1995 forecast sees growth for pulp, paper, and allied industries

Gains are expected in most major sectors of the industry, especially the containerboard and packaging sectors, market wood pulp, and certain grades of printing and writing paper.

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Editor's note: This article is based on a chapter of the 1995 U.S. Industrial Outlook report prepared by the U.S. Department of Commerce. The full document includes additional information relating to specific segments of the industry, such as pulp, paper, and paperboard manufacturing. Other chapters in the document may also interest readers, such as those on chemicals, printing and food packaging. For information, contact the U.S. Department of Commerce, Forest Products Division, Washington, D.C. 20230.

The United States pulp, paper, and allied products industry is a global leader in both quantity and quality and one of the world's lowest-cost producers. It ranks eighth among U.S. manufacturing industries in the value of its shipments and third among the nondurables sectors in sales. It ranks second in capital expenditures, according to the most recent Bureau of the Census data. Although the paper industry is one of the largest U.S. consumers of energy, ranking third behind metals and chemicals, it also has the highest rate of self-generated energy, totaling more than 56% in 1993–1994.

The paper and allied products industry covered in this analysis encompass 17 manufacturing sectors that process wood, recovered paper, other cellulose fiber, and plastic film into a wide range of end products. It does not cover certain types of paper products such as abrasive, carbon, facsimile, photographic, and similar photosensitized papers. The primary-products sector encompasses pulp, paper, and paperboard manufacturing. This sector operated approximately 547 paper and paperboard mills and 203 pulp mills in 1994, with total employment of 230,500.

The more labor-intensive converting sector, with 68% of the industry's employees, consists of 14 fairly distinct industries that use primary products, such as paper and paperboard, in the manufacture of coated papers, bags, boxes, folding cartons, stationery and similar office-type products, plastic film and laminated paper, plastic, and foil products, and envelopes.

Industry performance

Following several years of declining foreign demand, lower prices, and depressed earnings, aggregate shipments of the U.S. paper and allied products industry were estimated at US$ 134 billion, up approximately 3.5% from 1993. The increase last year was directly attributable to a sizeable increase in domestic consumption; higher prices for most of the leading grades of pulp, paper, and board; and a return to increased foreign demand in most major markets (excluding Japan).

The primary pulp, paper, and paperboard sectors accounted for 39.5% of the value of the industry's total shipments in 1994, down slightly from the 40.3% level of 1993. The sector made significant real growth in output and in sales of kraft linerboard, semichemical and recycled corrugated medium, bleached and recycled paperboard, and some grades of printing and writing papers, but shipments of newsprint, thin papers, and some paper packaging papers declined.

The larger, more labor-intensive converting sector, which accounted for the remaining 60.5% of paper industry shipments, also achieved significant real growth in many sectors in 1994, particularly corrugated and folding carton shipping containers and boxes, sanitary paper products, and envelopes.

Productivity increased

During the industry's recent downturn in both demand and prices, domestic manufacturers made key competitive moves: improving sales and distribution methods, minimizing capacity additions, confining inventories of paper and paperboard to near-normal levels, making production adjustments and process adaptations to increase productivity, and thrifty handling of available capital.

Capital expenditures for industry remained high despite lower demand as the industry made manufacturing improvements an on-going project. In 1994, capital expenditures were estimated to be nearly US$ 10.7 billion—the highest level in nearly three years, but far below the US$ 16.5 billion level of 1990. Additions to plant capacity in 1994 were only 2% more than those made in1993.

Also, throughout 1994, inventory levels at both the producer and consumer levels for many products (e.g., market wood pulp, kraft linerboard, corrugating medium) remained at near-record lows, leaving most manufacturers with minimal available output available for purchase. As demand grew in 1994, operating rates for many products stayed at nearly maximum capacity, ranging from more than 90% for the pulp sector to about 93% for the paper sector and 98.5% for the paperboard sector. As a result, the industry was in a relatively strong economic position through 1994 and heading into 1995.

With the industry's expansion winding down from the record pace of 1987–1990, environmental improvements and new projects and expansions for recycling have replaced capacity additions as the driving forces behind capital spending plans. Environmental programs account for almost 16% of total spending plans, up from 15% in 1993 and 14% in 1992. Increasingly stringent federal regulations and stricter state environmental standards have prompted projects to add secondary treatment plants, control odorous emissions, and reduce the use of elemental chlorine.

Earnings up, jobs down

Earnings rebounded dramatically in 1994 with a robust 12% increase for the paper and allied products industry. Most U.S. companies' profits increased more than 10% in 1994, especially those fully integrated manufacturers of market wood pulp, kraft linerboard, and corrugating medium. Cash flow increased sizably, boosted by higher prices especially for containerboard, market wood pulp, and certain printing and writing paper grades.

Employment in the paper industry was about 683,500 in 1994, down about 1% from the 1993 level of 689,400. The primary products sector was especially hard hit in 1994 as employment dropped 2.5%. Principal causes of the declines were mergers, acquisitions, consolidations, and the phasing out of older, less-efficient machinery and operations. Average hourly earnings increased in 1994 by nearly 2.5%, while production workers in the primary products sectors saw an increase of 3.0% in hourly wages.

International competitiveness

As the domestic paper industry has increased its focus on foreign markets, the trade deficit in paper and allied products has disappeared. Over the past five years, more than 50% of the industry's growth in shipments has been directly attributable to increased exports. Since 1989, shipments to the domestic market have declined about 2% (on a value basis), but exports have increased more than 23%. Much of the increase in exports has resulted from higher shipments to Canada, Mexico, Asia, and Latin America.

In 1993, the U.S. market was the favored destination for low-priced pulp, paper, and paperboard from Canada, Finland, Sweden, Norway, Brazil, and other countries. While imports surged in 1993, U.S. paper exports fell because of the economic downturn in many of its principal export markets, especially in Europe and Asia. Consequently, the small trade surplus that existed in 1992 was turned into a small deficit.

Despite the 1993 results, since 1989 U.S. exports of pulp and paper products have increased more than 11.5% (value basis) while imports have declined 8%. Exports have played an increasingly important role in the U.S. paper industry, accounting for nearly 12% of U.S. paper goods shipments in 1994, compared with 7% in 1989. In 1994, U.S. exports of paper and allied products is forecasted to have increased to nearly US$ 10.9 billion, more than a 12.5% increase over the 1993 value. On the other hand, imports of paper and allied products are estimated to have increased about 4.7% over the previous year's level to almost US$ 10.8 billion. As a result, for only the second time over the last decade, the industry enjoyed a small trade surplus.

The industry's exports can be divided into two major categories: (1) market wood and (2) paper, paperboard, and converted products. Over the 1989–1994 period, on volume basis, U.S. exports of wood pulp increased about 4.5%, most notably driven by increases in shipments to Mexico and Asia (excluding Japan), while U.S. exports of paper, paperboard, and converted products have jumped 45% (from 5.71 million metric tons to 8.28 million metric tons). Exports of kraft linerboard, newsprint, and printing and writing paper have experienced noticeable increases in recent years because of the strong competitive position of the U.S. paper industry, improving global economic conditions, the reduction of foreign tariff and nontariff barriers, and a stronger export emphasis by U.S. paper companies. Growth in U.S. exports of paper, paperboard, and converted products has also been attributable to increases in demand from Canada, Mexico, Asia (excluding Japan), and Latin America, while exports to Japan and Western Europe have, for the most part, been very disappointing in recent years.

Although the value of U.S. imports of pulp, paper, and allied products has slipped over the 1989–1994 period, the volume of U.S. imports has actually experienced a modest increase. U.S. imports of wood pulp (almost exclusively from Canada) have increased about 8% over the past five years from 4.4 million metric tons to 4.75 million metric tons. Over the same period, U.S. imports of paper, paperboard, and converted products have experienced a 7% gain, although imports as a percentage of U.S. apparent consumption have remained essentially unchanged over the 1989–1993 period. U.S. imports of paper, paperboard, and converted products comprise primarily three commodities—newsprint (40%), wood pulp, (28%), and printing and writing paper (20%). Canada is by far our leading supplier of pulp, paper, and allied products with a 75% import share. Other suppliers include Finland, Germany, Brazil, Japan, and the United Kingdom.

With the implementation of the North American Free Trade Agreement (NAFTA), U.S. paper exports to Mexico have already grown. Despite a sluggish performance from the Mexican economy over the past couple years, U.S. exports increased to $1.6 billion in 1994—up more than 13% over the 1993 value. The proposed General Agreement on Tariffs and Trade (GATT) could also have a positive impact on U.S. exports of paper and allied products.

Environmental profile

The United States is the world's largest generator, consumer, and exporter of recovered paper and paperboard. In 1994, the U.S. paper and board industry consumed 26.5 million metric tons of recovered paper, an increase of 4.5% over the 1993 level. In addition, the United States exported 5.3 million metric tons of recovered paper and board. Over the past decade, the domestic paper industry's demand for recovered paper has grown at a rate more than double that for virgin fiber. In 1994, recovered paper accounted for just over 31.5% of the industry's papermaking fiber share, up from 30.9% in 1993. This trend is expected to continue nationwide as the industry creates new goals for itself and responds to pressures to increase recycling and reduce the amount of paper destined for landfills.

By the year 2000, about two-thirds of all domestic paper and paperboard will be collected for recycling purposes. This will be essential if the industry is to meet its new voluntary recycling goal of 50% by then. The U.S. paper industry has formulated more than 145 different projects either currently operating or scheduled to come on-line over the 1994–2000 period, at an estimated cost exceeding US$ 10 billion.

About one-third of the primary paper and board mills in operation during 1994 used recycled paper as their principal fiber component, and at another 50%, recycled materials constituted up to half of the fiber mix. Most mill additions in 1994 were planned to use recycled fibers as a significant portion of their papermaking materials.

The U.S. paper industry was quite active in 1994 in assessing and evaluating the scope and the potential effects of the Environmental Protection Agency (EPA) cluster rules which will revise water-effluent and air-emission limitations and standards for the industry under the Clean Water Act and the Clean Air Act. The EPA has estimated that the cost of compliance under the new cluster rules, which are due to be promulgated near the end of 1995, will be approximately US$ 4 billion dollars. The American Forest & Paper Association has estimated that the cost will be more like US$ 11.5 billion, with some older pulp and paper mills being closed as a result.

Prospects for 1995

The U.S. paper and allied products industry should see the further expansion of the industry's sales in 1995 as product shipments increase in real terms by 3.25%. This projection is based on anticipated improvement in the domestic economy and a concurrent upturn in U.S. paper demand, plus continuing growth in exports. As economies in Latin America, Europe, and Asia (excluding Japan) continue to expand, the U.S. paper industry is prepared to increase its sales in these markets. The continued implementation of the NAFTA and passage of the Uruguay Round of the GATT agreement could bring a substantial rise in U.S. exports to most global regions.

U.S. exports should increase an additional 7% in 1995, and the gain could be significantly higher if trade barriers are lowered in Japan. Imports will also increase in 1995, especially newsprint, pulp, and printing and writing paper from Canada. The U.S. industry already has a significant presence in Western Europe, and will attempt to further strengthen its European Community (EC) market share through joint ventures or acquisitions of local papermaking operations, especially in the more lucrative sectors of printing and writing papers and of sanitary tissue manufacture.

Among the industry's chief concerns during 1995 will be the economic condition of the U.S. market (where nearly 90% of domestic production is consumed); the possible implementation of the cluster rules; the pressure to increase its consumption of recovered paper; and the continued reduction or elimination of foreign trade barriers which effectively limit U.S. exports to key markets.

Five-year prospects

Shipments of paper and allied products are expected to grow at an average annual rate of about 2.5% through 1999. If the national economy continues to strengthen as projected over the next five years, and export markets continue their momentum, then industry sales should improve. Exports are expected to grow faster than domestic sales, resulting in positive trade balances for this industry through the end of the century. Significant technological, structural, and organization changes should keep the U.S. industry highly competitive in both domestic and international markets. While the domestic market will remain the leading consumer of U.S. paper and allied products, the global market will continue to be the focus for expanded industry growth.

The industry will benefit strongly from the continued implementation of the NAFTA. Mexico's apparent consumption of paper and paperboard has increased more than 36% since 1988, which has contributed to the strong growth of the U.S. exports to that market. This is expected to continue throughout the forecast period. The industry will continue to harbor deep frustrations over the lack of progress of the 1992 U.S.-Japan Paper Agreement. It will work very closely with the U.S. Government in making every effort possible to open up the world's second leading consumer of paper and paperboard. If implemented, the GATT should be successful in opening a number of foreign markets for U.S. paper and paperboard exports, especially in Europe and Asia. The U.S. industry, which accounts for 28.5% of the world's paper and board capacity and 32% of the world's pulpmaking capacity, is economically and technically positioned to improve its export performance over the next five years. Competition from abroad will intensify as foreign paper companies in developing countries improve their product quality and compete more aggressively in major Western markets including the United States, Japan, and Europe.

As the domestic industry moves toward its 50% recycling goal, there will be noted increases in U.S. recycling technologies, the addition or retrofitting of existing machinery, and the continued expansion of the U.S. collection infrastructure. Environmental spending for new and expanded recycling facilities is expected to accelerate and will continue to outpace the spending for new pulp, paper, and board capacity.

Pulp mills

Commodities in this sector include a number of chemical and mechanical paper-grade pulps and special alpha and dissolving pulps, which are sold on the open market rather than used in integrated manufacture. Shipments by this industry, both export and domestic, constitute 12–16% of total U.S. production and do not include domestic transfer shipments to affiliated paper and board mills.

Following several years of depressed demand and prices, U.S. market pulp shipments increased 3% in 1994 to 9.13 million metric tons. Causes included a stronger-than-anticipated increase in domestic consumption; higher foreign sales in key markets; and a tight global pulp scene resulting in low inventories, high operating rates, and increasing prices. Although recovered paper consumption increased at a faster rate (4.5% versus 3%), wood pulp still maintained a 68.5% fiber market share for domestic paper and board producers. Exports represented just under two-thirds of the volume of all U.S. shipments in 1994, about the same level as in 1993 and slightly smaller than the 70% market share that exports held in 1992.

Industry developments

Sales by the domestic market pulp sector are dominated by chemical paper-grade market pulp produced by either the kraft or sulfite cooking processes. In 1994, this commodity grouping made up about 85% (or 7.85 million metric tons) of the total quantity of U.S. market pulp product shipments. Domestic and export shipments of bleached and semibleached kraft pulp (amounting to 7.39 million metric tons) represented about 80% of total sales. The remaining 1994 paper-grade chemical pulp sales came primarily from product shipments of sulfite pulps and some unbleached kraft pulp sales.

U.S. and foreign shipments of special alpha and dissolving pulps amounted to 1.28 million metric tons. These higher-valued pulps are specialty grades of chemical pulps produced from alpha cellulose, wood, or cotton linters. They are tailored for use in the manufacture of regenerated cellulose, cellulose derivatives, textiles, photographic papers, certain explosives, and other value-added specialty papers.

Product shipments of mechanical pulp, groundwood pulp, and neutral sulfite semichemical (NSSC) pulp grades made up the final portion of U.S. market pulp sales in 1994. Shipments were estimated to be less than one-half of one percent.

In 1994, the global pulp scene continued to respond to public and legislative pressures to reduce the amount of chlorine used in pulp bleaching. Many of these changes are being led by the European Union (EU). The EU, representing about 41% of total market pulp demand (followed by the United States at 18% and Japan at 17%), obtains large portions of its pulp requirements from Scandinavia, the United States, and Canada.

Chemical paper-grade market pulp, used primarily in the manufacture of printing and writing papers, is produced in about 37 countries with global market pulp capacity amounting to about 37 million metric tons. About 62%, or 23 million tons, of world output came from the NORSCAN countries (United States, Canada, Sweden, Finland, and Norway) in 1994. In recent years, the market share of NORSCAN producers has come under increased pressure from low-cost, state-of-the-art pulp mills in Latin America, Western Europe, and Africa. These countries not only enjoy abundant, fast-growing solid wood resources (especially eucalyptus and tropical pine species) but also have lower costs for labor, environmental protection, and basic operations.

Prices rebound strongly

Following a decline in prices from the second quarter of 1990 to the end of 1993, global prices for market pulp rebounded strongly in 1994, with supply tight. During the previous downturn, NORSCAN producers minimized their capacity additions and also took extensive downtime and production curtailments at domestic pulp mills. This kept inventories at reasonable levels despite depressed global consumption. As demand picked up in late 1993 and early 1994, global producers were successful in implementing several price increases. Prices for northern bleached softwood kraft (NBSK), the bellwether of the global pulp market, increased 65% in the first nine months of 1994 from US$ 425 per metric ton to US$ 700 per metric ton. Other pulp grades experienced increases of more than 80% as demand remained high throughout the year.

In 1994, operating rates for the U.S. market pulp sector stayed around 90%. This was up from the 85% rate of 1993, but still down from the 93% rate in the same period in 1992. Another positive indicator for U.S. market pulp producers in 1994 was the low inventory levels. From 629,999 metric tons (a 29-day supply) at the end of 1993, producers' inventory levels declined to 443,000 metric tons (a 21-day supply) by third-quarter 1994.

Minimal capacity increases by North American market pulp producers, combined with increased world demand, contributed to vibrant market conditions in 1994—nearly a complete turnaround from 1993. U.S. market pulp capacity remained essentially unchanged at 9.7 million metric tons last year. Capacity additions are expected to be minimal over the next several years.

One of the most interesting developments in the U.S. market pulp sector over recent years has been an increase in the number of mills that produce deinked market pulp. Producers of deinked market pulp found strong demand in both U.S. and overseas markets in 1994. Over the 1992–1996 period, an industry survey indicates that while market wood pulp increases will be less than 600,000 metric tons, recovered paper market pulp capacities will increase more than 1.3 million metric tons.

International competitiveness

The United States has traditionally traded large quantities of pulp annually and has enjoyed a positive trade balance in this commodity since 1987. U.S. exports of wood pulp increased about 2.5% (volume basis) in 1994, but a similar increase in imports of Canadian wood pulp prevented the industry's trade surplus from growing even further. The principal grade of market pulp traded by the United States is bleached and semibleached kraft pulp, accounting for nearly 80% of pulp exports and 85% of imports in 1994.

In 1993, the volume of U.S. exports of pulp increased about 2.5% to 6.05 million metric tons. Because prices increased as well, the value of exports increased more than 6%. U.S. exporters shipped pulp to 83 countries in 1994 (up from 74 countries in 1993), but the major importers were Japan with 17.3% of total U.S. exports; South Korea, 12.6%; Mexico, 9.7%; and Italy, 8%.

U.S. pulp imports increased nearly 2.5% in 1994, to 5.2 million tons, and accounted for almost 10% of total U.S. wood pulp consumption. Increasing prices caused the value of pulp imports to increase about 4%. The only significant suppliers of pulp imports were Canada, 86%, and Brazil, 10% of U.S. imports.

Forecast for 1995

A continuing improvement in the world economy should result in higher sales of U.S. market pulp in 1995. Domestic and foreign market shipments should increase 2.4%. Higher demand by European and Asian producers of printing and writing paper should contribute to the expansion.

The volume of U.S. exports of pulp should increase by about 4%, possibly widening their market share to nearly 70% of all U.S. market pulp shipments. U.S. imports are also expected to increase in 1995, as Canadian pulp exports to the large U.S. market increase by 3%. As the world's largest paper and board manufacturer, the United States will continue to be the target of many countries' pulp export efforts. U.S. pulp producers will need to monitor their own capacity utilization rates, consumer and producer inventory levels around the world, and relationships with worldwide paper and board production to prevent further significant increases in surplus pulp in the market.

Long-term prospects

The U.S. pulp industry should enjoy higher sales through 1999, but the growth in shipments will be limited to 2% compounded annually. Exports, as a percentage of total U.S. market pulp shipments, are likely to remain at the 70% level over the next five years. Although U.S. paper and board producers will continue to consume even larger quantities of recovered paper and paperboard, market wood pulp will continue to be the preferred papermaking fiber because of its strength, appearance, uniformity of quality, and cleanliness.

World pulp demand should increase about 4.5% annually over the next five years, while capacity increases 4%. This differential would allow supply and demand levels to remain close, helping to sustain a price recovery. Most of the increase in capacity will come in North America and Latin America.

The movement of the domestic pulp industry toward elemental chlorine-free (ECF) bleaching will continue at significant capital expense. This will lead to an increase in capacity for both ECF and totally chlorine-free (TCF) kraft market pulp, and in hydrogen peroxide, oxygen, and ozone bleaching plant installations or retrofits.

Nonintegrated world papermakers will find secondary fiber an abundant, less-expensive alternative to virgin fiber, creating a stronger demand for recovered paper over the next five years. Recovered paper market pulp will continue to find strong demand in the domestic market and will find new end-user markets in foreign countries. Technological improvements in pulping and bleaching will be developed. These will include higher-brightness bleaching technologies, pulping processes with greater yields, improved cleaning and processing of recovered paper, and more efficient use of energy. These improvements will be essential to the profitability of many mills. Similar measures to keep costs down and productivity high are needed if the industry is to remain competitive in the global pulp arena.

Paper and paperboard

Buoyed by strong domestic demand and a surge in foreign shipments, the U.S. primary paper and paperboard manufacturers experienced a 4.75% increase in product shipments in 1994 to 80.8 million metric tons. The most significant gains took place in containerboard, boxboard, and certain grades of printing and writing paper. The value of sales also increased last year because of higher prices for most grades of paper and paperboard. The value of product shipments by the paper and paperboard mills industry were estimated to have increased by 2.5% to US$ 48.3 billion.

Operating rates increased slightly last year and remained high throughout 1994, with paper mills operating around 93% and paperboard mills operating at nearly 98.5%. In 1994, the paperboard segment was responsible for 51.5% (or 41.6 million metric tons) of the industry's output, while paper commodities were responsible for 48.5% (or 39.2 million metric tons). On a current dollar basis, however, paper commodities have a higher per unit value; therefore, shipments of paper accounted for 63% (or US$ 30.4 billion) of the paper and paperboard mills total, while paperboard shipments (valued at US$ 17.9 billion) accounted for the remaining industry sales.

Paper mills

Commodities produced by the domestic paper mills industry include printing and writing paper; newsprint; tissue; and packaging, wrapping, and other paper. Shipments by the paper segment of the U.S. paper and paperboard mills rose by about 2.5% in 1994.The largest sector, printing and writing paper, accounted for 22.9 million metric tons, or 58.5% of all production by the paper mills industry in 1994. In 1994, the market share for this segment was slightly larger than the 57% share of 1993.

Shipments by the printing and writing paper segment were about 4% higher than the 1993 level. The increase in shipments last year was driven by higher demand for uncoated groundwood (shipments up 8%), coated free sheet (up 6.5%), and uncoated free sheet (up 4.2%).

Following a record-high level of shipments of newsprint in 1992 (6.47 million metric tons), U.S. newsprint shipments have fallen slightly for two consecutive years, dropping to 6.36 million metric tons in 1994. Newsprint demand was very sluggish in the first half of 1994 but picked up noticeably in the second half of the year. Following a 1.7% increase in U.S. newspaper publishers' consumption of newsprint in 1993, consumption in 1994 was essentially unchanged, operating rates were high (95–97% range), and inventories were low.

Tissue production in 1994 was estimated to have reached 5.56 million metric tons, indicating a 2% increase over the 1993 level and representing 14% of the paper industry's sales. This follows a strong 3.9% increase in 1993. Improvements in operating rates were negligible in 1994 and capacity additions were minimal in 1994 (less than 2%) resulting in tight supplies and higher prices for most producers.

Paperboard mills

The domestic paperboard mills industry continued its recent strong performance by increasing its shipments by a robust 6% in 1994 to 41.6 million metric tons. Spurred by a strong domestic economy and increased foreign demand, the paperboard industry enjoyed high output, higher operating rates, and low inventory levels throughout 1994, which contributed to several successful price increases last year. Containerboard sales, representing 68.5% of all paperboard production in 1994, totaled 28.4 million metric tons, an increase of nearly 6%. Domestic boxboard production also experienced a 6% increase in 1994 to 12.8 million metric tons.

Production of containerboard for domestic use for corrugated boxes, representing 61% of all U.S. production, increased 5% in 1994 to 25.1 million metric tons. Increases in U.S. manufacturing output (up about 6.5%) and domestic nondurable goods sales (up about 4.5%) were key economic parameters which indicated a strong demand for corrugated boxes.

In 1994, U.S. linerboard production for domestic use for corrugated boxes amounted to 17.2 million metric tons, representing 68.5% of containerboard and 42% of all paperboard production. Domestic production of corrugating medium was 7.9 million metric tons in 1994, representing 27.6% of all containerboard production. Production of unbleached kraft linerboard was up nearly 4% and amounted to 15.7 million metric tons in 1994 and represented 91% of all linerboard product. In 1994, U.S. production of recycled linerboard continued its strong recent performance by increasing nearly 12% to nearly 1.4 million metric tons. Production of recycled linerboard has more than doubled over the past three years.

Domestic boxboard production continued its recent strong performance driven by higher domestic and foreign demand for bleached and unbleached folding boxboard for both packaging end uses (which increased nearly 4.4%) and nonpackaging end uses (up more than 7%).

International competitiveness

Paper and paperboard exports amounted to 7.9 million metric tons last year, up a robust 17.5% over the 1993 level. Of that total, paper exports represented 35% (or 2.8 million tons) of the quantity shipped overseas last year, and paperboard represented 65% (or 5.1 million metric tons). Overall, exports of paper-related commodities increased a strong 18.5%, while exports of paperboard grades increased just under 17%.

Exports of the various printing and writing paper grades increased nearly 30% in 1994 to more than 1.35 million metric tons. Most of the increase came from a nearly 60% increase in exports of uncoated free sheet paper to almost 630,000 metric tons. Principal U.S. export markets for uncoated free sheet in 1994 were Canada, 38%, and Mexico, 22%. Following a slight decline in 1993, U.S. exports of newsprint increased by more than 6% to 922,000 metric tons as U.S. producers expanded their export portfolio in 1994 to include a number of nontraditional markets (e.g., Indonesia, the Philippines, Malaysia, Chile, Brazil).

Economic recovery in Europe and Asia in 1994 resulting in increased corrugated box demand was the primary reason for the increase in U.S. paperboard exports. U.S. exports of kraft linerboard in 1994 amounted to 3.1 million metric tons and represented 61% of all paperboard exports. Principal kraft linerboard markets in 1994 were Hong Kong (12.5%), China (10%), and Ecuador (6.5%). Also, U.S. exports of semichemical corrugating medium surged 47% to 158,200 metric tons. Leading export markets for corrugating medium in 1994 were Hong Kong (18%), Ecuador (15%), Chile (11.5%), Colombia (11.2%), and Costa Rica (11%).

In 1994, U.S. paper and board imports increased by less than 4% to 12.2 million metric tons. The largest import gains were in semichemical corrugating medium (up 35%), kraft paperboard (up 25%), and printing and writing paper (up 12.5%). An expanding U.S. economy is the target for many countries' paper and paperboard output.

U.S. imports of newsprint, which represented 56% of all U.S. paper and board imports in 1994, amounted to 7 million metric tons, down about 3% from the 1993 level. The United States imported more than 99% of its newsprint from Canada in 1994.

U.S. imports of printing and writing paper, which made up 31% of total imports, increased 12% to 3.8 million metric tons in 1994. This growth was attributable to large increases in U.S. imports of coated groundwood (up 16%) and coated printing and writing papers (12%). U.S. printing and writing paper imports come primarily from Canada, Scandinavia, and the European Union (EU).

U.S. imports of the paperboard grades, although still relatively small, increased 17% in 1994, following a 15% increase in 1992. The strong U.S. economic performance resulted in high demand for boxmaking materials. Due to limited output being available from domestic producers, many box and container converters were forced to secure supplies from foreign (principally Canadian) manufacturers.

Forecast for 1995

The domestic paper and paperboard industry is expected to follow up its strong sales performance in 1994 with an additional 2.75% increase in product shipments in 1995. This forecast is contingent upon an expanding U.S. economy and improved business activity and economic conditions in key foreign markets. Future growth will likely be centered in international markets, especially Southeast Asia and Latin America. Exports of paper and board should increase an additional 6%, while imports, buoyed by a stronger U.S. economy, should increase by 3.5%.

Domestic paper and board producers are expected to add 1.6 million metric tons of additional capacity in 1995, with new output being added on both the paper and paperboard sides. If the global economy continues to improve in 1995, the additional output will be easily absorbed by foreign converters and packagers. If not, operating rates in domestic paper and board mills will probably be flat or slightly lower, and pressure on domestic producers to schedule extended periods of mill downtime may develop.

Five-year prospects

The United States has the world's largest paper and board industry, producing more than one-quarter of the world's supply. Over the next five years, the U.S. paper and board industry should enjoy greater domestic and foreign demand for its leading products. As global economies expand, resulting in increased world paper and board consumption, the U.S. industry should be in the best position to supply much of the increase in requirements. Shipments over the next five years should increase at an average annual rate of more than 2.3%. As additional capacity is brought on-line, the industry will continue to target foreign markets, especially Southeast Asia, Mexico, and the EU.

Global paper and board demand will reach a record 306 million tons by 1999, primarily focused on printing and writing papers and paperboard packaging materials. The U.S. industry's exports should increase more than 5% a year during the next five years. However, success abroad requires elimination of tariff and nontariff barriers. As a result, the continued implementation of the NAFTA along with the anticipated passage and implementation of the Uruguay Round of the GATT will be critical for future growth of U.S. exports of paper and paperboard.

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