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## The National Importance of the Canadian Pulp and Paper Industry

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The products of Canada's forests have established an industry that is of primary national importance, but this importance to our economic welfare is not sufficiently understood nor appreciated by the public at large, the Provincial and Federal Governments, nor by the industry itself.

In volume of dollars, agriculture and mining are larger, but the economic importance of the forest industries in this country cannot any longer be questioned. The prosperity of agriculture, exclusive of the grain crops, depends largely on the prosperity of the forest products industry. This industry is the largest employer of labour in the Dominion of Canada, employing 16.2% as compared to *mining's 9%*; also due to our widely scattered operations, the large number of men we employ and the nature of our work, we are large buyers of all forms of agriculture and livestock products, and the volume in measure of dollars is very high. The pulp and paper industry alone, without reference to the balance of the forest products industry, purchased last year approximately \$8,000,000 of the farm and live-stock products and, in addition, purchased in all other forms of materials for use in our woods and our mills about \$25,000,000, and the approximate amount spent in wages and salaries for mill and woods operations was about \$50,000,000. This industry also paid for transportation (of which the railroads received a major share) about \$40,000,000 for transportation of the products it uses and for the products themselves. In addition, we paid to Provincial and

Federal Governments in *timber dues and other forms of taxes* approximately \$10,000,000.

While the volume in measure of dollars is very high, yet it has a much more important local effect on the prosperity of towns and agricultural communities adjoining our widely scattered operations. There are a startling number of towns and villages that are entirely dependent on the operations of pulp and paper mills throughout Canada, and a much larger number of towns and villages that are partially dependent on the industry. Therefore, *the prosperity of this industry has a widespread local effect throughout the Dominion.*

The forest products industry is the most important industry in the Dominion *in its influence on a favourable balance* and, in that respect, *is considerably in excess of agriculture.* The difference between the favourable and unfavourable balance of trade at the present time depends to a large extent on the well-being of this industry.

The pulp and paper industry is the most important part of the forest products industry. Its growth and development has been so rapid that there does not seem to be a clear comprehension of how startling that growth has been, nor does there seem to be a clear conception of its present and future importance to this Dominion. Therefore, I want particularly to stress that *this industry is a new industry, and only last January it held its twenty-fifth annual Convention*, so for all practical purposes, this industry is only twenty-five years old. The year 1913 marked the beginning of that phenomenal and rapid growth of newsprint manufacture.

The production in 1913 was 350,000 tons;  
the production in 1923 was 1,250,000 tons;  
the production in 1933 was 2,000,000 tons;  
and the production in 1937 was 3,645,000 tons.

During that same period this industry started the manufacture of other paper products, such as pulp board, wrapping paper, bond and writing paper, and tissues, the output of which has now reached the capacity of *600,000 tons annually.* The future of this section of the industry depends, to a small extent, on increased population and increased

demand for additional paper products of this kind in this country, but its real future lies in export markets.

I think we can look forward to the development of a large board industry in this country, which will most probably reach very large proportions. Building board has been so improved that there is a constantly increasing demand for this product in all building projects. We have seen the increased consumption of building board in the United States and Europe, and in the course of time the world markets will be available to Canada for this product. Mr. Kettering, Vice-President and Research Director of the General Motors Corporation has just recently stated: "by 1950 people will no more be willing to live in 1937 houses than they are willing today to drive in 1925 cars". *This means air-conditioned houses, and that means building board.*

The annual per capita consumption of building board in United States is about eighty pounds. On the same basis of per capita consumption Canada will ultimately require for her own uses a production of about *450,000 tons of building board* per year, and there will still be a rapidly growing demand in Europe available, in part, to Canadian manufacturers.

This phenomenal development of our pulp and paper industry in the short period of twenty-five years, of course, made a large demand on our forests.

In 1913, we cut 2,144,000 cords, of which we exported just over 1,000,000 cords. The wood cut increased constantly until in 1936 we cut 7,000,000 cords, of which we exported 1,235,000 cords.

This is a large annual demand to make upon our forests for pulp and paper alone, but according to reliable figures which I have seen, during the past ten years the losses in our forests due to fire and due to parasites, have been greater than our annual cut for pulp and paper. In other words, at the present rate, for every cord we cut we apparently lose, at least, another cord, due to the destructive forces of nature.

There are many good economic reasons for the rapid growth of the pulp and paper industry in this country, including, among many others, our ample resources of wood

and power, but, principally, it has been due to the rapidly increasing world demand for pulp and paper products.

While the record of the growth of the pulp and paper industry in Canada is phenomenal, the world picture is far more amazing. There are no very reliable figures for the earlier years, but the world production and consumption of paper products, including board, was.

In 1926	- - - -	21,000,000 tons;
In 1929	- - - -	26,000,000 tons.

Despite a depression, which seriously set back world consumption, the total consumption of paper products and board throughout the world had, by 1936, reached the amazing figure of about 29,500,000 tons.

Newsprint is the major products of our world's industry, yet many people are surprised to learn that at the present time newsprint represents only 28 per cent of the world's consumption of paper products and board.

The great increase in consumption in recent years is in the other products, which represent 72 per cent, and which consists principally of broad, kraft and allied papers, book and writing, and a great miscellaneous variety of papers, which one must see to believe.

From the figures which I have just given, you will now appreciate that the world's consumption of paper products and board, despite the major depression, has increased from 1926 to 1936 by 9,000,000 tons, over twice the total maximum production of Canada. During this same period the world's newsprint consumption increased by 2,100,000 tons, leaving an increase of 6,900,000 tons for other paper products and board.

*Newsprint is the major product of Canada*, but it must now be obvious to all that other paper products and board are much *more important in the figures of world consumption*, and this is a very significant and important fact to consider when we are thinking about world trade of pulp and paper products, and the future of our Canadian operations and our timber resources.

As an illustration of this trend, I will give you some figures for United States and Canada. In those two countries the consumption of paper products and board in 1936

was 2,000,000 tons in excess of the consumption of 1935. The principal items being an increase in consumption of 1,500,000 tons in United States in paper products and board, other than newsprint. The United States in 1937 again increased its consumption of those products by another 700,000 tons.

However, this is not very surprising when you study the per capita consumption figures. In 1909 the per capita consumption in the United States for newsprint was 25 pounds, but for paper products and board, including newsprint, it was 92.5 pounds. By 1936 per capita consumption in the United States had reached a figure of 57.5 for newsprint and had reached a figure of 226 pounds for paper products and boards, including newsprint.

I have not yet seen any very reliable figures for Europe, but so far as I can learn, the per capita consumption for paper products and board in Europe in 1936 was only 47 pounds. In countries like Great Britain, Germany and France, no doubt the per capita consumption would be well in excess of 100 pounds. However, I do not consider these very reliable figures.

The consumption of paper products of all kinds is just getting under way in Europe. The demand there is now beginning to grow rapidly, and there is every possible evidence of a growing consumption of paper products and board, exclusive of newsprint.

What do these figures tell us? In our life-time we have seen the development of the telegraph, the wireless and the radio, which have reduced the time-space of the world to a few moments; the result: more and more use of paper and, in addition, demand for new paper products to meet the requirements of these new developments. The development of high speed transportation has brought the necessities, the delicacies and luxuries of life to our door—all wrapped and packed in paper. The public demand for cleanliness and for better sanitary methods, the pure food laws, have resulted in almost everything being wrapped and packed in paper.

I have made no reference so far to the production and consumption of pulp products for uses other than paper

and board. For many years back the production of ground-wood and sulphite pulp was consistent with the demand of paper products. It was not until 1931, or 1932, that the demand began to shoot upwards. This potential development had been known to a number of close observers for a long time, but, nevertheless, its sudden development came as a surprise to all, except those few men throughout this world industry who had been assiduously and quietly working for many years. They are a small fraternity in number, yet they have established a new section of this industry, which seems to become more important, and quite likely more profitable than the "large tonnage" production of paper products which for some time now have been living on bankruptcy wages. The world figures of pulp production are not yet sufficiently clear as to the quantity used in paper products and those used in other products, so I will only attempt to indicate the growth in total pulp produced.

In 1932 the world produced 15,600,000 tons of pulp; and in 1936 the output was 23,200,000 tons—an increase in four years of 7,600,000 tons.

The improvement of processes and technique in the production of alpha pulp resulted in the establishment of the rayon industry on a commercial scale, with the result that it is already a large consumer of our high-grade pulp, and which, it is predicted, will grow in time to huge proportions.

More recently still, due again to further improvements in processes and technique, consumption of staple fibres in competition with natural fibres began, and in the United States, Germany and Japan, plants were built to produce products from this staple fibre, and in those same countries additional plants are under construction. The use of staple fibre to replace wool and cotton has already had a phenomenal success.

In 1922 about 100 tons of this product was used; in 1934 about 30,000 tons was being used; in 1936 about 150,000 tons, and in 1937 it is estimated that about 250,000 tons will have been used. There is every indication, from the figures that are now available, that this particular development will outstrip rayon pulp, even though the requirements of rayon pulp will continue to grow to huge dimensions.

Raw cotton is a cellulose and wool is an animal fibre, but ultimately staple fibre will compete commercially with those raw products in many a wide range of converted products.

Even at the present time staple fibre can compete commercially with wool for many uses, and as a result the demand for staple fibre to replace wool fibre is growing fast. It is always interesting to show the layman, or the man outside the industry, a sample of wool made from staple fibres, but it is much more interesting to the man in the industry to see various qualities of wool made from staple fibre and made to compete with various grades of wool, and such is the situation today.

When sufficient further improvements have been made in the process to enable staple fibre to compete commercially with cotton, then there will be a tremendous field available for this fibre.

In addition to these two special products, there is a great variety of other products that are now being made from alpha pulps, far too numerous to mention, but for which, I can assure you, there is a growing demand.

Some time ago we had a chart prepared in the industry to show the products that were then being made from a tree, exclusive of lumber and timber, with reference to the quantity produced of any particular item or its value. This chart, however, is even now out of date. A large number of blue prints were made from this chart, but it proved to be so interesting and so revealing as to the possible products of our forests, that they very soon disappeared. This chart has been published in many magazines and used in many articles. This diagrammatic chart shows the basis for a number of new industries that are already well under way, and a number of other industries that are just getting under way, all of which will ultimately become large new industries, based on the products of our forests, namely, cellulose, and will represent large investments and the large employment of labour. Many of the new products you will recognize, and of which industries have already been started throughout the world, such as, silk, known as rayon; artificial leathers, known under a number of trade names; glass, particularly shatter-proof glass known under different trade

names; cellophane, nitre-cellulose, which has an extensive use for smokeless powder, cordite and other types of explosives; roofing and roof shingles; insulating fibres and insulating board; and then, that large industry—the various types of building board, including panel board and panel decorative board.

There are a number of other products, however, with which you may not be so familiar, and I am sure it will be news and of interest to many of you to know that there are being produced from cellulose, the following: Yeast, printing inks, lacquers and a base for paints, photographic films, celluloid, dishes, such as cups, saucers, plates, bowls, etc., made under a plastic process. There are many other products; but I will have to content myself with saying that new products will continue to be developed from the basic product, cellulose.

In the operation of our pulp and paper mills we have many wastes which so far have never been put to any commercial use, except in isolated instances. This field has been thoroughly studied for years by our research organizations, and we are satisfied now that there are many outlets for products made from our waste sulphite liquor and many industries that will require those products, particularly in plastics, paints, lacquers and motive fuel. It is only a matter of time, opportunity and commercial competition. Whether in the course of time the products from the chemical side of our industry will become more important and more profitable than our primary products, is yet too early to guess, but some of our research men, who have made a careful study of the possibilities of our waste sulphite liquors, have no hesitation in saying that it will ultimately become the most profitable part of our operations.

I have taken the time of this luncheon to quote you a number of essential figures for the purpose of showing you the growth in a few short years of the consumption of paper products, board and chemical pulp, throughout the world.

Why then in such a rapidly growing expanding market has the paper industry had such an unfortunate earning position? Why the great losses in paper stocks and in paper securities? Why the chain of succeeding bankruptcies?

Without attempting to explain at this time the many contributing factors, most of which you have heard, there is one underlying fundamental fact that must be clear to all who have given any thought to the past problems of this industry. As I have already stated, twenty five years ago, in 1913, the production of newsprint in Canada was 350,000 tons. As a result of the war and the post-war period, there was an incessant, constant demand for newsprint. The wireless, the news services and world events came into their own. *The world was on the front page.*

The confidence of the large amount of money that was loaned to this new and growing industry had to be placed in a few individuals because there was no economic background or experience behind this new industry. It had to be largely a matter of faith and optimism. Those men were individualistic, and operated their business on that basis. With ample forest resources and a rapidly growing demand for their products, there was no reason for them to be other than individualistic and opportunists. For quite a while the companies made money and the industry prospered, but ultimately the industry grew beyond the individualistic control of a few men and became an important part of a world industry and subject to the economic laws of a world trade. When in the course of economic corrections, capacities catch up to and exceed consumption, or consumption falls materially below capacity, then ruthless individualistic competition must be paid for.

I think you will agree that a large important industry, based on the manufacture of raw materials and dependent on a large buying public for the daily consumption of its product, cannot now be conducted without some form of mutually co-operative effort.

There has been tremendous criticism of the pulp and paper industry in Canada. Much of this criticism has not been justified so far as it was directed against the industry. As already indicated, the newsprint industry grew rapidly from 350,000 tons in 1913, and the consumption was rapidly growing due to a constantly expanding demand for newsprint. The men who were responsible for the operation of the properties and who, in many cases, had built the properties, were well aware of the difficulties attending a rapidly

growing demand, and were well aware of the necessity of preventing a too rapid expansion; but with plenty of available timberlands and a growing market there was nothing to prevent any new money from entering this rapidly growing and, at that time, prosperous industry, so long as the necessary capital was available, and as a result, new properties were financed and new properties were developed by, in most cases, new money. There were plenty of voices raised in the newsprint industry against the danger of this new and increasing capacity, and plenty of good and sound reasons were given, and plenty of representations made against an untimely and too early expansion. The agitation in the industry at that time did actually prevent a number of properties from coming in, but it did not, and, obviously, could not succeed in having an orderly increase in capacity based on their ideas of a normal yearly increase in consumption.

For a while even those new properties as they came into production enjoyed a share in the growing demand for newsprint and prospered accordingly. Then, there came a period of financial mergers with new capital added to already existing capital and the absorption of companies into a corporate structure, followed again by still more new mills by new capital who were able to secure timber limits and who had confidence in the growing demand for newsprint.

The annual increase during those years was fantastic and not normal. The inevitable economic adjustment that always takes place, found the industry in 1929 with a capacity already in excess of its needs and with still additional capacity coming in. As a result, the industry went through those long years from the end of 1929 until practically 1936 before the mills again began to run at near normal capacity.

The confidence in the future of the industry which caused these new mills to be built was not unfounded, but the timing was exceedingly poor. Even during the period of depression to which I have referred, at which time our Canadian mills operated at a capacity of as low as 45%, there was a huge increase of machine capacity in Europe for the manufacture of newsprint to satisfy the markets of Great Britain and Europe. That increase in capacity was almost equal to the decrease in our production during that depression period.

Had the newsprint industry of Canada continued its original policy of supplying the export markets of the world as well as United States, a large part of this new machine capacity in Great Britain and Europe would have been prevented, and, in addition, Canada would have enjoyed the benefits of supplying this tonnage direct from this country.

There is now a large productive capacity in the pulp and paper industry throughout the world. Manufacturing capacity is not easily determined; in fact, the word is almost meaningless, except when related to a definite set of circumstances.

The productive capacity in Canada of our pulp and paper mills can be a number of things. When our pulp and paper mills are running full their capacity can still be stepped up to meet any normal demand, and there are many ways of continually increasing capacity at small expense when circumstances warrant. We do not need any more capacity in Canada at the present time. We have ample room to expand the capacity we have for some time to come to meet any reasonable demand. The same is true for world capacity. It is interesting to note that the percent rate of increase over maximum capacity in any given period of over five to seven years is seldom very great per average year.

If this combined industry of paper products and board in Canada were to expand at the rate of  $2\frac{3}{4}$  per cent each year over the previous year, we would double the capacity of this present industry in the next twenty-five years. I mention that the total world increase in paper products and board was 9,000,000 tons since 1926, but that is only  $3\frac{1}{2}$  per cent increase over each previous year. This industry can cope with increases like that. If we have a few years with an increase of from seven to ten per cent each year, and try to build up to it with new mills and new limits, we will soon put ourselves back to where we were for some time.

Therefore, our problem for the immediate future is not in productive capacity, but in our forests. There is a growing fear throughout the world that we are facing a shortage of wood. The records seem to indicate that in those European countries which have timber areas (except Russia), the annual cut from their forests for pulpwood, lumber and

fuel, is substantially in excess of their present annual regrowth.

As already stated, we cut in Canada in 1937 about six million cords of wood for our own production. The rest of the world required about forty million cords for its pulp and paper. That annual quantity would require even at a two per cent annual increment available standing timber equal to two billion cords.

Due to production expansions in many parts of the world, due, in turn, to new products and the increased consumption of those new products and of old products, there is no doubt that the previous sources of wood supply are, in some cases, being restricted, or drying up.

There is no doubt that a number of countries will in time have to make new arrangements for their raw materials and, in some cases, change wholly, or partly, from wood to pulp. Actually that change has already started. In the plainest of words, those countries, particularly in Europe, that are large producers of paper products of various kinds, or the products of pulp, such as rayon, silk, artificial leathers, etc., but who have no adequate timber supplies, will in the near future be unable to secure pulpwood, but instead will be required to buy pulp products and become strictly converting mills. I have been particular to state that this will take place in the near future, but it is actually under way at the present time.

In the United States, due to the great demand for paper products and board, other than newsprint, I am satisfied that the annual increment of the forests of the South will eventually all be required for these products, and we may see in due time a partial migration to the South of some of those Northern United States mills which are now dependent on the importation of Canadian wood. There is no longer any doubt in the minds of informed people in this industry that Canada is in a favourable position to benefit from the world-wide development in the consumption of pulp and paper products.

The Provincial Governments and the industry will eventually have to give consideration to the exportation of pulpwood. For many years we have been exporting wood,

largely to the United States. It has varied in yearly quantity, reached a peak of one and a half million cords in 1927, and again in 1928. It dropped during the depression, but during 1933 to 1936 we exported annually just over one million cords.

During the past three years serious efforts have been made to secure large quantities of pulpwood for exportation to Europe. The exportation of wood could rise to a tremendous figure if our Provincial Governments should allow unrestricted exportation.

*We must preserve and protect the forests of this country by intelligent forest management and forest policy.*

The importance of a normal and intelligent development of this Canadian industry to the forest timber-holding Provinces is so great that it is vitally important that they and the industry work together *intelligently, constructively and in close co-operation with respect to the problems of the forest*. We need to so plan as to eliminate immediately the terrific waste from fire and forest insects.

We will need to discuss and consider better and more intensive methods of forest management, forest preservation and forest protection, because the need of every manufacturer is a continual adequate timber supply, and it is in the interests of the Provinces that all existing operations be so provided in perpetuity.

Every person of responsibility in this industry must realize that in this growing and expanding world industry of pulp and paper we are in competition with many countries, and in order to have our share in the growth of this industry based on our available forest resources we must co-operate with each other in all those general policies which are of most vital concern to our markets and our forest areas.

The people of Ontario are very conscious of the mining industry. It is their important industry and it has made Ontario a wealthy and prosperous Province. There is a market—an immediate sale for every ounce of gold produced, and at a satisfactory fixed price. The pulp and paper industry has no fixed market and no fixed price. It is in a world-wide competitive market dependent upon a daily

consumption of its product, and is, therefore, subject to the economic trends up and down, and it has to have sound knowledge of the constant changes in the demand in the world markets. It has of necessity to carry large inventories long in advance of its requirements in the form of wood and wood supplies, coal and other raw materials, manufacturing supplies of all kinds, that ties up considerable money. It employs large numbers of men in innumerable towns and villages throughout Canada. It is one of the principal users of power and the most important customer of the railroads and other transportation companies. It is also a large and important customer of the secondary industries in Canada. An industry that has such a large invested capital, that is such a large user of other Canadian products and such a large employer of labour, and with such an important effect on the balance of trade, must be of national importance in our economic welfare.

We have a real opportunity and a good future in the world pulp and paper industry in selling to the world materials in the form of pulp and paper products. We need to look after this future by protecting and preserving our forests, and by wise and intelligent development of our capacity. *All this can be done in a very simple manner—the use of our combined good common sense.*