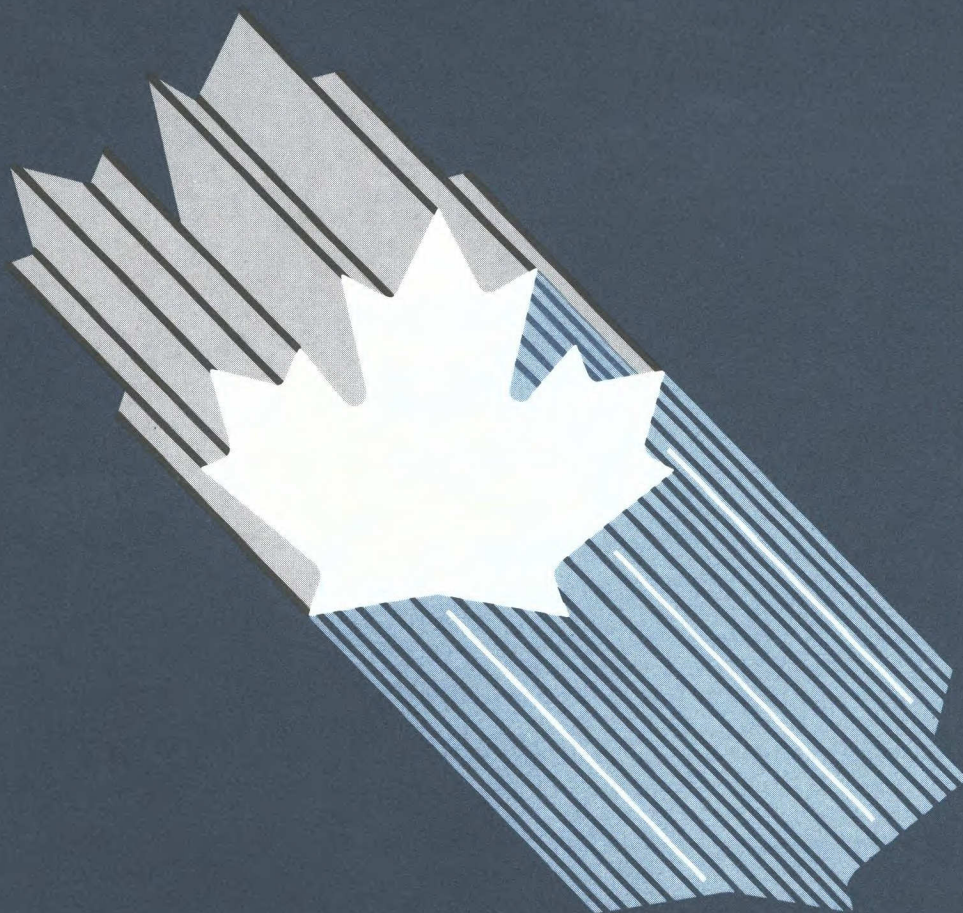


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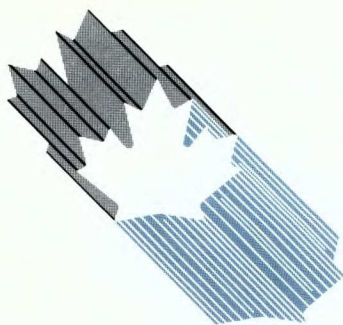


Industry, Science and
Technology Canada

Industrie, Sciences et
Technologie Canada

Containerboard

Canada



INDUSTRY PROFILE CONTAINERBOARD

1988

FOREWORD

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In a rapidly changing global trade environment, the international competitiveness of Canadian industry is the key to survival and growth. This Industry Profile is one of a series of papers which assess, in a summary form, the current competitiveness of Canada's industrial sectors, taking into account technological and other key factors, and changes anticipated under the Canada-U.S. Free Trade Agreement. Industry participants were consulted in the preparation of the papers.

The series is being published as steps are being taken to create the new Department of Industry, Science and Technology from the consolidation of the Department of Regional Industrial Expansion and the Ministry of State for Science and Technology. It is my intention that the series will be updated on a regular basis and continue to be a product of the new department. I sincerely hope that these profiles will be informative to those interested in Canadian industrial development and serve as a basis for discussion of industrial trends, prospects and strategic directions.

Minister

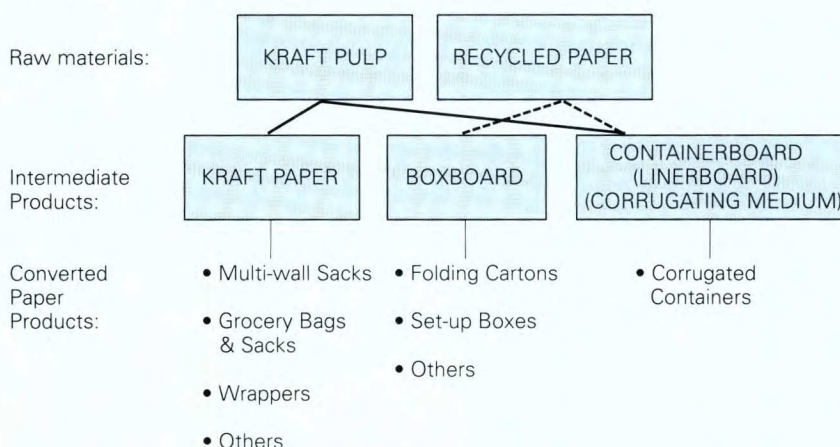
Canada

1. Structure and Performance

Structure

Containerboard describes the component materials of linerboard and corrugating medium used to produce corrugated board. This board is subsequently used to fabricate corrugated shipping containers. Linerboard is used for inner and outer facings and corrugating medium is used for the corrugated or fluted member. Together, these make up the finished corrugated board. Although these two products can be produced by the same mill, some specialize only in linerboard and others only in corrugating medium. Both corrugating medium and linerboard can be produced from either virgin fibre (wood) or recycled paper, or a combination of both. Recycled paper is used to produce about 25 percent each of the linerboard and corrugating medium sold in Canada. The following illustrates the relationship between containerboard and the other paper-based packaging materials.

PAPER-BASED PACKAGING



Canadian shipments of containerboard in 1986 were approximately 1 773 000 tonnes with an estimated value of \$885 million. Of this total, 31 percent, or 543 000 tonnes, was exported (314 000 tonnes linerboard and 229 000 tonnes corrugating medium). Canadian producers export corrugating medium mainly to the United States with the balance moving in small tonnages to a broad range of worldwide markets. The main markets for linerboard are Asia, western Europe and the United States, in order of importance. Recycled linerboard is not competitive offshore and is not much in demand in the United States. Imports of containerboard are negligible.

Total industry employment in 1986 was estimated to be 5400 persons. Ontario and Quebec accounted for more than half.

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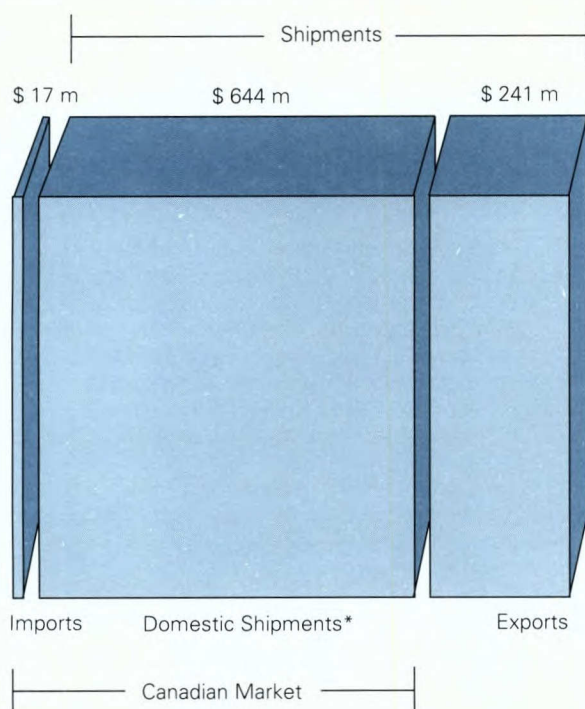
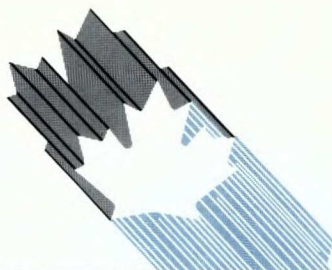
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*Imports, Exports and Domestic Shipments
1986*

* *ISTC estimate*

There are 18 mills wholly or partially engaged in producing containerboard in Canada. Three mills are located in Atlantic Canada, six each in Ontario and Quebec and three in British Columbia. Based on capacity, the industry is approximately 85 percent Canadian-owned.

Most mills (90 percent) are integrated forward with corrugated container production. All eastern producers, except one, are integrated and heavily oriented to the domestic market. Another non-integrated producer is located in British Columbia and accounts for more than 75 percent of Canada's linerboard exports.

Canada is considered a residual supplier to the international kraft linerboard market — accounting for only six to eight percent of international trade. The United States and Sweden share 85 percent of this trade. Brazil and South Africa are new international suppliers of linerboard. Their share is currently low but showing steady growth.

Performance

Growth of the containerboard industry relates directly to growth in demand for corrugated containers, which increased by six to eight percent per year in Canada in the mid-1970s. Since then, the growth rate has been about three percent, and is not expected to change significantly in the longer term. Export volumes, as a share of shipments, have remained relatively stable — ranging between 25 and 30 percent over the last five years.

Canadian kraft linerboard producers have had low net returns and rates of capital formation basically because a high-cost raw material (wood) is used in a low-yield process to produce a low-value product. Producers that use the more efficient semi-chemical process to make corrugating medium achieve a higher yield from wood and, consequently, enjoy better returns.

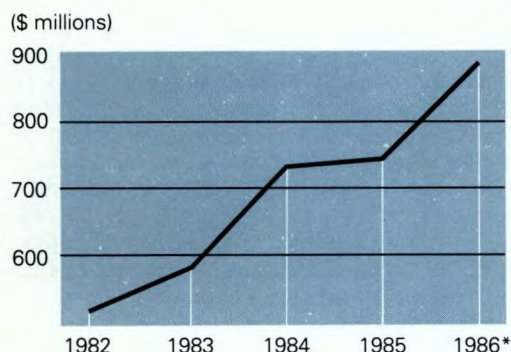
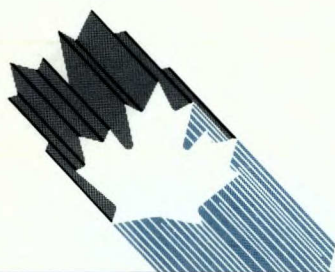
A total of some 420 000 tonnes of kraft linerboard capacity was permanently withdrawn from production in Canada over the past 10 years. One mill closed due to non-profitable operations and another company rationalized operations to achieve improved economies of scale and to centralize linerboard production in one mill in the southern United States. Since 1980, modernization and efficiency gains have caused slight increases in Canadian capacity for linerboard and corrugating medium. No greenfield linerboard mill is expected in the future.

The competitive position of Canadian producers in export markets has improved following the recent strengthening of Scandinavian currencies against the Canadian dollar. However, with the trend in rising wood and transportation costs, the Canadian position may deteriorate over the long term. British Columbia kraft linerboard is once again competitive in the western European market. However, there is an increasing emphasis on the Pacific Rim linerboard market and shipments to Europe are expected to diminish over time. Eastern Canadian kraft linerboard still remains only marginally competitive in Europe.

2. Strengths and Weaknesses

Structural Factors

Containerboard is a commodity grade and, as such, sales are determined largely by price. As a result, economies of scale are important in producing kraft linerboard. Canada has no world-class kraft linerboard production facility. The relatively small domestic market, and Canada's residual supplier role in export markets, do not allow domestic producers to realize the economies associated with long production runs. Each Canadian mill must cover the spectrum of different linerboard weights demanded by the market. This requires frequent machine changes and results in reduced labour efficiency — especially compared to American mills where product specialization is possible.



Shipments —————

Total Shipments

* *ISTC estimate*

Regarding input costs, Canadian mills have an edge only in lower energy prices, which is not a major factor. In the principal cost element — wood — eastern Canadian mills are at a serious disadvantage compared to mills in the southeast United States. Western Canada mills have less disadvantage against these same U.S. mills. Traditionally, Scandinavian wood costs have been high in relation to those in Canada and the United States.

Transportation costs are significant in this industry — second only to wood costs in their impact upon the competitiveness of Canadian containerboard in export markets. Canadian corrugating medium producers cannot compete in Europe because of high transportation costs compared to those of Scandinavian producers. They can compete close to the U.S. border and in Central and South American markets because their transportation costs are lower than those of Scandinavian competitors. U.S. transportation costs of kraft linerboard to western Europe, however, are 30 to 40 percent lower than Canadian costs. Canadian west coast producers, however, enjoy lower transportation costs to Asia than to Europe.

Generally, most of Canada's containerboard facilities are old. Modest upgrading has been undertaken but, by and large, Canada's containerboard production facilities are not as efficient as those being installed or recently completed in Sweden and the United States.

Trade-related Factors

TARIFFS ON CONTAINERBOARD AS OF JANUARY 1, 1987

	Canada	U.S. (percent)	Japan	Europe
Corrugating medium	4	4	12	9
Linerboard	6.5	free	2.5 or 3.5	6 or 9

It should be noted that Canadian containerboard demand depends heavily on the domestic corrugated container producers. Tariffs for corrugated containers are: Canada (9.2 percent) and the United States (2.8 percent). Under the Canada-U.S. Free Trade Agreement (FTA), the existing tariffs for containerboard and corrugated containers will be phased out in five equal annual stages beginning January 1, 1989. There are no non-tariff barriers in place at this time.

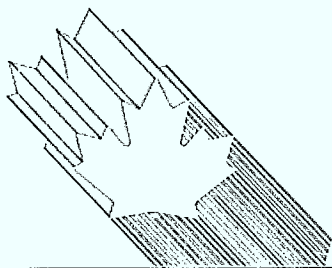
Technological Factors

New technology is widely available to all producers from manufacturers of paperboard machinery worldwide. Production facilities in Canada for kraft linerboard, however, are substantially older than those of the competing countries, although some modernization has been undertaken here. The investment required to assure Canada's long-term participation in export markets would be substantial. At current and foreseeable linerboard prices, the rate of return on investment is not sufficient to justify a greenfield linerboard mill.

3. Evolving Environment

Traditional sources of containerboard for the international market are undergoing changes. Brazil, South Africa, Portugal and Spain are emerging as important exporters. Brazil and South Africa are expected to change traditional trade patterns markedly. This change will affect kraft linerboard especially — Canada's main export in this industry.

The average long-term demand growth rate for containerboard is expected to range from 2.5 to three percent per year, in both domestic and export markets. In North America, the almost total preference for kraft linerboard over recycled linerboard will be maintained. In European markets the preference for recycled linerboard will increase and the market share for this product will grow because of its lower cost.



Western Europe will remain a major market for kraft linerboard. Canada's diminishing competitiveness in that market against the Americans, Scandinavians and new suppliers, coupled with the growing domestic demand, in the medium term, will likely lead eastern Canadian producers to withdraw completely from the European market and concentrate efforts domestically.

In the long term, diminishing competitiveness could result in western Canada kraft linerboard producers also losing a substantial share of the European market. This would likely reinforce their growing emphasis on Pacific Rim markets.

The elimination of Canadian tariffs on linerboard and corrugating medium is expected to have a strong and adverse impact on eastern Canadian producers. These mills are integrated forward into container production and the converter subsidiaries are currently locked-in to the supply/demand relationship. Duty-free access to the Canadian market for more efficient U.S. mills will have an impact on Canadian mills and converters alike and will likely lead to the restructuring of this relationship. The restructuring of mill producers will likely entail the conversion of mills to higher value grades suitable for export. For eastern mills, restructuring would require an extended adjustment period. Western mills, with their export orientation and negligible involvement in forward integration, are expected to remain almost unaffected and will require no adjustment period.

4. Competitiveness Assessment

Canadian producers are not competitive in European markets for corrugating medium because of high transportation costs compared to those faced by local or Scandinavian producers. Domestic producers can compete in the U.S. border areas and also in Central and South America where their transportation costs are lower than those of Scandinavian competitors.

In kraft linerboard, Canada has been traditionally a residual supplier — especially in the major western Europe market. It is competitive at the current exchange rates (first half of 1988). Eastern Canadian producers are only marginally competitive in Europe and are becoming less so. They will likely become progressively less involved with export and concentrate on the domestic market. Western Canada's producer is currently competitive in Europe and Asia.

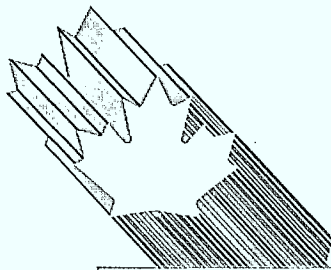
The FTA is expected to have an adverse effect on containerboard producers in eastern Canada. To be competitive and retain domestic market share against U.S. converters located in connecting states, the Canadian converter will look to Canadian mills for competitive pricing on supplies of containerboard.

The eastern mills, with their higher fibre and labour costs, have little or no room to manoeuvre on price, nor can they subsidize converter operations on a continuing basis. This situation could lead eastern containerboard mills to discontinue production or switch to more profitable grades. As a result, the converter subsidiaries would be released from their corporate obligations and be free to source their containerboard requirements from competitive suppliers.

For further information concerning the subject matter contained in this profile, contact:

Resource Processing Industries Branch
Industry, Science and Technology Canada
Attention: Containerboard
235 Queen Street
Ottawa, Ontario
K1A 0H5

(613) 954-3043



PRINCIPAL STATISTICS

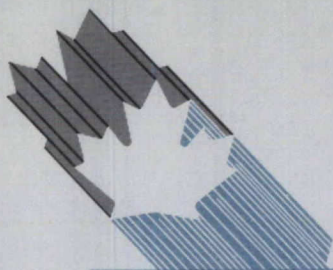
SIC(s) COVERED: 27/13 (1980)

	1973	1982	1983	1984	1985	1986
Establishments	19	18	18	18	18	18
Employment ^e	5 300	4 800	5 300	5 400	5 400	5 400
Shipments (\$ millions)	241	517	586	715	733	885 ^e
('000 tonnes)	1 451	1 300	1 465	1 591	1 575	1 773 ^e

TRADE STATISTICS

	1973	1982	1983	1984	1985	1986
Exports (\$ millions)	65	119	152	184	167	241
('000 tonnes)	410	336	460	444	428	543
Domestic shipments (\$ millions)	176	398	434	531	566	644 ^e
('000 tonnes)	1 041	964	1 005	1 147	1 147	1 230 ^e
Imports (\$ millions)	6	12	15	13	16	17
('000 tonnes)	40	35	41	31	38	39
Canadian market (\$ millions)	182	410	449	544	582	661 ^e
('000 tonnes)	1 081	999	1 046	1 178	1 185	1 269 ^e
Exports as % of shipments (tonnes)	28	26	31	28	27	31
Imports as % of domestic market (tonnes)	4	4	4	3	3	3
Destination of exports (% of total value)			U.S.	E.C.	Asia	Others
		1982	29	32	22	17
		1983	32	34	17	17
		1984	40	22	21	17
		1985	29	22	28	21
		1986	33	23	25	19

(continued)

**REGIONAL DISTRIBUTION — Average over the last 3 years**

	Atlantic	Quebec	Ontario	Prairies	B.C.
Establishments — % of total	17	33	33	—	17
Capacity — % of total	11	38	32	—	19

MAJOR FIRMS

Name	Ownership	Location of Major Plants
Domtar Inc.	Canadian	Red Rock, Trenton and Mississauga, Ontario
Consolidated Bathurst Inc.	Canadian	Bathurst, New Brunswick New Richmond, Quebec
Canadian Pacific Forest Products Limited	Canadian	La Tuque and Matane, Quebec
Eurocan Pulp & Paper Ltd.	Finnish/ American (50/50)	Kitimat, British Columbia

e ISTC estimate

Note: During the period 1982-1986, 100 percent of imports came from the United States.

Regional Offices

Newfoundland

Parsons Building
90 O'Leary Avenue
P.O. Box 8950
ST. JOHN'S, Newfoundland
A1B 3R9
Tel: (709) 772-4053

Prince Edward Island

Confederation Court Mall
Suite 400
134 Kent Street
P.O. Box 1115
CHARLOTTETOWN
Prince Edward Island
C1A 7M8
Tel: (902) 566-7400

Nova Scotia

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HALIFAX, Nova Scotia
B3J 2V9
Tel: (902) 426-2018

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E1C 8P9
Tel: (506) 857-6400

Quebec

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