is generally unwarranted, assuming control exists over direct sale to U.S. exporters and assuming unrestricted supply from the U.S. to Canadian consumers.

In the event that either Canada or the U.S. takes steps to restrict scrap exports, a reciprocal scrap trade agreement should be negotiated. Canada should immediately initiate discussions with the United States to arrive at such an understanding.

#### H. ENERGY

Steelmaking is an energy-intensive process with up to 30 per cent of production costs relating to energy purchases. In the past, Canada has enjoyed some competitive advantage in energy costs for natural gas, electricity and oil. However, the rapidly escalating costs of energy, plus the costs of transporting it, are a cause of grave concern to the Canadian steel industry.

It is recognized that the high cost of developing energy reserves for the future requires higher prices today to provide the investment returns necessary to fund this development. To ensure the continuing competitiveness of the steel industry, however, steps must be taken to ensure that the costs of energy in Canada do not grow more rapidly than those of the major competing nations.

The Task Force recommends:

- (i) Encouragement of exploration and development, by the private sector, of all forms of energy to increase substantially its long-term availability.
- (ii) Encouragement of research and development into reducing energy costs.
- (iii) Establish appropriate incentives to encourage reduced energy consumption in the steel industry.

#### I. RESEARCH AND DEVELOPMENT

Most government research organizations currently have a technical discipline orientation. The growing recognition of industry sectors suggests a sectoral organization of government research bodies to improve the effectiveness of the interface and communication with industry. It follows that the recently formed Natural Sciences and Engineering Research Council could and should have increased sectoral representation.

Strategic grants, introduced in January, 1978, and extended in June, 1978, are intended to initiate and accelerate university research in areas of national concerns. The identification of further areas, beyond energy, environmental toxicology and oceanography should be made in consultation with industry sectors.

Of paramount concern to the nation is industrial productivity. Barriers to technological progress in the Canadian iron and steel industry should be systematically researched. Technology is the largest single contributor to productivity.

The R and D sections of the Enterprise Development Program (EDP), as now formulated, are of little value to the Canadian iron and steel industry, as steel companies are unable to meet the eligibility criterion of "significant burden". Government programs should be simple and efficiently administered, enabling all companies, large and small, to compete for grants on an equal basis.

The Task Force recommends:

- (i) Government-operated laboratories should be reorganized along industry sector lines.
- (ii) The recently formed Natural Sciences and Engineering Research Council (Bill C26) should be organized along sectoral lines with representatives nominated by the sectors.
- (iii) The "strategic" grants introduced in January, 1978, and extended in June, 1978, should be further extended, and the selection of areas of national concern should be made in consultation with industry sectors.
- (iv) The present tax incentives for R and D should be modified by increasing the "Investment Tax Credit" for R and D from a basic 5 per cent to 10 per cent, and by extending the base on the 150 per cent tax deduction from 3 years to 5 years.
- (v) The R and D section of the existing Enterprise Development Program (EDP) should be modified to result in a single R and D support program based on technical merit, risk, and potential to enhance the Canadian economy.

#### J. INDUSTRIAL RELATIONS

The current pattern of industrial relations in the Canadian steel industry has advanced in mutual appreciation and co-operation over the past several years to the point that standards in several major areas surpass those existing in the majority of industrial or civil employee relationships.

The steel industry has been a major employer in Canada, with a record of reasonably stable employment, and competitive wage and benefit programs. While steel manufacturing is identified as "heavy industry" with some jobs classified as arduous, physical or dangerous, the industry has given priority to safety, health and working environment of the employee, and in establishing work standards. Continuing attention and action is being directed to the evaluation and treatment of health and social problems related to the work environment in the industry.

Industrial relations practice within the Canadian steel industry has proved its capability to identify and resolve its own particular issues and problems, and does not want, or require, direction or interference from outside bodies.

#### CONCLUSIONS

Steel continues to be a cornerstone in the economies of advanced industrial nations, including Canada. In addition to being a major direct employer of people, the Canadian industry generates significant indirect employment,

- as an important purchaser of Canadian raw materials, equipment, supplies and services;
- as a secure and competitive supplier of steel products to the Canadian manufacturing sector.

The Task Force believes that expansion of Canada's manufacturing base, in line with the government's declared policy of resource upgrading, requires that the viability and competitive position of the domestic steel industry be maintained. For this to occur, governments must create productive and harmonized taxation policies, rational and equitable transportation policies, co-ordinated and moderate environmental control legislation. While encouraging a competitive trading environment, governments must also be prepared for, and take, firm action against predatory or unfair imports into the Canadian Market.

Given such policies, the Task Force feels that the Canadian steel industry will continue the generation of employment and maintenance of a firm foundation for a

competitive secondary manufacturing sector. In so doing, the industry may be expected to expand its usage of Canadian materials, equipment, supplies and services so long as they remain competitive.

The industry is committed to the alleviation of regional disparities, where economically justified, in line with the government's commitment to national unity.

The Task Force concludes that the Canadian steel industry sector is one of the more efficient in the Canadian economy, and unlike many of its counterparts in the rest of the world, has generally been profitable. In recent years, however, the industry's financial position has deteriorated, due in large measure to serious inflation, economic and political uncertainties and the time-consuming and costly burden of government impositions.



The following profile of the Canadian Primary Iron and Steel Industry was developed by the Sector Task Force on the Canadian Primary Iron and Steel Industry from a profile prepared by the federal Department of Industry, Trade and Commerce.

**SECTOR PROFILE**

**THE CANADIAN PRIMARY IRON  
AND STEEL INDUSTRY**

# THE CANADIAN PRIMARY IRON AND STEEL INDUSTRY

## DEFINITION OF THE INDUSTRY

The primary iron and steel industry consists of those firms which produce steel and roll it into primary mill shapes. The definition falls within SIC 291 but does not include the steel foundries, ferro-alloy plants, foundry iron plants or the re-rollers of steel, which are included in the statistical group.

## CHARACTERISTICS OF THE INDUSTRY

The industry falls into two main groups each having two important subdivisions. The two main groups are the integrated producers who operate blast furnaces, coke ovens and steelmaking facilities; and the non-integrated producers who operate electric furnaces fed primarily by steel scrap\*. Both groups have rolling facilities. There are four integrated mills in Canada. The three in Ontario are of economic size and efficient and profitable. The fourth integrated plant is located at Sydney, Nova Scotia. It is not of economic size and needs to be considered separately from the rest of the industry because of regional social considerations. This plant, which with age has become relatively inefficient, is in severe financial difficulty.

In addition to the four integrated plants there are 14 scrap-based non-integrated plants located across the country. Twelve of them make carbon steels in competition with the integrated mills, while the other two (both operated by Atlas Steels) produce specialty steels for national distribution and for export. The specialty steel business is quite different from the tonnage steel business and needs to be considered separately.

The optimum size for an integrated steel plant is much greater than for the non-integrated scrap-based plant. For the former, the minimum optimum size is not less than 3 million tons and economies of scale rise at a diminishing rate to capacities in the region of 10 to 12 million tons in single steelmaking complexes. On the other hand a non-integrated plant producing bars can operate effectively at 200,000 tons per annum. The three integrated mills in Ontario are all more than 3 million tons, and the largest is nearly 6 million tons, the maximum capacity which can be developed on that site. The Sydney mill with a steelmaking capacity of 1 million tons is below the minimum optimum capacity.

It should be noted, moreover, that it is more economic, particularly for an integrated steel plant, to add capacity to existing plants than to build steelmaking complexes on a "green field" site. A new site requires completely new infrastructure and skilled labour which may not be available in the selected area and must be trained or transferred. The Steel Company of Canada is developing at Nanticoke the first new green fields integrated plant to be built in Canada for three-quarters of a century. The location of new steel complexes on green field sites in Europe is almost equally rare.

The non-integrated producers of tonnage steels compete directly with the integrated producers in regional markets although their product range is usually narrow and often concentrated on concrete reinforcing bars, fence posts and small sized shapes. The production of tonnage steels in mini-steel mills has been more successful and has flourished more in Canada than perhaps in any other country in the world. The conditions for its success are:

- (a) freight protection from the competition of integrated steel mills or alternatively;
- (b) low steel scrap prices because of chronic local surpluses of steel scrap;
- (c) secure supplies of scrap in quantities adequate to support the output of the mill (usually a regional preferred buying position);
- (d) a local or regional market sufficiently large to buy the output of the mill;
- (e) relatively low electric power costs;
- (f) good transportation facilities and water supplies.

These conditions existed for all the mini-steel mills built in Canada during the 1950s and early 1960s. The concentration of integrated steel production in Ontario left room for the establishment of scrap-based regional mills in other provinces. A number of these mills have come to rely upon higher priced imported scrap from the United States, the future availability of which is uncertain. Conditions for the establishment of new mini-mills are now less favourable than they were because steel scrap, which was once plentiful in many

\*The Sidbec-Dosco mills now rely heavily upon sponge iron pellets directly reduced from iron ore and in a sense are integrated back to iron ore. This, plus the size of the operations (expanding to 1.45 million metric tons this year), makes Sidbec-Dosco a rather special case.

parts of Canada and the United States, is becoming increasingly scarce. The prospects for establishing successful new mini-mills in the foreseeable future must be regarded as poor. Existing mills will need all the available scrap in order to expand.

Specialty steels include stainless steels, tool steel and high performance steels used for aerospace, armaments and atomic energy applications. Whereas common steels are sold by the ton, specialty steels are priced by the pound. The requirements for success in specialty steel production differ from those enumerated for tonnage mini-mills. Technical competence, marketing ability and metallurgical service to customers are important factors and tool steel stocks in a wide variety have to be carried in all major market areas to provide fast deliveries. Unlike most tonnage mills, the specialty steel mills serve the whole Canadian market.

**Primary Iron and Steel Mills by Province – Jan. 1, 1977.**

	<i>No. integrated</i>	<i>No. Non-integrated</i>	<i>Crude Steel-making cap. Metric Tons</i>	<i>Per cent</i>
Nova Scotia	1	—*	900,000	5.4
Quebec		5**	1,259,000	7.6
Ontario	3	4	13,308,000	80.1
Manitoba		1	178,000	1.1
Saskatchewan		1	500,000	3.0
Alberta		2	281,000	1.7
British Columbia		1	181,000	1.1
	4	14	16,607,000	100.0

\* A small plant at Amherst has closed down for an indefinite period.

\*\* This includes Q.S.P. Ltd. which went bankrupt and whose facilities are currently idle.

Information on individual steel companies is set out in some detail at the end of the appendices.

The principal raw materials used in iron and steel manufacture are coal, iron ore and steel scrap. Approximately 90 per cent of the coal used by the integrated mills is imported from mines in the United States in which some of the Canadian steel companies have equity. Since 1974, the U.S. steel industry has lobbied its government to implement export control of metallurgical coal. Due to the uncertainty of continuing supply of coal from the U.S., the Canadian mills have started to use trial quantities of coal from Cape Breton and western Canada. Transportation costs on coal from western Canada to Ontario, however, are \$14 per ton more than on coal imported from the United States. If the Ontario mills had to rely upon western coal supplies instead of American, their total energy costs would increase about 20 per cent.

There is an abundance of iron ore in the world, and the security of iron ore supplies is not a problem. Canada produces 55 million tons per annum of which 45 million tons is exported. In recent years, Canadian mills have been investing in iron ore mines in the Lake Superior area of the U.S. The major iron ore mines in Canada are in the Quebec/Labrador trough, but smaller mines operate in various parts of Ontario. West of Ontario there is little production of iron ore and known unworked deposits are low grade and difficult to beneficiate.

Steel scrap, the principal raw material for non-integrated steel mills, is generated either in metal-working plants or by consumer product obsolescence. Scrap generation arises where there are concentrations of industrial activity and/or population.

Labour supply has not presented major operational difficulties but could pose problems for new entrants to the industry attempting to start new plants from scratch outside traditional steel producing locations. The industry pays relatively high wages and generally is able to attract labour to where it is needed. Immigrants have contributed significantly to the labour supply in the past and the mills have also attracted labour from the less industrialized areas of Canada. There have been, of course, skill shortages from time to time which have been overcome and future problems of this kind are expected to be manageable. Labour relations in the industry are considered to be *relatively* good. For example, over the years 1970-75 the average time lost in industrial disputes per 1,000 workers was 962 days for iron and steel compared with 3,126 for total manufacturing.

The steel industry in Canada is primarily privately owned by Canadians. Foreign ownership is significant in the case of two non-integrated producers which account for only a minute share of Canadian output. The four large integrated producers (Stelco, Dofasco, Algoma and Sydney) are either wholly or predominantly

owned by Canadians. Stelco, Dofasco and Algoma are privately owned and account for 75 per cent of Canadian output; Sydney Steel is owned by the Province of Nova Scotia. The governments of Quebec, Saskatchewan and Alberta have interests in steel companies. Only Quebec and Nova Scotia are majority shareholders.

Both the mill at Sydney and the Sidbec/Dosco mills, owned by the Province of Quebec, have, on the overall position, lost money over the last 12 years. The three integrated producers in Ontario earned profits before tax and interest averaging 10.6 per cent of total assets over the period 1964-75. The comparable figure for all manufacturing was 10.7 per cent. On average, non-integrated producers have fared less well, averaging only 6.1 per cent profit before taxes and interest on total assets employed, bringing the Canadian steel industry average down to 9.2 per cent. However, the performance of the non-integrated companies have varied from better than the big three, (as has been shown by IPSCO) to substantially less well. There has been a relative decline in the profitability of the steel mills in recent years. From 1970-75 the three integrated mills earned 10.3 per cent before tax and interest, while the average for all manufacturing rose to 11.5 per cent. Even though the earnings of the Ontario integrated producers were below the average for all Canadian manufacturing, their performance compared favourably with most other steel producers in other countries.

While the Canadian steel industry in the aggregate is among the more profitable throughout the world, the production of steel normally generates only moderate rates of return. Profits fluctuate widely over time and vary significantly from firm to firm.

Instability in profits is attributable partly to fluctuations in demand coupled with the high fixed costs of producing steel which create a strong impetus for dumping. Return in these circumstances can easily swing from high profitability to losses over the course of a single business cycle. Between 1964 and 1975, the industry has had average, after tax, rates of return on equity as low as 6.4 per cent and as high as 13.1 per cent.

The level of government involvement in the world steel industry is also an important factor in explaining the industry's profit record. According to the latest estimates of the International Iron and Steel Institute, 72 per cent of the world's steel industry is government owned or has government financial participation while in Canada more than 90 per cent of output is produced by privately-owned mills.

The Eastern Bloc countries and China possess 34 per cent of the world's steelmaking capacity. Steel companies in the Western World which are government-owned or controlled include: The British Steel Corp.; Norrbottens, Sweden; Norsk Jernverk, Norway; Voest, Austria; Finsider, Italy; Salzgitter, West Germany; Ensidesa, Spain; ISCOR, South Africa; New Zealand Steel Ltd., New Zealand. The entire French steel industry has enormous debts to the French Government, roughly equal to the total turnover in 1976, and for many years has been more or less under state control. The same situation now prevails in Belgium. In Japan the government exercises control over the steel industry partly through the traditional consultative mechanisms between government and industry, but also more directly through the channelling of investment funds from the Bank of Japan. Thus, while the Japanese steel industry is nominally privately owned, it is very responsive to government policy. New steel complexes in developing countries such as Brazil, India, Peru, Mexico and Venezuela are government controlled, and this trend will continue in other developing countries.

Governments often base their decisions on social costs and benefits. Thus, although a steel mill may be losing money according to conventional accounting methods, it may still be considered in the national interest to support the plant. In these circumstances, losses based on conventional accounting methods can be enormous; British Steel Corporation for example, lost £255m in 1975 and £95m in 1976 after averaging profits of £42m p.a. during 1972-74.

## **MARKET FACTORS**

Two major influences affect the market for steel. The first is that the business cycle plays a dominant role in the level of demand. The second is that world trade in steel is carried on at prices which frequently do not cover the average total costs of the exporters. The potential margin for dumping steel (the difference between marginal and average total costs) is of the order of 30-40 per cent of normally remunerative prices, and in some cases may be in excess of 50 per cent. Both factors have had an important bearing on the development of the Canadian steel industry in the past and will likely continue to be important in the future.

A major element in steel demand is the production of capital goods (construction, pipelines, transportation equipment and machinery). Capital goods industries exhibit marked fluctuations in output and their fluctuating consumption of steel is reinforced by cyclical swings in inventories. As a result, the demand

for steel is more cyclical than the consumption of steel, particularly for structural shapes and plate which are the steel profiles predominantly used by the capital goods industries. These cyclical fluctuations are a problem for the steel industry in all parts of the world, but they are more serious for the Canadian steel industry which is privately owned.

In order to contend with cyclical fluctuations in demand, the Canadian steel industry has generally kept capacity below cyclical peaks in demand. This has resulted in high rates of capacity utilization and fluctuations in steel production which are smaller than those in demand. Production levels have gained some stability by shifting some of the burden of domestic demand fluctuations to foreign suppliers. However, due to pressures from low-priced imports when steel demand declined, this measure of production stability has been achieved at the expense of not being able to increase prices when costs are rising. This in turn has resulted in sharp cyclical fluctuations in profitability.

Over the past decade, the Canadian steel industry has been the subject of several government investigations into the pricing policies for rolled steel products. These include the Prices and Incomes Commission, the Steel Profits Inquiry, and the Anti-Inflation Board. All of these bodies have shown that Canadian domestic steel prices are closely geared to cost, even at times of severe world shortages. As a result of this domestic steel mill practice, Canadian steel consumers wish to maintain a major position with Canadian steel producers. Steel consumers know that during times of steel shortages, import prices will escalate to several times the price of domestic steel.

Other steel producers often add capacity, not only to meet peaks in domestic demand but also to provide a margin of additional capacity to supply traditional export markets.

While most world steel production is produced for domestic sale, even small import tonnages can disrupt markets when they are sold at very low prices. In fact, in four years out of five, exported steel is sold on world markets at prices which are below the domestic price in producing countries (See for example Figs. 1 and 2).

The Canadian steel industry has, in addition to keeping capacity below peaks in demand, concentrated on the domestic market and immediately adjacent U.S. markets. Total Canadian exports of steel are typically in the region of 10 per cent of production, most of which is exported to American customers in the areas of the Great Lakes. Imports vary cyclically from year to year, but are in the order of 20 per cent of Canadian production. There are a few sizes and specifications not produced here because Canadian demand is insufficient to warrant production.

#### Apparent Consumption of Rolled Steel by Region — 1975 Metric Tons

Region	Canadian Domestic Shipments		Imports		Total Supplies 000 Tons	Per cent Canada
	000 Tons	%	000 Tons	%		
Atlantic	219	79.8	55	20.2	274	2.7
Quebec	1,382	76.2	431	23.2	1,813	18.1
Ontario	5,720	91.9	500	8.1	6,220	62.1
Prairies	1,125	93.7	76	6.3	1,201	12.0
British Columbia	264	52.0	244	48.0	508	5.1
	8,710	86.9	1,306	13.1	10,016	100.0

**Apparent Consumption of Rolled Steel by Product Group – 1975**  
**Metric Tons**

Product Group	Canadian Domestic Shipments		Imports		Grand Total 000 Tons	Percentage of Grand Total
	000 Tons	%	000 Tons	%		
Sheet and Strip	3,468	93.7	235	6.3	3,703	37.0
Plate and Skelp	2,038	86.0	332	14.0	2,370	23.7
Bars	1,449	79.4	376	20.6	1,825	18.2
Structurals	601	75.9	190	24.1	791	7.9
Rails	319	82.6	67	17.4	386	3.9
All Other	834	88.6	107	11.4	941	9.4
Total	8,709	86.9	1,307	13.1	10,016	100.0

## COMPETITIVE FACTORS

The Canadian steel industry has performed very well over the last 20 years. An analysis of the favourable position of the Canadian steel industry has identified the factors which have contributed to its success, particularly in comparison with the United States.

Rate of growth is probably the most significant single factor affecting the international competitive position of steel producers, since those which are expanding rapidly have the best opportunity to adopt new technology. The rate of growth of Canadian production has been faster than the growth of domestic consumption because over the past 20 years Canada has been replacing imports. Canadian steel production between 1956 and 1975 grew at an annual rate of 6.4 per cent compared to 1.9 per cent in the U.S., 4.7 per cent in the ECSC(6) and 14.2 per cent in Japan. As noted below, however, the growth rate of steel consumption in Canada has been declining over time and is forecast to decline further in the near future.

With high rates of growth, the Canadian industry has been able to adopt new technology at an early stage and has in fact been a pioneer in some fields. It should be noted, however, that it does not spend as much money on R & D as many of its competitors but relies on technology developed by others for which it pays a royalty. This course of action is cheaper for Canadian industry in the long run since the development of new technology is most profitable for steel producers who also manufacture steel-making equipment. Thus the strength of the Canadian industry with respect to technology lies in early recognition and implementation of research rather than in doing the research itself.

New technology and growing markets have enabled Canadian producers to achieve an increase in multi-factor productivity of 4.5 per cent per annum compared with 2.8 per cent in the United States, 7.5 per cent in the European six, and 10 per cent in Japan. (These figures are approximate since direct comparisons are difficult to make given differing definitions and statistical bases.) It should be noted that although Europe's productivity gains have been higher than those of Canada and the United States, Europe started from a much lower level of productivity and still lags behind both North American steel makers. Japan has the highest level of multi-factor productivity, Canada and the United States about the same level and Europe the lowest.

By following a judicious course in adding new capacity, the Canadian industry has been able to maintain a high rate of capacity utilization and, thereby, partially protect itself against cyclical fluctuations in demand. Over the last 20 years, Canadian producers have operated in the range of 88 per cent to 92 per cent of rated capacity compared with 78 per cent to 82 per cent in the United States; 80 per cent to 84 per cent in Europe; and 82 per cent to 86 per cent in Japan. Thus, in terms of capital utilization the Canadian industry rates very high. During this period, steel prices rose by only 3.7 per cent a year in Canada compared to 4.4 per cent in the U.S. and 4.7 per cent in the ECSC.

Canadian tariff protection is moderate with a weighted average of 7.3 per cent which is a little higher than the averages of the EC and U.S.

The structure of freight costs poses some difficulties for the international competitive position of Canadian steelmakers. Iron ore can be delivered to coastal mills in Europe from Sept-Iles at lower delivered prices than to the mills in Hamilton. This is partly due to the necessity of using much smaller vessels on the Seaway than can be used in the trans-Atlantic trade. Transportation costs on iron ore from Sept-Iles to inland U.S. mills are slightly higher than to Hamilton. The transportation costs on coal from the United States to

Hamilton are higher than for American coal delivered to mills in Pittsburgh, Cleveland and Detroit (but about the same as coal delivered to Gary and Chicago). Because coal and iron ore are carried on the Great Lakes which are closed in the winter, the Canadian mills have to stockpile raw materials to carry through the winter, thereby incurring additional inventory interest costs.

Mills on the Prairies also face high transportation costs for raw materials. Their potential for expansion is constrained by availability of domestic scrap, and can only be supported by unrestricted access to nearby U.S. supplies or by production of pre-reduced iron pellets.

In competing with imports the mills in Hamilton have transportation cost advantages in only a limited range of the Canadian market, as the following figures illustrate:

**Comparative Transport Costs of Finished Products – End 1976 – Spot Rates**  
**\$Cdn. per Metric Ton**

*To Montreal*

Antwerp to Montreal 15/25,000 Metric Tons	\$ 7.35-\$ 8.80
Hamilton to Montreal by rail	\$15.65
Japan to Montreal 15/25,000 Metric Tons	\$17.65-\$21.60

*To Vancouver*

Japan to Vancouver 15/25,000 Metric Tons	\$14.72-\$17.65
Hamilton to Vancouver by ship (summer)	\$27.00-\$38.50
Hamilton to Vancouver by rail 80 Metric Tons	\$77.60

Inward freights in Canada tend to be lower than outward freights. For example freight from Antwerp to the Great Lakes was indicated to be \$8.35-\$10.70 per metric ton, while freights in the reverse direction were \$13.35-\$15.70. Freight rates are volatile, and these figures merely illustrate the point.

The costs of raw materials, energy and labour are lower in Canada than in the United States, but Canadian capital costs are higher than those of the United States and of major competitors in the ECSC and Japan. These cost differences are illustrated by the following cost ratios (U.S. = 100) based upon 1976 factor costs to produce steel in a 3-million metric ton steel mill:

**Factor Cost Comparison 1976**  
**Indices – Total U.S. = 100**

	<i>Canada</i>	<i>U.S.</i>	<i>Japan</i>	<i>ECSC</i>
Iron ore and scrap	22.51	23.37	19.53	22.87
Energy (coal, etc.)	17.35	17.65	19.34	19.41
Labour	23.11	27.04	16.93	18.33
Capital (Amortized)	36.81	31.94	21.62	28.24
	99.79	100.00	77.42	88.85

To calculate the above ratios, actual 1976 input costs for raw materials, energy and labour have been used in conjunction with estimates of capital costs and likely input/output relationships that would be used in producing in a new mill on a green field site in southeast Ontario, the U.S. Great Lakes, Japan and northwest Europe. If we assume that the capital cost of a plant expansion is only half that for a green fields site, then the capital element in the above table would be half the values shown. In the above table it has been assumed that operating performance in all countries is identical, which, of course, is not the case.

The above comparison serves to show that Canadian steelmakers have had to demonstrate superior managerial effectiveness to offset their disadvantages in major factor costs. In the addition of new steelmaking capacity, whether on a new site or by expansion of existing facilities, capital costs are potentially Canada's largest single cost disability. The high amortization costs indicated above are due to a combination of high construction costs and high interest rates. A comparison of estimates of the cost of constructing a 3-million ton integrated steel mill at various locations yields the following indices (U.S. = 100):



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Hamilton	104
U.S.	100
European Community	89
Japan	72

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Steel production throughout the world supplies primarily domestic markets. Except in times of exceptional world demand (say one year in five) export prices are significantly lower than domestic prices. The level of export prices is such that investment in capacity devoted wholly to exports could not be justified – even in Japan where production costs are believed to be the lowest in the world at present. Differences in production costs appear to be reflected in the proportion of capacity devoted to exports, rather than in overall profitability. Japan has achieved the highest level of exports (about 40 per cent of production) while the European Community typically exports about 20 per cent of production. The United States is a net importer of steel, with net imports amounting to more than 10 per cent of production. Canadian net imports of steel are rather less than those of the United States and include some items not made in Canada. This pattern of trade is an indication of the underlying international competitiveness of these various countries.

From all the evidence examined, the following conclusions are reached:

- 1) The performance of the integrated producers in Ontario has been superior to the average performance in the United States. Steel production costs are lower in Hamilton than in adjacent areas of the United States for three reasons: (a) labour costs are lower; (b) Canadian capacity utilization rates are higher; and (c) Canadian equipment is newer.
- 2) Production costs in Hamilton are significantly higher than in Japan because: (a) the Japanese pay less for their iron ore; (b) their labour costs are lower; (c) their capital costs are lower; (d) their plants are much larger; (e) their plants are more modern.
- 3) Production costs in Hamilton are higher than in the European Coal and Steel Community (ECSC) (more particularly higher than in The Netherlands and West Germany) because: (a) their capital costs are lower; (b) their labour costs are lower.
- 4) Production costs in the regional mills in Quebec, British Columbia, and the Prairie Provinces are higher than in Hamilton because the scale of output is suited only to electric furnace steelmaking, which normally is a more expensive method of producing steel.
- 5) The United States has become the highest cost producer of steel in the industrialized world because of: (a) the average age of its equipment; (b) high labour costs.

Tool steel production is about 40 times as labour intensive as tonnage steel production. Canada is not competitive with those advanced countries which have significantly lower labour costs, such as Britain, Czechoslovakia, Austria, Japan. Tool steel production is a high technology industry and the less developed countries, while enjoying much lower labour costs, have difficulty in meeting quality standards. Canada has a slight competitive advantage vis-à-vis the United States in tool steels, but the U.S. market is more highly protected than the Canadian Market, both in terms of tariffs and NTBs<sup>1</sup> (currently quotas). Imports already supply a considerable portion of the Canadian market. While figures on domestic shipments are not available it is believed that the share of the domestic market held by imports is very much higher than for tonnage steels.

Since the post-war steel shortage came to an end in 1958 there has been growing competition for world steel markets between the traditional exporters in Europe and Japan. Japan has gained the ascendancy in this contest aided by the exceptionally high rate of growth in its domestic demand for steel.

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<sup>1</sup> Non-Tariff Barriers

**Trends in World Steel Exports**  
**Metric Tons**

	ECSC			Japan			North America			World*	
	000	Tons	%	000	Tons	%	000	Tons	%	000	Tons
1960	23,081		58.5	2,242		5.7	3,474		8.8	40,000	
1965	29,974		50.7	9,544		16.1	3,112		5.3	59,500	
1970	35,932		42.4	17,599		20.7	7,100		9.1	85,300	
1975	47,398		43.6	28,942		26.6	3,762		3.5	110,000	

\* Estimate

Source: UN, ECE Statistics

In the struggle between Europe and Japan for world steel markets, governments have played an active supportive role. The governments of Japan and of several European countries manage their steel industries by one means or another in the pursuit of social objectives, industrial development objectives and the objective of earning and conserving foreign exchange. International competition in the steel industry is highly imperfect, and involves group buying of raw materials, price controls, price discrimination as well as government financial assistance to producers, and bilateral agreements to put quantitative limits on trade.

Canada's main exports of steel mill products are to the United States in the area of the Great Lakes. In this market, producers are competing principally with American mills rather than with the Japanese and Europeans, and thus are able to export profitably.

Imports of steel play a valuable role in the Canadian steel economy. They provide specifications or sizes which it is not economic to produce in Canada. On the other hand they provide a means of cushioning the effect upon domestic producers of cyclical swings in Canadian demand of tonnage steels. Foreign competition becomes most acute when Canadian demand is in cyclical decline, so that Canadian mills are unable to increase prices when they most need to do so — i.e. when production volumes are falling, productivity is falling and unit costs are rising.

While competition from Europe and Japan is expected to moderate in the years ahead, it will probably intensify from developing countries, a number of which are well endowed with resources for making steel. Brazil is rapidly exploiting huge deposits of the highest grade iron ore in the world which is far superior to anything mined in Canada. Although Brazil lacks metallurgical coal the Brazilian government has embarked upon a very ambitious program of steelmaking facilities in collaboration with the Japanese. Employment costs (wages plus fringe benefits) in the Brazilian steel industry are reported to be \$1.40 an hour compared with \$9.90 in Canada and more than \$11 an hour in the U.S. Venezuela has deposits of high grade iron ore suitable for direct reduction which, combined with oil well gas hitherto flared, provides it with very low material and energy costs. Brazil, Venezuela and Mexico have launched major steelmaking developments with heavy government involvement. Industries in these and other developing countries are often assisted by international organizations which lend funds on very favourable terms.

The specialty steel industry is more vulnerable to import competition than the tonnage steel industry. Freight is not a significant element of protection because of the high value to weight of these steels. Moreover, because the Canadian market is not large enough to support more than one producer, the latter strives to serve a national market. In markets distant from the mills (e.g. B.C., Montreal and east) freight costs on the domestic steel are higher than on imported steels. Tool steel production, which is quite labour intensive, continues very tenuously in the face of severe import competition from Europe. For many years Canada had an advantage vis-à-vis the United States in the production of tool steels in that labour costs here were lower than in the United States. That advantage has much diminished. While Canada continues to export to the United States, exports are now constrained by quotas imposed by the United States in June 1976.

Specialty steel production costs do not permit the kind of price cutting in a recession which would be needed to reduce imports. Specialty steel imports rise in times of recession and exacerbate the impact of the business cycle on domestic production.

Steel is in competition for its markets with a variety of substitute materials. Its major competitor is concrete with which it has to compete in the construction of buildings, bridges, pipes, street lighting standards, water storage tanks, etc. It also has to compete in the construction industry with aluminum, glass, brick, masonry and wood.

Aluminum, plastics and zinc compete strongly in the manufacture of automobile parts, railroad cars, appliances and parts of office furniture and machinery due to light weight and easy formability. Steel competes with wood, plastics and other materials in the production of kitchen, garden and industrial furniture. These substitute materials together constitute a significant competitor for the steel industry in all its geographical markets, and provide stimulation to competition in design and in value engineering. There has been a significant trend to alternative materials since the advent of the energy crisis. Requirements for improved performance in automobiles have resulted in a trend to lighter weight materials. However, the steel industry has been developing relatively low-cost, high-strength, low-alloy steel, which will provide components with equivalent strength but substantially reduced weight.

## FUTURE OUTLOOK

The period of rapid growth of the Canadian steel industry appears to be over, and a new period has begun in which the industry will consolidate. The following points support this view:

- 1) Import replacement has proceeded about as far as can be expected, so this element in the growth rate of steel production will be absent in the future.
- 2) The rate of growth in apparent consumption is expected to moderate in the future as a result of the new emphasis on energy conservation. Automobile production is expected to shift more and more to small cars.
- 3) A significant impetus to steel consumption was provided by the Canada-U.S. Automotive Agreement. This resulted in the production in Canada for the first time of such steel-intensive parts as automobile frames. This spurt from a new source of demand has spent itself.
- 4) The trend growth rate in apparent consumption of steel is forecast to be 3.8 per cent to 1980 and 3.3 per cent between 1980 and 1985. However, since steel consumption is currently cyclically depressed, the actual growth in steel consumption would have to be 5 per cent per year to reach the consumption expected in 1980.
- 5) The conditions which earlier favoured the establishment of regional mini-mills have changed, making the establishment of new ones unlikely for some time to come.
- 6) It is expected that Canada will have a transitional surplus of steelmaking capacity to about 1980-1982. It is also expected that demand for steel in the United States will press against steelmaking capacity there when the U.S. economy fully recovers. There will then be a transitional opportunity for Canada to increase its steel exports to the U.S.

The slowing down in the growth rate of Canadian steel production will tend to weaken Canada's international competitive strength, particularly in relation to countries such as Brazil and Mexico where rapid growth in steel production is planned. The high rate of growth which Canada has experienced has not been uniform amongst various steel products. Over the period 1956-75 apparent consumption growth rates for various products were as follows:

Heavy Structural	2.6% p. a.
Light Structural	3.8% p. a.
Bars	5.0% p. a.
Rails	-1.0% p. a.
Hot Rolled Sheet	11.0% p. a.
Plate	5.8% p. a.
Galvanized Sheet	8.3% p. a.
Other Cold Rolled Sheet	6.0% p. m.
Weighted Average	5.8% p. a.

There have also been significant variations in regional growth rates as shown below.

#### Regional Growth Rates In Apparent Consumption Of Steel – 1956-75

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Atlantic	2.5%
Quebec	4.1%
Ontario	6.2%
Prairies	5.7%
British Columbia	5.7%

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5.8%

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In considering the future prospects for the Canadian steel industry it is essential to bear in mind the following:

- 1) The Canadian market is not a single market for all products. For a number of products it is a series of regional markets, supplied by the integrated steel plants of central Canada or from regional mini-mills, supplemented by imports.
- 2) Only in Ontario has regional demand been sufficient to justify the establishment of fully integrated steelmaking facilities. Only two integrated mills in Canada – Stelco and Dofasco – are ideally sited with reference to their markets. The increasing advantages of plant location close to major markets has left the Algoma mill at Sault Ste. Marie and the SYSCO plant at Sydney relatively disadvantaged.
- 3) With the exception of the Nanticoke project currently under construction there are no prospects for establishing new integrated steelmaking plants anywhere in Canada on an economically viable basis for the foreseeable future.

Future developments for various regional mills are unclear at this time.

A major study is being undertaken by the Sydney Steel Corporation (SYSCO) of various options for the future for the aged steel plant.

The unemployment problem in Cape Breton would be relieved if it were feasible to serve the expansion of domestic demand for steel by installing new facilities there rather than at Nanticoke. However, this is not a realistic option. Even if the Nanticoke project were not already well advanced, Cape Breton would not be an economic alternative location.

The possibility of an export-oriented steel mill to make steel for foreign and domestic owners (CANSTEEL) is theoretically tenable. However, studies indicate that Canada is neither actually nor potentially the cheapest producer of steel.

Conditions for the production of steel in Quebec will remain difficult for years to come. The regional market is too small to sustain a conventional integrated steel plant of minimum optimum size. Quebec mills have to compete with mills in Ontario and with imports for the regional market; they stand at a cost disadvantage to both. The Sidbec-Dosco mills have been expanded to the point where they can no longer count upon scrap supplies covering their raw material needs. They have established facilities to produce sponge-iron pellets to substitute for steel scrap. The cost of these pellets is below the cyclical peak prices for scrap, but substantially above present scrap prices and above the long-term average. It might be noted that the virtue of facilities to produce sponge-iron pellets is that they tend to put a ceiling on the price of scrap in times of cyclical peak demands. The benefit of the investment tends to be shared by all buyers competing for supplies of the scrap, while the costs are borne solely by the investor in the sponge-iron-producing facilities. The facilities use massive volumes of natural gas whose future costs and availability may eventually necessitate the installation of expensive coal gasification units. Sidbec's facilities are capable of producing bars, profiles, wire rods, wire, hot and cold rolled sheet. Future expansion most probably would be in plate and flat rolled products.

The integrated mills in Hamilton enjoy lower costs than the Sidbec-Dosco mills. The problem of the Quebec mills is aggravated by the high level of import penetration – the result of accessibility by ocean vessels.

Over the past few years, IPSCO has been studying the feasibility of a major expansion program. Until this year changing conditions in the steel market and uncertainty relating to large-scale northern pipeline construction have resulted in the company deferring the expansion. The clarification of these areas recently has enabled IPSCO to advance its plans for an \$80 million expansion which will increase steelmaking capacity to 740,000 metric tons and considerably upgrade the hot strip rolling facilities.

The picture in the Prairies was changed by the creation of Steel Alberta in late 1975. The company is jointly owned by Alberta Energy Company and Alberta Gas Trunk Line Ltd. and its only current asset is the 20.1 per cent ownership of IPSCO, which was formerly held by the Alberta government. The mandate of Steel

Alberta is to study the feasibility of additional steelmaking and steel-using facilities in Alberta. The Prairie provinces are currently well supplied with bar products and any additional facilities would be for plate production for use predominantly in the manufacture of line pipe. The viability of a completely new steel plant to produce plate in Alberta is questionable.

Prospects for developing steelmaking in British Columbia are lessened by factors similar to those in Quebec. These factors include vulnerability to competition from low-priced imports, a regional market too small to support integrated steel production, and competition from the integrated mills in Ontario.

In August 1977, the Canadian government granted its approval to the ALCAN project to convey Arctic gas to markets in the U.S. and possibly, at a later date, to Canada. Due to U.S. pressure for a pipeline with high capacity, the original ALCAN project for a low-pressure 48-inch diameter mainline has been modified. Studies are currently in progress to evaluate the acceptability of a high-pressure 48-inch diameter pipeline favoured by the U.S. or a low-pressure 54-inch diameter pipeline favoured by Canada. The total demand for pipe is virtually the same in both instances — 1.3 million tons — with Stelco and IPSCO capable of meeting the total demand for either alternative. If the high-pressure alternative was chosen, however, Stelco would be the only Canadian pipe producer capable of meeting the specifications on the main 48-inch line. IPSCO would then be limited to pipe production for the remaining low-pressure 48-inch section and the 42-inch and 36-inch southern feeder lines.

The impact of a major gas pipeline will be large for Stelco and IPSCO and could provide direct incremental employment in the steel industry alone of about 2,500 man-years. For these two companies the impact on production and employment will be substantial, because of the current low level of production in mills capable of producing large diameter pipe. The direct impact of the pipeline on the total Canadian steel industry will be far less dramatic, however, and will represent only between 3.5 and 4.1 per cent of projected apparent total annual Canadian steel consumption.

## **MAJOR ISSUES**

### **International Trade Issues**

#### *Demand-Supply Problems*

International trade in steel is dominated by the ECSC and Japan which together supply about two-thirds of the world's steel exports. Such trade does not necessarily reflect competitive factors, since the world steel industry is characterized by below-average returns on investment, export sales at unprofitable prices and government interventions in support of domestic steel industries. While the U.S. has not intervened to the same extent in the sector as have Japan and the EC, it has stepped in twice (to negotiate voluntary restraints on imports of tonnage steels and to impose quotas on imports of specialty steels) to counterbalance the activities of foreign governments. Canada's only intervention to date in steel trade has been to limit exports of iron and steel scrap in times of scarcity.

The present chaotic state of the world steel supply-demand situation has prompted bilateral discussions between the U.S. and Japan, Japan and the EC, and the U.S. and the EC.

A chronic problem in world steel trade is dumping. As the industry has become more capital-intensive, the potential margin for dumping has grown. Canada's anti-dumping laws have been seen by the industry as not responsive to the particular problems faced by the iron and steel sector.

Recent measures taken by National Revenue to expedite investigations are regarded by the industry as a marked improvement. The industry considers that even further streamlining of the procedures may be desirable in the case of iron and steel owing to the special characteristics of international trade in steel where dumping tends to be a recognized and persistent technique for increasing the utilization of production capacity.

There are three dumping complaints on steel mill products currently under investigation by National Revenue. Surveillance of the situation is difficult owing to the array of grades and shapes of steel originating from numerous exporting countries.

### **Industrial Development Issues**

#### *Industry Fragmentation*

Only in Ontario is there sufficient steel consumption to support the operation of conventional integrated steel mills. In other regions of Canada, steel consumption is likely for the foreseeable future to remain below the threshold quantity required to sustain an integrated mill of minimum economic size. The existing regional

mills outside of Ontario will need all the scrap which becomes available in order to expand regional capacity on the most cost-efficient basis. Hence the prospects for establishing completely new mills outside of Ontario must be regarded as poor.

### *The Sydney Case*

Sydney Steel Corporation (SYSCO) is an important manufacturer of rails but, because of the plant's peripheral location, there are few other products that it can economically supply to most of the Canadian market. SYSCO is therefore dependent on export sales to an extent that has made it highly vulnerable to world market fluctuations. As a further consequence, the plant has been unable to make re-equipment investments in line with modern technology and the economic size of a new integrated plant is considerably larger than the foreseeable scale of operations at Sydney would justify.

The economy of the Sydney area is so completely dependent on the steel plant that closure of this plant would result in severe social problems unless and until investment and employment opportunities in Canada generally, are buoyant enough to facilitate economic and social adjustments.

In these circumstances, the Sysco management has stated that their concerns are that:

- 1) While a purely hand-to-mouth operation would yield the worst possible results, planning for SYSCO's operation should be restricted to the medium term; it should not be based on an assumption that the circumstances requiring continuation of the plant will never change, and it should not embrace large-scale investments in production which would be more economic elsewhere.
- 2) Operations made possible by publicly-financed deficits should be complementary to, not competitive with, the profitable parts of the industry.
- 3) The operations should be conducted with scrupulous care to avoid if possible, and at least to minimize, continuing deficits.

### *U.S. Scrap Supplies*

The United States has been the world's largest exporter of steel scrap for decades. Japan and most of the European countries keep most of their scrap at home by use of export controls. Canada has maintained export controls on steel scrap since the war, but has used them restrictively only at times of critical shortage.

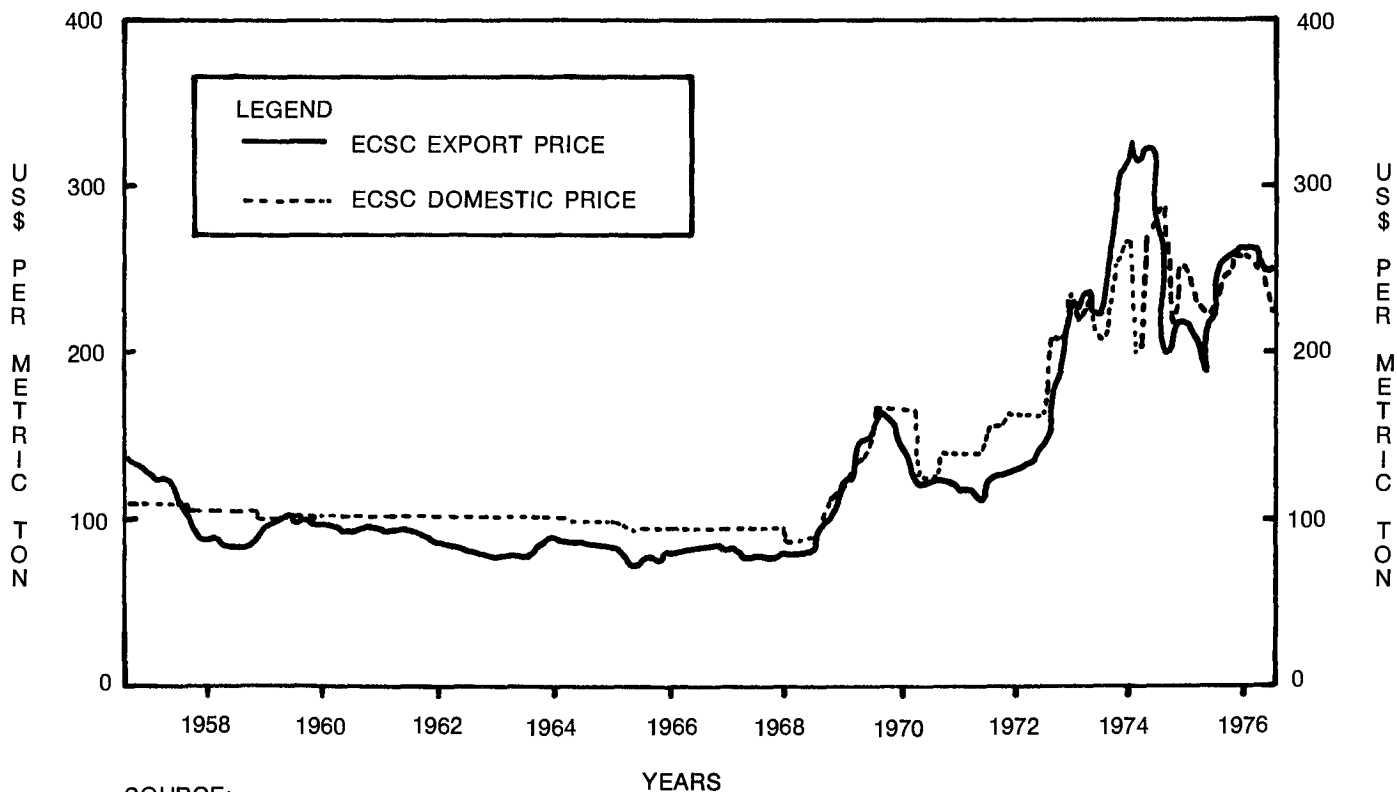
The United States is the only foreign source of scrap supplies to Canada. Regional mills on the Prairies have come to rely upon supplies of scrap from the United States to supplement what is available regionally in Canada. During a recent boom in steel demand, the United States placed restrictions upon scrap exports for the first time in memory. While supplies to the Prairie mills were not cut off, scrap supplies were reduced. It is expected that the overall scrap surplus in the United States will decline, and there is concern that at some future date U.S. scrap supplies to the Prairies might be cut off. This concern may well inhibit the expansion of Prairie steelmaking capacity in line with the growth in regional demand. The concern might also unduly influence a decision to produce sponge-iron pellets as a scrap substitute, even though this alternative may be less profitable than the use of scrap.

### **Pollution Control**

Pollution control is of major concern to Canadian steel firms. They contend that there are very high risks in terms of major revisions in the standards which could result in having to replace, within a short time, pollution control equipment built to meet the present standards. In addition, standards are uneven across Canada – in some areas producers are faced with much larger costs to meet pollution standards than in other areas. Over the last seven years pollution control expenditures have been approximately 10 per cent of total capital expenditures in the steel industry. Between 1976 and 1981 this is expected to jump to 16 per cent of projected capital expenditures. Currently, however, all capital expenditures are being reduced so pollution control may be a much higher percentage of actual capital expenditures (in some firms 100 per cent) to the end of 1980. For a new plant to meet existing standards, approximately 10-12 per cent of capital costs go to pollution control equipment, while in an existing plant this percentage is 15-20 per cent (it is more costly to add pollution control equipment to an existing plant than to build it into a new plant). Further, operating costs of a new plant, due to pollution control, are increased 5-6 per cent, while in an existing plant the comparative figure is 8-9 per cent. In addition, electricity use will increase approximately 10 per cent with current pollution control standards. Although costs of pollution control are high now, Canadian steel firms fear that much tougher standards might be adopted by local or provincial authorities, resulting in extreme increases in capital and operating costs with virtually no measurable reduction in pollution.

FIG. 1

ECSC EXPORT AND DOMESTIC PRICES FOR HEAVY SECTIONS

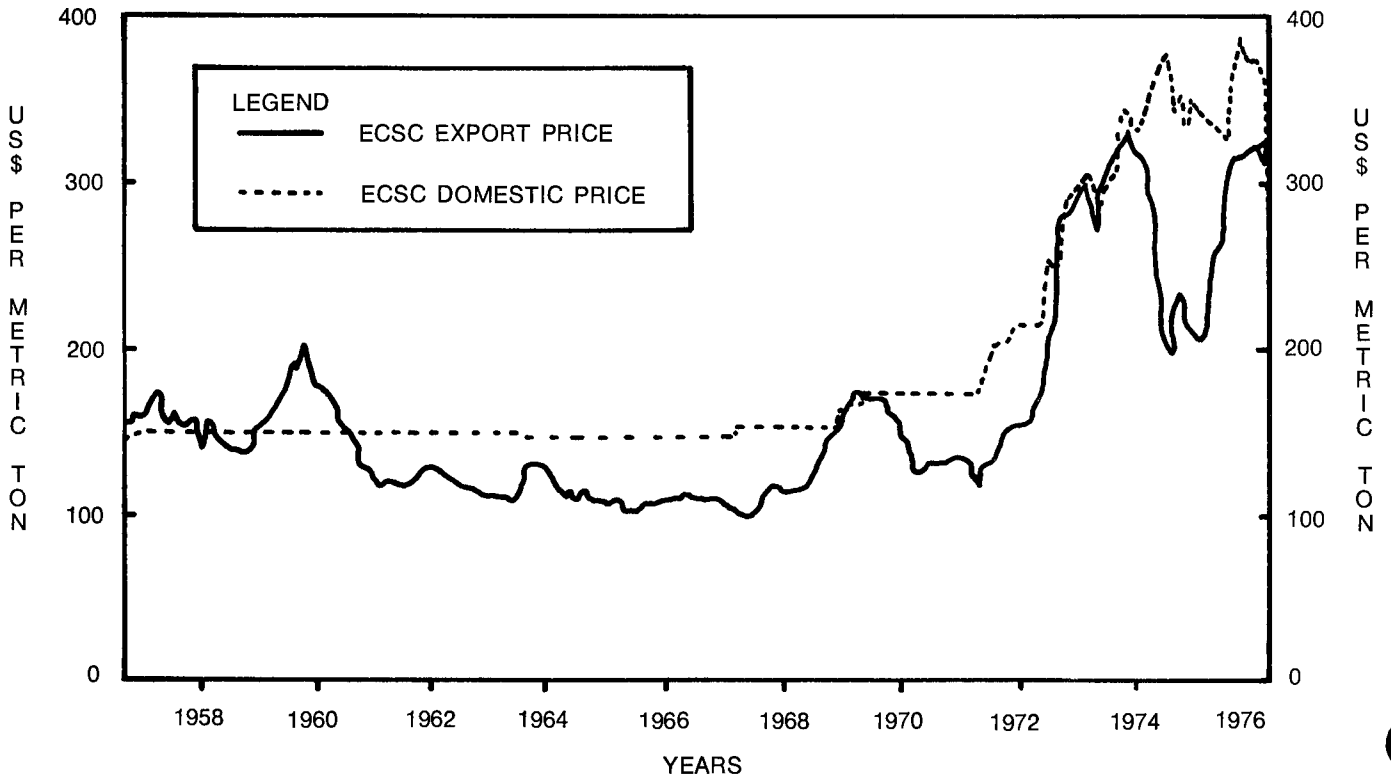


SOURCE:

- a. THE STEEL MARKET, U.N. ECONOMIC COMMISSION FOR EUROPE (NEW YORK)
- b. METAL BULLETIN (LONDON)

DOW

**FIG. 2**  
**ECSC EXPORT AND DOMESTIC PRICES FOR**  
**COLD REDUCED SHEET**



SOURCE:

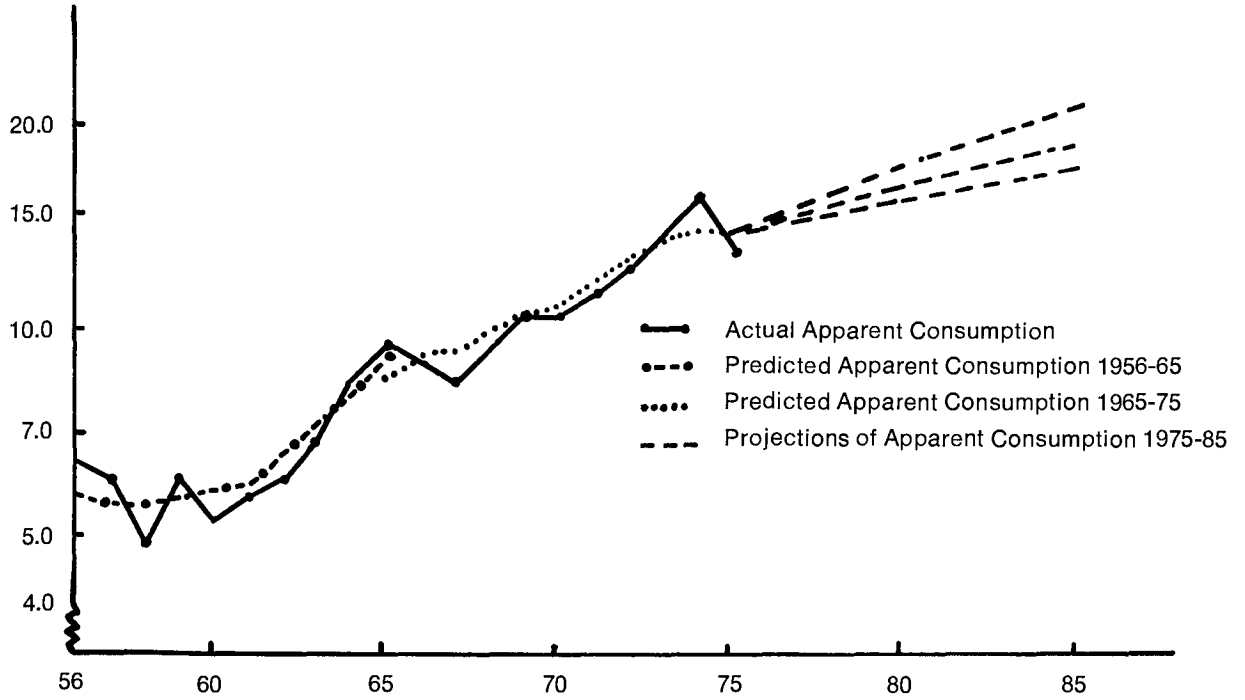
- a. THE STEEL MARKET, U.N. ECONOMIC COMMISSION FOR EUROPE (NEW YORK)
- b. METAL BULLETIN (LONDON)

DOW



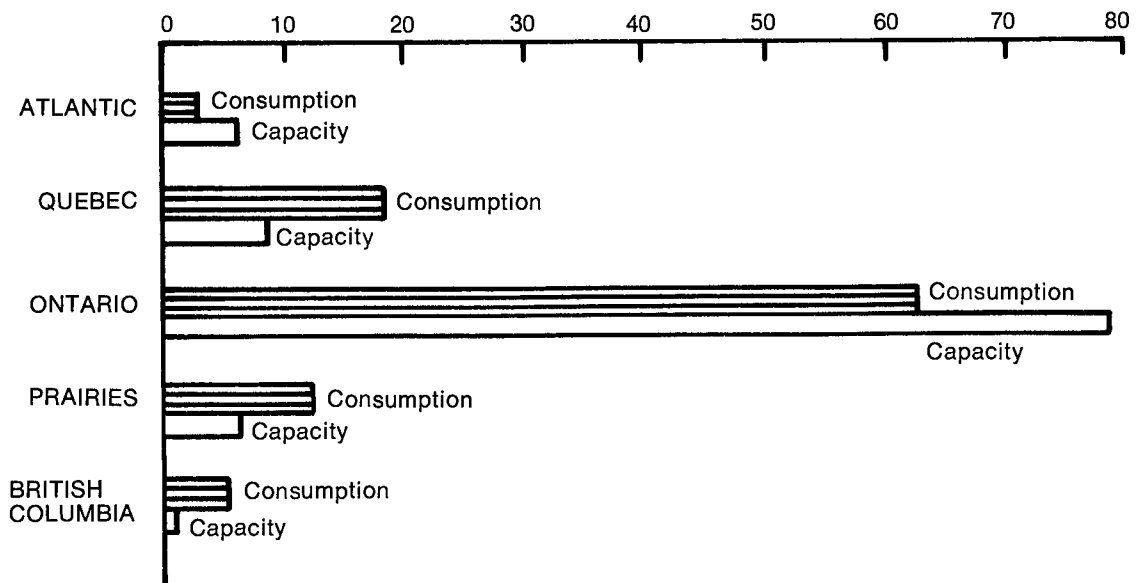
Apparent Steel Consumption  
(log scale)

**FIG. 3**  
**APPARENT STEEL CONSUMPTION**  
**IN CANADA — 1956 TO 1975 AND PROJECTIONS TO 1985**  
(millions of metric tons in crude steel equivalent)



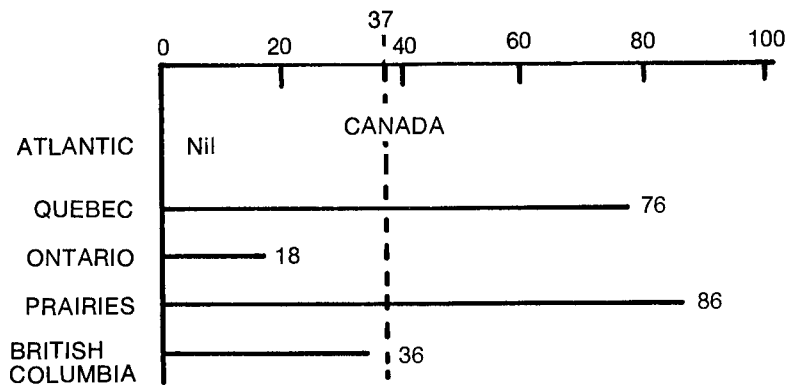
\*\*'Best' projection 1975-1985

**FIG. 4**  
**REGIONAL PERCENTAGE DISTRIBUTION OF APPARENT CONSUMPTION<sup>(1)</sup>**  
**OF ROLLED STEEL AND CRUDE STEELMAKING CAPACITY 1975**

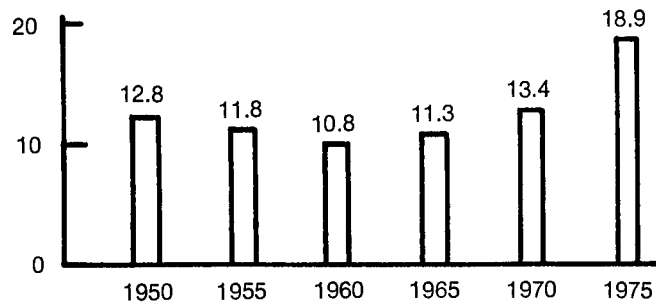


<sup>(1)</sup> Apparent consumption figures by region are not too reliable because it is assumed that imports are consumed in the province of entry.

**FIG. 5**  
**PERCENTAGE OF ELECTRIC FURNACE CAPACITY**  
**TO REGIONAL APPARENT CONSUMPTION**



**FIG. 6**  
**PERCENTAGE CRUDE STEEL PRODUCTION IN**  
**ELECTRIC FURNACES IN CANADA 1950-1975**



## Financial Environment

Over the period 1965-1974, the three largest integrated producers earned a return on total assets (before taxes and interest) about equal to that for all Canadian manufacturing while, on average, non-integrated producers fared somewhat less well. In spite of the need to cope with somewhat higher capital costs, exhibited in interest rates and construction costs which have exceeded those in the U.S., this performance on the part of the Canadian industry compared favourably with that of most steel producers in other countries. This has largely been attributable to skillful management.

While inflationary pressures of recent years have adversely affected after-tax profits and have created cash flow difficulties, the March 1977 federal budget, through the 3 per cent inventory adjustment and extended investment tax credit provisions (including the new eligibility of current and capital R & D expenditures under this provision), has taken substantial measures to alleviate these trouble spots. In addition, the recent downward movements in the bank rate have triggered a lowering of the differential between Canadian and U.S. interest rates, a situation which augurs well with respect to the capital costs facing Canadian producers.

### Principal Statistics of the Primary Iron and Steel Industry (S.I.C. 291) 1974

Note: These census figures relate to the whole "Primary Iron and Steel Industry" which is broader than the definition adopted for this paper. However, the steel mills account for 90 per cent of the total value of the shipments of S.I.C. 291 so the following figures will convey at least the order of magnitude of the principal statistics for the steel mills.

Total Shipments	\$3 billion	
Value Added	\$1.4 billion	
Employment	54,253	
Steel Ingot Production	13.4 million metric tons	
Shipments of Rolled Steel	9.9 million metric tons	
Iron ore consumed	— from Canadian mines	11.6 million metric tons
	— imported	2.7 million metric tons
Scrap consumed	— own make	3.7 million metric tons
	— purchased	3.5 million metric tons

### Canadian Trade in Rolled Steel Products 1974

	Canadian Imports		Canadian Exports	
	Metric Tons	\$000	Metric Tons	\$000
United States	1,220,815	422,132	754,256	214,573
E. C. S. C. (9)	591,422	195,637	61,901	17,372
Other OECD Europe	34,233	23,153	11,880	3,224
Japan	696,059	210,232	38	23
All Other	114,494	32,775	225,777	82,539
TOTAL	2,657,023	883,930	1,053,852	317,731

Source: Statistics Canada — Trade of Canada

Note: 1974 is the last year for which census of industry statistics are available. Imports were cyclically high that year.

**Regional Employment  
Steel Mills 1975**

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*Information Provided by the Steel Industry*

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Atlantic Provinces	3,294	7.0%
Quebec	4,456	9.4%
Ontario	35,831	75.7%
Manitoba	667	1.4%
Saskatchewan	1,917	4.0%
Alberta	796	1.7%
British Columbia	364	0.8%
<b>TOTAL</b>	<b>47,325</b>	<b>100.0%</b>

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**CANADIAN STEEL PRODUCING COMPANIES AND PLANTS**

**Foreword**

The information presented in the following pages has been collected from different (and more current) sources than the data on capacity presented in the body of this paper. The capacity figures are here presented in metric tons.

**Integrated Producers**

*Algoma Steel Corporation Ltd.*

1976 – sales \$585 million; crude steel production 2.6 million tons. Crude steel capacity 3.9 million tons p.a.

Plants –

- a) Sault Ste. Marie, Ontario. Crude steel and rolled steel (bars, profiles, rails, structural steel, sheet, strip and plate). Pipe and tube, grinding balls.
- b) Port Colborne, Ontario. Merchant pig iron.
- c) Wawa, Ontario. Iron ore and pellets.
- d) Cannelton and other sites, West Virginia. Metallurgical coal.

The company has interests in iron ore mining in Steep Rock, Ontario, and North Michigan and owns 43 per cent of Dominion Bridge Co. Ltd., Lachine, Quebec (manufactures and erects structural steel and makes machinery; has plants throughout Canada and the U.S.). Dominion Bridge Co. owns Manitoba Rolling Mills. (See below under "Electric Furnace Steel Producers".)

*Dominion Foundries and Steel Ltd. (DOFASCO)*

1976 – sales \$904 million; crude steel production (excluding castings) 3.0 million tons.

Crude steel capacity 3.1 million tons p.a.

Plants –

- a) Hamilton, Ontario. Crude steel and rolled steel (sheet, strip and plate, tinplate, galvanized sheet). There is also a castings foundry with electric furnaces (capacity .1 million tons p.a.).
- b) Calgary, Alberta. (Prudential Steel Ltd.). Pipe and tube.
- c) Kirkland Lake, Ontario. (Adams Mine) and Temagami, Ontario (Sherman Mine). Iron ore and pellets.

The company has interests in iron ore mining and pelletizing in Wabush, Newfoundland, and Point Noire, Quebec (Wabush Mines), and in Minnesota (Eveleth Expansion Co.) and in metallurgical coal in West Virginia (Itmann Coal Co.). It owns National Steel Car Corp. Ltd., Hamilton (railway cars), and has a 50 per cent interest in Baycoat Ltd., Hamilton (prepainted steel coil).

*Steel Company of Canada Ltd. (STELCO)*

1976 – sales \$1,360 million; crude steel production 5.2 million tons. Crude steel capacity 5.7 million tons p.a. Stelco is now constructing a new "green field" integrated plant at Nanticoke, Ontario, scheduled to start production early in 1980 with an initial capacity of 1.1 million tons p.a.

Plants –

- a) Hamilton, Ontario. Crude steel (capacity 5.3 million tons) and rolled steel (bars and profiles, sheet, strip and plate, galvanized sheet, tinplate). Also wire and fasteners (nuts, bolts, etc.).

- b) Welland, Ontario. Pipe and tube.
- c) Gananoque, Ontario. Forgings.
- d) Brantford, Ontario. Fasteners (nuts, bolts, etc.).
- e) Contrecoeur, Quebec. Crude steel (electric furnace mini-mill; capacity .23 million tons) and rolled steel (bars, profiles).
- f) Montreal, Quebec. Wire.
- g) Edmonton, Alberta. Crude steel (electric furnace mini-mill; capacity .23 million tons) and rolled steel (bars, profiles). Grinding balls and rods, sucker rods.
- h) Camrose, Alberta. Pipe and tube.
- i) Regina, Saskatchewan. Steel products.

The company owns iron ore mining and pelletizing operations in Bruce Lake, Ontario (Griffith Mine; also SL/RN plant for direct reduction of iron from pellets) and has interests in Quebec (Hilton Mine near Hull, recently closed), Wabush, Newfoundland, and Point Noire, Quebec (Wabush Mines), in Minnesota (Erie Mining Co., Hibbing Taconite Co., Eveleth Expansion Co.) and Michigan (Tilden Iron Ore Co.). It owns metallurgical coal mines in Louisville, Kentucky (Pikeville Coal Co. Chisholm Mine), Ashford, West Virginia (Kanawha Coal Co. Madison Mine) and has interests in British Columbia (Elk River), West Virginia (Beckley Coal Co., Olga Coal Co.) and Pennsylvania (Mathies Coal Co.). It has a 50 per cent interest in Baycoat Ltd., Hamilton (prepainted steel coil).

#### *Sydney Steel Corporation (SYSCO)*

This company is 100 per cent owned by Nova Scotia.

1975 – sales may be about \$90 million, crude steel production about 0.4-0.5 million tons.

Crude steel capacity .9 million tons p.a.

Plant – Sydney, Nova Scotia. Crude steel and rolled steel (bars, rails). Some steel is sold in semi-finished form (ingots, blooms, billets).

## **ELECTRIC FURNACE STEEL PRODUCERS (MINI-MILLS)**

### **Common Steels**

#### *Dominion Bridge Co. (Manitoba Rolling Mills division (MRM))*

Separate details are not available of the MRM division. 1975 sales may be about \$45 million.

Steel capacity .18 million tons p.a.

Plant at Selkirk, Manitoba, makes crude steel and rolled steel (bars).

#### *Interprovincial Steel and Pipe Corporation (IPSCO)*

Alberta, Saskatchewan and Slater Steel Industries Ltd. each have a 20.1 per cent interest in IPSCO.

1976 – sales \$137 million; crude steel production about .38 million tons.

Crude steel capacity .5 million tons p.a.

Plants –

- a) Regina, Saskatchewan. Crude steel and rolled steel (skelp for pipe and tube, sheet and strip). Pipe and tube.
- b) Edmonton and Calgary, Alberta. Pipe and tube.
- c) Port Moody and Vancouver, British Columbia. Pipe and tube.

#### *IVACO Industries Ltd.*

The company's main business is the manufacture and distribution of steel billets, wire rod, wire and wire products, nails, fasteners (nuts, bolts, etc.) and bars. It has 17 plants in Canada and the United States. Crude steel is produced (capacity – 0.30 million tons p.a.) and rolled into wire rod and bars at L'Orignal, Ontario. The rolling mill has a capacity in excess of 400,000 tons of wire rods per year. Total company sales, including all activities for 1977 – \$166 million.

#### *Lake Ontario Steel Co. Ltd. (LASCO)*

This is a private company and details of its operations are not available. Plant at Whitby, Ontario, makes crude steel (capacity, .36 million tons p.a.) and rolled steel (bars and profiles).

#### *QSP Ltd.*

This company went bankrupt early in 1977 and ceased operations. The plant at Longueuil, Québec, has a crude steel capacity of .27 million tons p.a. and rolling mills to make bars and profiles. Other plants in

Québec make fabricated steel for construction, tanks, etc. The steelmaking facilities of this company were purchased by Sidbec-Dosco in the fall of 1977.

*Sidbec-Dosco Ltd.*

This company is wholly owned by Québec.

1975 – sales \$180 million; crude steel production about .7 million short tons.

Crude steel capacity today, 1.45 million tons p.a.

Plants –

- a) Contrecoeur, Québec. Crude steel (capacity 1.3 million tons) and rolled steel (bar, sheet and strip, skelp for light tubing and pipe). Includes Midrex plant for direct reduction of iron from iron pellets.
- b) Montréal, Québec. Crude steel (capacity .15 million tons) and rolled steel (bar, profiles, shapes), wire, pipe, fasteners, (nuts, bolts, nails).
- c) Etobicoke, Ontario. Wire.

The company has a 50.1 per cent interest in Sidbec-Normines Inc. which mines iron ore and makes pellets in Québec – mine at Fire Lake, concentrator at Lac Jeannine, pellet plant at Port Cartier. It also owns Truscon Works at LaSalle, Québec, which fabricates structural steel.

*Slater Steel Industries Ltd. (Burlington Steel division)*

This company is 50.2 per cent owned by British Steel Corp. (British government).

1975 – sales \$50 million; crude steel production .17 million tons.

Crude steel capacity .27 million tons p.a.

Plant – Hamilton, Ontario. Crude steel and rolled steel (bars, profiles). The company has a 20.1 per cent interest in IPSCO (see above).

*Western Canada Steel Ltd.*

This company is 100 per cent owned by Cominco Ltd. (itself a subsidiary of Canadian Pacific). Separate details of its operations are not available.

1976 – sales \$45 million. Crude steel capacity in Canada .24 million tons p.a.

Plants –

- a) Vancouver, British Columbia. Crude steel capacity .18 million tons and rolled steel (bars, profiles). Railway spikes.
- b) Calgary, Alberta. Crude steel (capacity .05 million tons) and rolled steel (bars, profiles).
- c) Hawaii (Hawaiian Western Steel). Crude steel (capacity .06 million tons) and rolled steel (bars, profiles).

**Speciality Steels**

*Rio Algom Mines Ltd. (Atlas Steels division)*

Rio Algom is itself a subsidiary of Rio Tinto-Zinc Corp. Ltd.

1976 – Atlas Steels sales \$225 million; crude steel production .15 million tons. Crude steel capacity .25 million tons p.a.

Plants –

- a) Welland, Ontario. Crude steel (capacity .18 million tons) and rolled steel (common steel bars). Stainless and specialty steels in bars, sheets, strip.
- b) Tracy, Québec. Crude steel (capacity .06 million tons). Stainless steel in sheets and strip.

**Rolled Steel Products for Sale: by Steelmaking Plant**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SYSCO	X						X	X	X	X					
SIDBEC-DOSCO: Contrecoeur	X	X	X						X	X		X			
Montréal								X	X	X					
QUEBEC STEEL PRODUCTS: Longueuil	X							X	X	X					
STELCO: Contrecoeur								X	X	X					
ATLAS: Tracy													X		
STELCO: Hamilton	X	X	X	X	X	X		X	X	X		X			
ALGOMA: Sault Ste. Marie	X	X	X			X	X	X	X	X	X				
DOFASCO: Hamilton	X	X	X	X	X	X									
LASCO: Whitby								X	X	X					
ATLAS: Welland														X	X
BURLINGTON STEEL COMPANY: Hamilton								X	X	X					
IVACO: L'Orignal	X							X	X			X			
MANITOBA ROLLING MILLS								X	X	X					
IPSCO: Regina		X				X									
STELCO: Edmonton								X	X	X					
WESTERN CANADA STEEL: Calgary								X	X	X					
Vancouver								X	X	X					

*Product Codes: 1. Ingots, billets, blooms, slabs  
 2. Hot rolled sheet and strip  
 3. Cold rolled sheet and strip  
 4. Galvanized sheet  
 5. Tinplate*

*6. Plate  
 7. Rails  
 8. Merchant bars  
 9. Concrete reinforcing bars  
 10. Light structurals*

*11. Heavy structurals  
 12. Wire rods  
 13. Stainless steel sheet and strip  
 14. Stainless steel bars and rods  
 15. Tool steels*





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