LOUISIANA-PACIFIC CORP
Form 10-K
February 13, 2018

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K
Annual Report Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

For the fiscal year ended	Commission File Number
December 31, 2017	1-7107

Louisiana-Pacific Corporation
(Exact name of registrant as specified in its charter)

Delaware	93-0609074
(State of Incorporation)	(I.R.S. Employer Identification No.)
414 Union Street, Suite 2000 Nashville, TN 37219	615-986-5600
(Address of principal executive offices)	Registrant’s telephone number (including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, $1 par value	New York Stock Exchange
Preferred Stock Purchase Rights	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer as defined in Rule 405 of the Securities Act. Yes ý No ¨

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No ý

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ý No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ý No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant’s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ý

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	x	Accelerated filer	o
Non-accelerated filer	o	Smaller reporting company	o
Emerging growth company	o		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No x

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act): Yes ¨ No ý

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter: $3,437,713,529.

Indicate the number of shares outstanding of each of the registrant's classes of common stock as of the latest practicable date: 144,949,753 shares of Common Stock, $1 par value, outstanding as of February 12, 2018.

Documents Incorporated by Reference

Definitive Proxy Statement for 2018 Annual Meeting: Part III

Except as otherwise specified and unless the context otherwise requires, references to "LP", the "Company", "we", "us", and "our" refer to Louisiana-Pacific Corporation and its subsidiaries.

ABOUT FORWARD-LOOKING STATEMENTS

Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 provide a “safe harbor” for forward-looking statements to encourage companies to provide prospective information about their businesses and other matters as long as those statements are identified as forward-looking and are accompanied by meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those discussed in the statements. This report contains, and other reports and documents filed by us with the Securities and Exchange Commission (SEC) may contain, forward-looking statements. These statements are or will be based upon the beliefs and assumptions of, and on information available to, our management.

The following statements are or may constitute forward-looking statements: (1) statements preceded by, followed by or that include words like “may,” “will,” “could,” “should,” “believe,” “expect,” “anticipate,” “intend,” “plan,” “estimate,” “po “continue” or “future” or the negative or other variations thereof and (2) other statements regarding matters that are not historical facts, including without limitation, plans for product development, forecasts of future costs and expenditures, possible outcomes of legal proceedings, capacity expansion and other growth initiatives and the adequacy of reserves for loss contingencies.

Factors that could cause actual results to differ materially from those expressed or implied by the forward-looking statements include, but are not limited to the following:

- changes in governmental fiscal and monetary policies and levels of employment;
- changes in general economic conditions;
- changes in the cost and availability of capital;
- changes in the level of home construction and repair activity;
- changes in competitive conditions and prices for our products;
- changes in the relationship between supply of and demand for building products;
- changes in the relationship between supply of and demand for raw materials, including wood fiber and resins, used in manufacturing our products;
- changes in the cost of and availability of energy, primarily natural gas, electricity and diesel fuel;
- changes in the cost of and availability of transportation;
- changes in other significant operating expenses;
- changes in exchange rates between the U.S. dollar and other currencies, particularly the Canadian dollar, Brazilian real and Chilean peso;
- changes in general and industry-specific environmental laws and regulations;
- changes in tax laws, and interpretations thereof;
- changes in circumstances giving rise to environmental liabilities or expenditures;
- the resolution of existing and future product-related litigation and other legal proceedings; and
- acts of public authorities, war, civil unrest, natural disasters, fire, floods, earthquakes, inclement weather and other matters beyond our control.

In addition to the foregoing and any risks and uncertainties specifically identified in the text surrounding forward-looking statements, any statements in the reports and other documents filed by us with the SEC that warn of risks or uncertainties associated with future results, events or circumstances identify important factors that could cause actual results, events and circumstances to differ materially from those reflected in the forward-looking statements.

ABOUT THIRD-PARTY INFORMATION

In this report, we rely on and refer to information regarding industry data obtained from market research, publicly available information, industry publications, U.S. government sources and other third parties. Although we believe the information is reliable, we cannot guarantee the accuracy or completeness of the information and have not independently verified it.

PART I

ITEM 1. Business

General

Our company, founded in 1973 and headquartered in Nashville, Tennessee, is a leading manufacturer of building products. As of December 31, 2017, we had approximately 5,000 employees. We currently operate 20 modern, strategically located facilities in the U.S. and Canada, two facilities in Chile and one facility in Brazil. We also operate facilities through a joint venture, for which we are the exclusive provider of product distribution for North America. Our products are used primarily in new home construction, repair and remodeling and outdoor structures. We believe that the homebuilding products industry presents significant growth opportunities over the long run, and we intend to continue pursuing these opportunities by delivering innovative, high-quality commodity and specialty building products to retail, wholesale, homebuilding and industrial customers. We utilize various tools, such as an enterprise resource planning system and Lean Six Sigma, to improve operational efficiency and productivity.

Our Overall Strategies

Continue to Grow Market Share and Capitalize on Strength in New Home Construction. We continue to strategically invest in our operations with the goal of maximizing profitability as the new home construction and repair and remodeling markets continue to strengthen. We believe the initiatives implemented and investments we have made during the past few years, and which we continue to make, have strengthened our market position and enhanced our ability to capture significant cash flow growth from continued improvement in the end markets we serve. We have also focused our sales and marketing efforts with the purpose of generating more sales of our products per housing start.

Generate Value Added Sales Growth through Customer Focus and Innovation. Our marketing efforts target builders, industrial manufacturers and major home improvement retailers and focus on the features of our products. Our sales efforts target customers by channel and focus on providing these customers with quality service and a broad array of traditional and specialty building products. We continue to grow our high value add products to provide growing stable margins. Our facilities are strategically located in the United States, Canada and South America, allowing us to be closer to our customers and more responsive to end-user needs and trends. We prioritize quality service and continue to enhance our reputation for accurate deliveries on a timely basis. In addition, we continually seek to identify new specialty building products and markets where we can utilize our core competencies in the design, manufacturing and marketing of building products.

Continue to Grow Our Siding Segment and Expand Internationally in Order to Diversify Revenue Mix. We believe that we are currently the leading producer of treated engineered wood siding and, therefore, are poised to benefit from demand growth as it continues to displace alternative siding materials such as vinyl, wood and other materials. Furthermore, this segment is less sensitive to new housing market cyclicality as over 50% of its demand comes from other markets including sheds, retail and the repair and remodeling end market. Our investments in South America will help us continue to satisfy the growing demand for structural panels in South America to support the growth of affordable housing. This growth in the Siding and South American segments will continue to diversify our revenue mix.

Improve Operating Efficiencies and Continue Focus on Cost Reductions and Portfolio Optimization. We have improved and continue to lower the cost structure of our facilities through our Lean Six Sigma efforts and the sale or closure of underperforming mills and manufacturing facilities, as well as investing in technology. Our Lean Six Sigma efforts continue to produce excellent returns from cost-savings and efficiency projects across our organization. We have also structured our management teams along product lines to enhance our ability to implement best manufacturing practices across operations. Given these initiatives and the strategic locations of many of our facilities, we believe that we are one of the lowest average delivered-cost producers of oriented strand board (OSB) in North America. We also employ a strategy of curtailing production at selected facilities, when appropriate, in order to meet customer demand, and optimize our portfolio and margins. As market conditions

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continue to change and improve, we plan to adapt our product mix, selectively invest in new technologies that modernize our manufacturing facilities, and develop improved manufacturing processes in order to enhance the quality and consistency of our earnings.

Pursue Selected Strategic Transactions. We evaluate on an ongoing basis various opportunities to participate in acquisitions of assets, businesses and activities that are complementary, and other strategic business combination transactions. We believe that our pursuit of these opportunities, if successful, could enable us to increase the size and scope of our businesses or joint ventures.

Business Segments

We operate in four segments: Siding; North America Oriented Strand Board (OSB); Engineered Wood Products (EWP); and South America. In general, our business results are affected by the level of housing starts; the level of home repairs; changes in industry capacity; changes in the prices we pay for raw materials and energy, and changes in foreign exchange rates (primarily the Canadian dollar, Chilean Peso and Brazilian Real).

Siding

Our Siding segment consists of LP SmartSide® trim and siding, LP CanExel® prefinished siding, as well as LP Outdoor Building Solutions® innovative products for premium outdoor buildings. Our SmartSide® products consist of a full line of wood-based sidings, trim, soffit and fascia. These products have quality and performance characteristics similar to solid wood at more attractive prices due to lower raw material and production costs. Our CanExel® siding and accessory product offerings include a number of pre-finished lap and trim products in a variety of patterns and textures. These products are used in new construction, repair and remodeling and outdoor structures such as sheds. We believe we are the largest producer of engineered wood siding. We believe we operate in diverse end markets with stable pricing.

Our strategy is to drive product innovation by utilizing our technological expertise in wood and wood composites to better address the needs of our customers. We intend to increase our product offerings and production capacity of higher margin, value-added products through the addition of lower cost plants or the conversion of OSB plants from commodity structural panel production to OSB-based exterior siding products.

Additionally, some amounts of OSB are produced and sold in this segment.

OSB

Our OSB segment manufactures and distributes OSB structural panel products including LP OSB, LP TechShield® radiant barrier, LP TopNotch® sub-flooring, LP Legacy® super tough, moisture-resistant sub-flooring and LP FlameBlock® fire-rated sheathing.

OSB is an innovative, affordable and environmentally friendly product made from wood strands arranged in layers and bonded with resin. OSB serves many of the same uses as plywood, including roof decking, sidewall sheathing and floor underlayment, but can be produced at a significantly lower cost. It is estimated for 2017 that OSB accounted for approximately 67% of the structural panel consumption in North America with plywood accounting for the remainder. We estimate that the overall North American structural panel market (based upon 2017 housing starts) was 34.6 billion square feet with the OSB market comprising an estimated 23.2 billion square feet of this market. Based upon our production in 2017 of 4.7 billion square feet (including OSB produced in our siding and EWP segments), we estimate that we account for 20% of the North American OSB market and 13% of the overall North American structural panel market. During 2017, our volume percentage of value-added OSB was 38% as compared to 34% in 2016. We believe we are a leading producer of commodity and value-added OSB in North America and are positioned to compete in all geographic markets.

To enhance our industry leading position in the OSB business, we plan to: (1) leverage our expertise in OSB to capitalize on new opportunities for revenue growth through value-added product lines; (2) deliver superior quality and service; (3) reduce costs and improve throughput and recovery by continuing to focus on efficiency, raw materials cost reductions and logistics; and (4) manage our capacity to meet our customers' expected needs for OSB.

Engineered Wood Products

Our EWP segment is comprised of LP SolidStart® I-Joist (IJ), Laminated Veneer Lumber (LVL) and Laminated Strand Lumber (LSL) and other related products. This segment also includes the sale of I-Joist produced by our joint venture with Resolute Forest Products and LVL sold under a contract manufacturing arrangement. We believe that in North America, we are one of the top three producers (including our joint venture production) of I-Joists, LVL and LSL. A plywood mill associated with our LVL operations in British Columbia and minor amounts of OSB are also included in this segment. We believe that our engineered I-joists, which are used primarily in residential and commercial flooring and roofing systems and other structural applications, are stronger, lighter and straighter than conventional lumber joists. Our LVL and LSL are high-grade, value-added structural products used in applications where extra strength and quality is required, such as headers and beams.
Our strategy is to strengthen our brand name recognition in the EWP market by enhancing our product mix and quality, providing superior technical support to our customers and leveraging our sales and marketing relationships to cross-sell our EWP products. Additionally, we are seeking to drive costs down by rationalizing our production capacity across geographic areas and improving operating efficiencies in our manufacturing facilities.

South America

Our South American segment manufactures and distributes OSB and siding products in South America and certain export markets. This segment also distributes and sells related products to augment the transition to wood frame construction. We believe we are the only producer of OSB and siding in South America. We believe we are positioned to capitalize on the growing demand for wood-based residential construction in South America.

Other Products

Our other products category includes our remaining timber and timberlands, and other minor products, services and closed or idled operations.

Sales, Marketing and Distribution

Our sales and marketing efforts are primarily focused on traditional two-step distribution, professional building products dealers, home centers, third-party wholesale buying groups and other retailers. The wholesale distribution channel includes a variety of specialized and broad-line wholesale distributors and dealers focused primarily on the supply of products for use by professional builders and contractors. The retail distribution channel includes large retail chains catering to the do-it-yourself (DIY) and repair and remodeling markets as well as smaller independent retailers.

Customers

We seek to maintain a broad customer base and a balanced approach to national distribution through both wholesale and retail channels. In 2017, our top ten customers accounted for approximately 46% of our sales. Our principal customers include the following:

- Wholesale distribution companies, which supply building materials to retailers on a regional, state or local basis;
- Two-step distributors, who provide building materials to smaller retailers, contractors and others;
- Building materials professional dealers, that specialize in sales to professional builders, remodeling firms and trade contractors that are involved in residential home construction and light commercial building;

- Retail home centers, that provide access to consumer markets with a broad selection of home improvement materials and increasingly serve professional builders, remodelers DIY, and trade contractors; and

- Shed producers, who design, construct and distribute prefabricated residential and light commercial structures, including fully manufactured, modular and panelized structures, for consumer and professional markets.

Seasonality

Our business is subject to seasonal variances, with demand for many of our products tending to be greater during the building season, which generally occurs in the second and third quarters in North America and the fourth and first quarters in South America. From time to time, we engage in promotional activities designed to stimulate demand for our products, such as reducing our selling prices and providing extended payment terms, particularly at times when demand is otherwise relatively soft. We do this in an effort to better balance our inventory levels with demand, manage the logistics of our product shipments, allow our production facilities to run efficiently, be competitive, and/or obtain initial orders from customers.

Competitors / Competition

The building products industry is highly competitive. We compete internationally with several thousand forest and building products firms, ranging from very large, fully integrated firms to smaller enterprises that may manufacture only one or a few items. We also compete less directly with firms that manufacture substitutes for wood building products. Some competitors have substantially greater financial and other resources than we do that could, in some instances, give them a competitive advantage over us.

In terms of our commodity OSB, we compete based upon price, quality and availability of products. In terms of our specialty products, including EWP, Siding and various value added OSB products, we compete based upon price, quality, and availability of products as well as performance features offered.

Raw Materials

Wood fiber is the primary raw material used in most of our operations, and the primary source of wood fiber is timber. The primary end-markets for timber harvested in the North America are manufacturers who supply: (1) the housing market, where it is used in the construction of new housing and the repair and remodeling of existing housing; (2) the pulp and paper market; (3) commercial and industrial markets; (4) export markets; and (5) emerging biomass energy production markets. The supply of timber is limited by the availability of timberlands and access to the fiber. The availability of timberlands, in turn, is limited by several factors, including forest management policies, alternate uses of land, and loss to urban or suburban real estate development. Because wood fiber is subject to commodity pricing, the cost of various types of timber that we purchase in the market has at times fluctuated greatly due to weather, governmental regulations / restrictions, economic or other industry conditions. However, our mills are generally in close proximity to large and diverse supplies of timber and have the ability to procure wood fiber at competitive prices.

In addition to wood fiber, we use significant quantities of various resins in our manufacturing processes. Resin product costs are influenced by changes in the prices of raw materials used to produce resin, primarily petroleum products and energy, as well as competing demand for resin products. Currently, we purchase the majority of our resin from three major suppliers and believe our relationships with those suppliers are good. However, there can be no assurance that pricing or availability of resins will not be impacted based upon competing demand.

While a large portion of our energy requirements are met at our plants through the energy produced from the conversion of wood waste, we also purchase substantial amounts of energy in our operations, primarily electricity and natural gas. Energy prices have experienced significant volatility in recent years, particularly in deregulated markets. We attempt to mitigate our exposure to energy price changes through the selective use of long-term supply agreements.

Environmental Compliance / Climate Change

Our operations are subject to many environmental laws and regulations governing, among other things, the discharge of pollutants and other emissions on or into land, water and air, the disposal of hazardous substances or other contaminants, the remediation of contamination and the restoration and reforestation of timberlands. In addition, certain environmental laws and regulations impose liability and responsibility on present and former owners, operators or users of facilities and sites for contamination at such facilities and sites without regard to causation or knowledge of contamination. Compliance with environmental laws and regulations can significantly increase the costs of our operations. In some cases, plant closures can result in more onerous compliance requirements becoming applicable to a facility or a site. Violations of environmental laws and regulations can subject us to additional costs and expenses, including defense costs and expenses and civil and criminal penalties. We cannot assure you that the environmental laws and regulations to which we are subject will not become more stringent, or be more stringently implemented or enforced, in the future.

Changes in global or regional climate conditions and current or future governmental response to such changes at the international, U.S. federal and state levels, such as regulating and/or taxing the production of carbon dioxide and other “greenhouse gases” to facilitate the reduction of emissions into the atmosphere, and/or the imposition of taxes or other incentives to produce and use “cleaner” energy, may increase energy costs, limit harvest levels and impact our operations or our planned or future growth activities. Because our manufacturing operations depend upon significant amounts of energy and raw materials, these initiatives could have an adverse impact on our operations and profitability. Future legislation or regulatory activity in this area remains uncertain, and the impact on our operations is unclear at this time.

Our policy is to comply fully with all applicable environmental laws and regulations. We devote significant management attention to achieving full compliance. In addition, from time to time, we undertake construction projects for environmental control equipment or incur other environmental costs that extend an asset’s useful life, improve its efficiency or improve the marketability of certain properties.

Additional information concerning environmental matters is set forth under item 3, Legal Proceedings, and in Note 19 of the Notes to the consolidated financial statements included in item 8 of this report.

Employees

We employ approximately 5,000 people, about 952 of whom are members of unions, primarily in Canada, Chile and Brazil. We consider our relationship with our employees generally to be good. While we do not currently anticipate any work stoppages, there can be no assurance that work stoppages will not occur.

Available Information

We file annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements and other information with the SEC. Our SEC filings are available to the public over the internet at the SEC’s website at http://www.sec.gov. You may also read and copy any document we file at the SEC’s public reference room at 100 F Street, NE., Washington, D.C. 20549. You may obtain information on the operation of the SEC’s public reference room in Washington, D.C. by calling the SEC at 1-800-SEC-0330.

In addition, we will make available our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act through our internet website at http://www.lpcorp.com as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC.

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Segment and Price Trend Data

The following table sets forth, for each of the last three years: (1) our production volumes and (2) the estimated average wholesale price of OSB sold in the United States. In addition, information concerning our: (1) net sales by business segment; (2) profit (loss) by business segment; (3) identifiable assets by segment; (4) depreciation and amortization by business segment; (5) capital expenditures by business segment; and (6) geographic segment information is included at Note 24 of the Notes to the consolidated financial statements included in item 8 of this report and information concerning our sales by product line is included in item 7 of this report.

Product Information Summary

For Years Ended December 31

(Amounts in millions, except per unit)

	2017	2016	2015
PRODUCTION VOLUMES			
OSB, 3/8” basis, million square feet[1]	4,660	4,542	4,170
South America OSB / Siding, million cubic meters	504	484	458
Wood-based siding, 3/8” basis, million square feet	1,365	1,282	1,111
Engineered I-joists, million lineal feet[2]	87	78	77
LVL, thousand cubic feet [2] [3]	8,069	6,844	7,025
LSL, thousand cubic feet[3]	3,275	2,708	2,509
COMMODITY PRODUCT PRICE TRENDS[4]			
OSB, MSF, 7/16” span rating (North Central price)	$ 353	$ 269	$ 208
OSB, MSF, 7/16” span rating (Western Canada price)	$ 326	$ 234	$ 168
OSB, MSF, 7/16” span rating (Southwest price)	$ 334	$ 258	$ 199

(1) Includes production at both our commodity and specialty mills in North America.

(2) Includes purchases of products from joint ventures or purchased under contract manufacturing arrangements.

(3) Includes LVL and LSL production which is used in the production of I-Joist as well as sold as end products.

(4) Prices represent yearly averages stated in dollars per thousand square feet (MSF). Source: Random Lengths.

ITEM 1A. Risk Factors

You should be aware that the occurrence of any of the events described in this Risk Factors section and elsewhere in this report or in any other of our filings with the SEC could have a material adverse effect on our business, financial position, results of operations and cash flows. In evaluating us, you should consider carefully, among other things, the risks described below and the matters described in "About Forward-Looking Statements."

Our business primarily relies on North American new home construction and repair which are impacted by risks associated with fluctuations in the housing market. Downward changes in the general economy, the housing market or other business conditions could adversely affect our results of operations, cash flows and financial condition. The housing market is sensitive to changes in economic conditions and other factors, such as the level of employment, access to labor, consumer confidence, consumer income, availability of financing and interest rate levels. Adverse changes in any of these conditions generally, or in any of the markets where we operate, could decrease demand and could adversely impact our businesses by: causing consumers to delay or decrease homeownership; making consumers more price conscious resulting in a shift in demand to smaller homes; making consumers more reluctant to make investments in their existing homes; or making it more difficult to secure loans for major renovations or new home construction. Although the U.S. new home construction market is improving, demand for new homes is still recovering after the 2007-2009 U.S. economic recession and continues to remain below historical levels.

We have a high degree of product concentration in OSB. OSB accounted for about 54%, 51% and 47% of our North American sales in 2017, 2016 and 2015 and we expect OSB sales to continue to account for a substantial portion of our revenues and profits in the future. Concentration of our business in the OSB market further increases our sensitivity to commodity pricing and price volatility. Historical prices for our commodity products have been volatile, and we, like other participants in the building products industry, have limited influence over the timing and extent of price changes for our products. Commodity product pricing is significantly affected by the relationship between supply and demand in the building products industry. Product supply is influenced primarily by fluctuations in available manufacturing capacity. Demand is affected by the state of the economy in general and a variety of other factors, including the level of new residential construction activity and home repair and remodeling activity, changes in the availability and cost of mortgage financing. In this competitive environment with so many variables for which we do not control, we cannot assure you that pricing for OSB will not decline from current levels.

Intense competition in the building products industry could prevent us from increasing or sustaining our net sales and profitability. The markets for our products are highly competitive. Our competitors range from very large, fully integrated forest and building products firms to smaller firms that may manufacture only one or a few types of products. Many of our competitors have greater financial and other resources than we do, and certain of the mills operated by our competitors may be lower-cost producers than the mills operated by us.

Our results of operations may be harmed by potential shortages of raw materials and increases in raw material costs. The most significant raw material used in our operations is wood fiber. Wood fiber is subject to commodity pricing, which fluctuates on the basis of market factors over which we have no control. In addition, the cost of various types of wood fiber that we purchase in the market has at times fluctuated greatly because of governmental, economic or industry conditions, and may be affected by increased demand resulting from initiatives to increase the use of biomass materials in the production of heat, power, bio-based products and bio-fuels. In addition to wood fiber, we also use a significant quantity of various resins in our manufacturing processes. Resin product costs are influenced by changes in the prices or availability of raw materials used to produce resins, primarily petroleum products, as well as demand for and availability of resin products. Selling prices of our products have not always increased in response to raw material cost increases. We are unable to determine to what extent, if any, we will be able to pass any future raw material cost increases through to our customers through product price increases. Our inability to pass increased costs through to our customers could have a material adverse effect on our financial condition, results of operations and cash flows.

Many of the Canadian forestlands from which we obtain wood fiber also are subject to the constitutionally protected treaty or common-law rights of the aboriginal peoples of Canada. Most of British Columbia is not covered by treaties and, as a result, the claims of British Columbia's aboriginal peoples relating to forest resources are largely unresolved, although many aboriginal groups are actively engaged in treaty discussions with the governments of British Columbia and Canada. Final or interim resolution of claims brought by aboriginal groups are expected to result in additional restrictions on the sale or harvest of timber and may increase operating costs and affect timber supply and prices in Canada.

We mostly depend on third parties for transportation services and increases in costs and the availability of transportation could materially and adversely affect our business and operations. Our business depends on the transportation of a large number of products, both domestically and internationally. We rely primarily on third parties for transportation of the products we manufacture and/or distribute as well as for delivery of our raw materials. In particular, a significant portion of the goods we manufacture and raw materials we use are transported by railroad or trucks, which are highly regulated. If any of our third-party transportation providers were to fail to deliver the goods we manufacture or distribute in a timely manner, we may be unable to sell those products at full value or at all. Similarly, if any of these providers were to fail to deliver raw materials to us in a timely manner, we may be unable to manufacture our products in response to customer demand. In addition, if any of these third parties were to cease operations or cease doing business with us, we may be unable to replace them at reasonable cost. Any failure of a third-party transportation provider to deliver raw materials or finished products in a timely manner could harm our reputation, negatively affect our customer relationships and have a material adverse effect on our financial condition and results of operations. In addition, an increase in transportation rates or fuel surcharges could materially and adversely affect our sales and profitability.

We are subject to significant environmental regulation and environmental compliance expenditures and liabilities. Our businesses are subject to many environmental laws and regulations, particularly with respect to discharges of pollutants and other emissions on or into land, water and air, and the disposal and remediation of hazardous substances or other contaminants and the restoration and reforestation of timberlands. Compliance with these laws and regulations is a significant factor in our business. We have incurred and expect to continue to incur significant expenditures to comply with applicable environmental laws and regulations. Moreover, some or all of the environmental laws and regulations to which we are subject could become more stringent in the future. Our failure to comply with applicable environmental laws and regulations and permit requirements could result in civil or criminal fines or penalties or enforcement actions, including regulatory or judicial orders enjoining or curtailing operations or requiring corrective measures, installation of pollution control equipment or remedial actions.

Some environmental laws and regulations impose liability and responsibility on present and former owners, operators or users of facilities and sites for contamination at such facilities and sites without regard to causation or knowledge of contamination. In addition, we occasionally evaluate various alternatives with respect to our facilities, including possible dispositions or closures. Investigations undertaken in connection with these activities may lead to discoveries of contamination that must be remediated, and closures of facilities may trigger compliance requirements that are not applicable to operating facilities. Consequently, we cannot assure you that existing or future circumstances or developments with respect to contamination will not require significant expenditures by us.

We are involved in various environmental matters, product liability and other legal proceedings. The outcome of these matters and proceedings and the magnitude of related costs and liabilities are subject to uncertainties. The conduct of our business involves the use of hazardous substances and the generation of contaminants and pollutants. In addition, the end-users of many of our products are members of the general public. We currently are or from time to time in the future may be involved in a number of environmental matters and legal proceedings, including legal proceedings involving anti-trust, warranty or non-warranty product liability claims, negligence and other claims, including claims for wrongful death, personal injury and property damage alleged to have arisen out of the use by others of our or our predecessors' products or the release by us or our predecessors of hazardous substances. Environmental matters and legal matters and proceedings, including class action settlements relating to certain of our products, have in the past caused and in the future may cause us to incur substantial costs. We have established contingency reserves in our consolidated financial statements with respect to the estimated costs of existing environmental matters and legal proceedings to the extent that our management has determined that such costs are both probable and reasonably estimable as to amount. However, such reserves are based upon various estimates and assumptions relating to future events and circumstances, all of which are subject to inherent uncertainties. We regularly monitor our estimated exposure to environmental and litigation loss contingencies and, as additional information becomes known, may change our estimates significantly. However, no estimate of the range of any such change can be made at this time. We may incur costs in respect of existing and future environmental matters and legal proceedings as to which no contingency reserves have been established. We cannot assure you that we will have sufficient resources available to satisfy the related costs and expenses associated with these matters and proceedings.

We have not independently verified the results of third-party research or confirmed assumptions or judgments upon which it may be based, and the forecasted and other forward-looking information contained therein is subject to inherent uncertainties. We refer in this report and other documents that we file with the SEC to historical, forecasted and other forward-looking information published by sources such as RISI (Resource Information Systems, Inc.), FEA (Forest Economic Advisors, LLC), Random Lengths and the U.S. Census Bureau that we believe to be reliable. However, we have not independently verified this information and, with respect to the forecasted and forward-looking information, have not independently confirmed the assumptions and judgments upon which it is based. Forecasted and other forward looking information is necessarily based on assumptions regarding future occurrences, events, conditions and circumstances and subjective judgments relating to various matters, and is subject to inherent uncertainties. Actual results may differ materially from the results expressed or implied by, or based upon, such forecasted and forward-looking information.

Cyber security risks related to the technology used in our operations and other business processes, as well as security breaches of company, customer, employee, and vendor information, could adversely affect our business. We rely on various information technology systems to capture, process, store, and report data and interact with customers, vendors, and employees. Despite careful security and controls design, implementation, updating, and internal and independent third-party assessments, our information technology systems, and those of our third-party providers, could become subject to cyber-attacks. Network, system, and data breaches could result in misappropriation of sensitive data or operational disruptions, including interruption to systems availability and denial of access to and misuse of applications required by our customers to conduct business with us. In addition, hardware and operating system software and applications that we procure from third parties may contain defects in design or manufacture, including "bugs" and other problems that could unexpectedly interfere with the operation of the systems. Misuse of internal applications; theft of intellectual property, trade secrets, or other corporate assets; and inappropriate disclosure of confidential information could stem from such incidents. A security failure of that technology could impact our ability to operate our businesses effectively, adversely affect our reported financial results, impact our reputation and expose us to potential liability or litigation.

ITEM 1B. Unresolved Staff Comments

None.

ITEM 2. Properties

Information regarding our principal properties and facilities is set forth in the following tables. Information regarding currently operating production capacities is based on annual normal operating rates and normal production mixes under current market conditions, taking into account known constraints such as log supply. Market conditions, fluctuations in log supply, environmental restrictions and the nature of current orders may cause actual production rates and mixes to vary significantly from the production rates and mixes shown.

OSB

OSB - 3/8" basis, million square feet	
Carthage, TX	500
Dawson Creek, British Columbia, Canada[1]	380
Ft. St. John, British Columbia, Canada	800
Hanceville, AL	420
Jasper, TX	475
Maniwaki, Quebec, Canada	650
Roxboro, NC	525
Sagola, MI	420
Thomasville, AL	725
9 facilities	4,895

Siding

Siding - 3/8" basis, million square feet	
Newberry, MI	150
Hayward, WI[2]	475
Tomahawk, WI	230
Two Harbors, MN	200
Roaring River, NC	300
East River, Nova Scotia, Canada	55
Swan Valley, Manitoba, Canada[2]	350
7 facilities	1,760

EWP

I-Joist. million lineal feet [3]	
Red Bluff, CA	80

LVL / LSL, million cubic feet	
Golden, BC, Canada	4,000
Wilmington, NC	4,600
Houlton, ME[2]	5,500
3 facilities	14,100

SOUTH AMERICAN OPERATIONS

OSB / Siding — 3/8” basis, million square feet	
Panguipulli, Chile	130
Lautaro, Chile	160
Ponta Grossa, Brazil	390
3 facilities	680

[1] During the latter portion of 2017, we announced our intent to convert the Dawson OSB mill to a siding mill in 2018 with production start up anticipated in early 2019.

[2] The Hayward, WI, Swan Valley siding and Houlton, ME LSL facilities can produce commodity OSB when market conditions warrant.

[3] In addition to the plants described, our 50/50 joint venture with Resolute Forest Products owns and operates a plant in St. Prime, Quebec, Canada and a plant in La Rouche, Quebec, Canada. The combined annual production capacity of these facilities is 140 million lineal feet.

ITEM 3. Legal Proceedings

ENVIRONMENTAL MATTERS

We are involved in a number of environmental proceedings and activities, and may be wholly or partially responsible for known or unknown contamination existing at a number of other sites at which we have conducted operations or disposed of wastes. Based on the information currently available, management believes that any fines, penalties or other costs or losses resulting from these matters will not have a material adverse effect on our financial position, results of operations, cash flows or liquidity.

OTHER PROCEEDINGS

LP is party to other legal proceedings in the ordinary course of business. Based on the information currently available, LP believes that the resolution of such proceedings will not have a material adverse effect on its financial position, results of operations, cash flows or liquidity.

CONTINGENCY RESERVES

We maintain reserves for the estimated cost of the legal and environmental matters referred to above. However, as with any estimate, there is uncertainty of predicting the outcomes of claims and litigation and environmental investigations and remediation efforts that could cause actual costs to vary materially from current estimates. Due to various uncertainties, we cannot predict to what degree actual payments will exceed the recorded liabilities related to these matters. However, it is possible that, in either the near term or the longer term, revised estimates or actual payments will significantly exceed the recorded liabilities.

For information regarding our financial statement reserves for the estimated costs of the environmental and legal matters referred to above, see Note 19 of the Notes to financial statements included in item 8 in this report.

ITEM 4. Mine Safety Disclosures
N/A

PART II

ITEM 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

The common stock of LP is listed on the New York Stock Exchange with the ticker symbol “LPX.” Information regarding the high and low sales prices for the common stock for each quarter of the last two years is as follows:

	1ST QTR	2ND QTR	3RD QTR	4TH QTR
HIGH AND LOW STOCK PRICES				
2017 High	$ 24.82	$ 26.73	$ 29.14	$ 28.46
Low	$ 18.83	$ 22.28	$ 23.45	$ 25.97
2016 High	$ 18.09	$ 18.77	$ 20.97	$ 21.16
Low	$ 13.31	$ 15.74	$ 17.19	$ 17.08

As of February 9, 2018, there were approximately 4,786 holders of record of our common stock. No dividends were paid in 2017 or 2016.

ISSUER PURCHASES OF EQUITY SECURITIES

On October 31, 2014, LP’s Board of Directors authorized LP to repurchase up to $100 million of LP’s common stock. LP may initiate, discontinue or resume purchases of its common stock under this authorization in the open market, in privately negotiated transactions or otherwise at any time or from time to time without prior notice. As of February 13, 2018, no purchases have occurred under this authorization.

PERFORMANCE GRAPH

The following graph compares the total cumulative return to investors, including dividends paid (assuming reinvestment of dividends) and appreciation or depreciation in stock price, from an investment in LP common stock for the period from December 31, 2012 through December 31, 2017, to the total cumulative return to investors from the Standard & Poor’s 500 Stock Index and the Dow Jones US Forestry & Paper Index for the same period. Stockholders are cautioned that the graph shows the returns to investors only as of the dates noted and may not be representative of the returns for any other past or future period.

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ITEM 6. Selected Financial Data

Dollar amounts in millions, except per share Year ended December 31	2017	2016	2015 [1]	2014	2013
SUMMARY INCOME STATEMENT DATA					
Net sales	$2,733.9	$2,233.4	$1,892.5	$1,934.8	$2,085.2
Income (loss) from continuing operations	391.1	150.3	(86.0)	(73.4)	177.4
Net income (loss)	389.8	149.8	(88.1)	(75.4)	177.1
Income (loss) from continuing operations, per share—basic	$2.71	$1.05	$(0.60)	$(0.52)	$1.27
Income (loss) from continuing operations, per share—diluted	$2.67	$1.03	$(0.60)	$(0.52)	$1.23
Net income (loss) per share—basic	$2.70	$1.04	$(0.62)	$(0.53)	$1.27
Net income (loss) per share—diluted	$2.66	$1.03	$(0.62)	$(0.53)	$1.23
Average shares of common stock outstanding					
Basic	144.4	143.4	142.4	141.1	139.6
Diluted	146.4	145.3	142.4	141.1	144.3
Cash dividends declared per common share	$—	$—	$—	$—	$—
SUMMARY BALANCE SHEET INFORMATION					
Cash and cash equivalents	$928.0	$659.3	$434.7	$532.7	$560.9
Working capital (excluding cash and cash equivalents)	$161.5	$120.2	$191.4	$244.9	$180.5
Total assets	$2,448.5	$2,031.2	$2,176.3	$2,348.8	$2,487.6
Long-term debt, excluding current portion	$350.8	$374.4	$751.8	$754.8	$757.0
Capital expenditures	$148.6	$124.8	$113.8	$80.1	$75.6
Business acquisitions	$20.8	$—	$—	$—	$67.4
NON-GAAP MEASURES					
Adjusted EBITDA from continuing operations	$666.8	$346.1	$67.0	$44.1	$330.2
Adjusted income from continuing operations [2]	$341.2	$129.5	$(46.1)	$(65.8)	$171.6
Return on invested capital [2]	18.5%	8.4%	(3.1)%	(4.2)%	11.2%

[1] As of December 31, 2015, we adopted guidance under ASU No 2015-03, "Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs" which reclassified certain deferred debt costs as a direct deduction from the carrying amount of that debt liability. All prior periods were restated to reflect this adoption.
[2] See reconciliation and definitions to the necessary GAAP measures included in Item 7.

ITEM 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

This Management's Discussion and Analysis of Financial Condition and Results of Operations should be read in conjunction with our consolidated financial statements and related notes and other financial information appearing elsewhere in this Form 10-K. The following discussion includes statements that are forward-looking statements that are based on the beliefs of our management, as well as assumptions made by, and information currently available to, our management.

OVERVIEW

General

LP is a leading manufacturer of sustainable, quality engineered wood building materials including OSB, structural framing products, and exterior siding for use in residential, industrial and light commercial construction. Our products are used primarily in new home construction, repair and remodeling, and outdoor structures. We also market and sell our products in light industrial and commercial construction and we have a modest export business. Our manufacturing facilities are primarily located in the U.S. and Canada, but we also operate two facilities in Chile and one facility in Brazil.

To serve these markets, we operate in four segments: Siding; North America Oriented Strand Board (OSB); Engineered Wood Products (EWP); and South America.

Executive Summary

We recorded a 22% increase in sales to $2.7 billion for the year ended December 31, 2017 from $2.2 billion reported for the year ended December 31, 2016. We recorded income from operations of $523.4 million during 2017 compared to $204.0 million during the prior year. We recorded net income of $389.8 million ($2.66 per diluted share) during 2017 compared to $149.8 million ($1.03 per diluted share) during the prior year. We reported an increase of $320.7 million in Adjusted EBITDA between years. Improvements in OSB pricing in all North American operations had a positive impact of $307.3 million for 2017 as compared to 2016 for operating results.

We recorded an 18% increase in sales to $2.2 billion for the year ended December 31, 2016 from $1.9 billion reported for the year ended December 31, 2015. We recorded income from operations of $204.0 million during 2016 compared a loss of $63.3 million during the prior year. We recorded net income of $149.8 million ($1.03 per diluted share) during 2016 compared to a loss of $88.1 million ($0.62 per diluted share) during the prior year. We reported an increase of $279.1 million in Adjusted EBITDA between years. Improvements in OSB pricing in all North American operations had a positive impact of $215.2 million for 2016 as compared to 2015 operating results.

The following tables provides a breakdown of our sales for the last three years by product category.

For the year ended December 31, 2017

	Siding	OSB	EWP	South America	Other	Inter-segment	Total
SmartSide® siding	$757.6	$—	$—	$ 19.7	$—	$ (3.6)	$773.7
CanExel® siding	49.4	—	—	—	—	—	49.4
OSB	66.9	1,290.2	22.6	131.7	—	—	1,511.4
LVL	—	—	144.4	—	—	—	144.4
LSL	—	—	46.8	—	—	(0.1)	46.7
I-joist	—	—	116.9	—	—	(0.1)	116.8
Plywood	—	—	25.1	—	—	—	25.1
Other	10.1	12.3	10.1	3.9	30.0	—	66.4
Total Sales	$884.0	$1,302.5	$365.9	$ 155.3	$30.0	$ (3.8)	$2,733.9

For the year ended December 31, 2016

	Siding	OSB	EWP	South America	Other	Inter-segment	Total
SmartSide® siding	$657.7	$—	$—	$ 19.6	$—	$ (1.5)	$675.8
CanExel® siding	43.1	—	—	—	—	—	43.1
OSB	42.6	1,016.3	10.8	112.3	—	(5.8)	1,176.2
LVL	—	—	121.9	—	—	—	121.9
LSL	—	—	37.8	—	—	—	37.8
I-joist	—	—	99.4	—	—	—	99.4
Plywood	—	—	15.8	—	—	—	15.8
Other	8.9	11.4	11.2	5.0	26.9	—	63.4
Total Sales	$752.3	$1,027.7	$296.9	$ 136.9	$26.9	$ (7.3)	$2,233.4

For the year ended December 31, 2015

	Siding	OSB	EWP	South America	Other	Inter-segment	Total
SmartSide® siding	$572.6	$—	$—	$ 17.6	$—	$ —	$590.2
CanExel® siding	39.6	—	—	—	—	—	39.6
OSB	13.5	800.1	9.7	112.7	—	—	936.0
LVL	—	—	118.8	—	—	—	118.8
LSL	—	—	34.2	—	—	(0.2)	34.0
I-joist	—	—	100.8	—	—	(1.2)	99.6
Plywood	—	—	13.6	—	—	—	13.6
Other	10.7	7.4	9.0	4.6	29.0	—	60.7
Total Sales	$636.4	$807.5	$286.1	$ 134.9	$29.0	$ (1.4)	$1,892.5

Changes in sales, operating results and Adjusted EBITDA are discussed further in "Our Operating Results" below

Demand for Building Products

Demand for our products correlates to a significant degree to the level of new home construction activity in North America, which historically has been characterized by significant cyclicality. The U.S. Census Bureau reported that actual single and multi-family housing starts in 2017 were about 2% higher than 2016. Single family housing starts outpaced multi-family, showing an increase of 8.5% over 2016. We believe that the level of building continues to be impacted by lack of available labor.

While near-term residential construction is constrained in the U.S., positive long-term fundamentals exist. Increased immigration, the changing age distribution of the population, and historically low interest rates are expected to lead to more household formations. The chart below, which is based on data published by U.S. Census Bureau, provides a graphical summary of new housing starts for single and multi-family in the U.S. showing actual and rolling five and ten year averages for housing starts.

Supply and Demand for Siding

SmartSide siding is a specialty building material and is subject to competition from various siding technologies including vinyl, stucco, wood, fiber cement, brick and other. We believe we are the largest manufacturer to the $800 million engineered wood siding market. The overall siding market is estimated to be over $10 billion. LP's growth in this market will be dependent upon increasing housing demand as well as continued displacement of vinyl, wood, fiber cement and stucco alternatives.

Supply and Demand for OSB

OSB is a commodity product, and it is subject to competition from manufacturers worldwide. Product supply is influenced primarily by fluctuations in available manufacturing capacity and imports. OSB demand and capacity generally drives price. The chart below, as calculated by FEA (as of December 2017) including indefinitely curtailed mills, shows the demand capacity ratio (demand divided by supply) for OSB from 2013 through 2017 and FEA’s forecasted OSB price through 2022 based upon estimated future demand and supply.

CRITICAL ACCOUNTING POLICIES AND SIGNIFICANT ESTIMATES

A discussion of our significant accounting policies and significant accounting estimates and judgments is presented in Note 1 of the Notes to the financial statements in item 8 of this report. Throughout the preparation of the financial statements, we employ significant judgments in the application of accounting principles and methods. These judgments are primarily related to the assumptions used to arrive at various estimates. For 2017, these significant accounting estimates and judgments include:

Long-lived Assets

In accordance with GAAP for Property, Plant and Equipment, a long-lived asset (including amortizable identifiable intangible assets) or asset group held for use is tested for recoverability whenever events or changes in circumstances indicate that its carrying amount may not be recoverable. When such events occur, we compare the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset or asset group to the carrying amount of a long-lived asset or asset group. The cash flows are based on our best estimate of future cash flows derived from the most recent business projections. If this comparison indicates that there is an impairment, the amount of the impairment is calculated based on fair value. Fair value is estimated primarily using discounted expected future cash flows on a market-participant basis.

Defined Benefit Plans

We have a number of pension plans in the U.S. and Canada, covering many of the Company’s employees. Benefit accruals under our defined benefit pension plan in the U.S. were frozen as of January 1, 2010.

We account for the consequences of our sponsorship of these plans in accordance with GAAP which requires us to make assumptions that are used to calculate the related assets, liabilities and expenses recorded in our financial statements. Net actuarial gains and losses occur when actual experience differs from any of the assumptions used to value defined benefit plans or when assumptions change as they may each year. The primary factors contributing to actuarial gains and losses are changes in the discount rate used to value obligations as of the measurement date and the differences between expected and actual returns on pension plan assets. This accounting method results in the potential for volatile and difficult to forecast gains and losses.

We record amounts relating to these defined benefit plans based on various actuarial assumptions, including discount rates, assumed rates of return, compensation increases and life expectancy. We review our actuarial assumptions on an annual basis and make modifications to the assumptions based on current economic conditions and trends. We believe that the assumptions utilized in recording our obligations under our plans are reasonable based on our experience and on advice from our independent actuaries; however, differences in actual experience or changes in the assumptions may materially affect our financial condition or results of operations.

A 50 basis point change in our discount rate assumption would lead to an increase or decrease in our pension liability of approximately $18.3 million. A 50 basis point change in the long-term rate of return on plan assets used in accounting for our pension plans would have a $1.2 million impact on pension expense and a 50 basis point change in the discount rate would have a $0.4 million impact on pension expense. It is not possible to forecast or predict whether there will be actuarial gains and losses in future periods, and if required, the magnitude of any such adjustment. These gains and losses are driven by differences in actual experience or changes in the assumptions that are beyond our control, such as changes in interest rates and the actual return on pension plan assets.

For our U.S. plans, we used a long term rate of return assumption of 5.75% and discount rate of 3.45%. for our Canadian plans, we used a long term rate of return assumption of 4.06% and discount rate of 3.25%

Income Taxes

In accordance with GAAP, we establish deferred tax liabilities or assets for temporary differences between financial and tax reporting bases and subsequently adjust them to reflect changes in tax rates expected to be in effect when the temporary differences reverse. We record a valuation allowance reducing deferred tax assets when it is more likely than not that such assets will not be realized.

We record liabilities for uncertain income tax positions based on a two-step process. The first step is recognition, where we evaluate whether an individual tax position has a likelihood of greater than 50% of being sustained upon examination based on the technical merits of the position, including resolution of any related appeals or litigation processes. For tax positions that are currently estimated to have a less than 50% likelihood of being sustained, no tax benefit is recorded. For tax positions that have met the recognition threshold in the first step, we perform the second step of measuring the benefit (expense) to be recorded. The actual benefits (expense) ultimately realized may differ from our estimates. In future periods, changes in facts, circumstances, and new information may require us to change the recognition and measurement estimates with regard to individual tax positions. Changes in recognition and measurement estimates are recorded in the consolidated statement of income and consolidated balance sheet in the period in which such changes occur. As of December 31, 2017, we had liabilities for unrecognized tax benefits pertaining to uncertain tax positions totaling $40.3 million.

Customer Program Costs

Customer programs and incentives are a common practice in our businesses. Our businesses incur customer program costs to obtain favorable product placement, to promote sales of products and to maintain competitive pricing. Customer program costs and incentives, including rebates and promotion and volume allowances, are accounted for in either net sales or the category selling and administrative expenses at the time the program is initiated and/or the revenue is recognized. The costs are predominantly recognized in net sales and include, but are not limited to, volume allowances and rebates, promotional allowances, and cooperative advertising programs. These costs are recorded at the later of the time of sale or the implementation of the program based on management’s best estimates. Estimates are based on historical and projected experience for each type of program or customer. Volume allowances are accrued based on management’s estimates of customer volume achievement and other factors incorporated into customer agreements, such as new products, store sell-through, merchandising support and customer training. Management periodically reviews accruals for these rebates and allowances, and adjusts accruals when circumstances indicate (typically as a result of a change in volume expectations). As of December 31, 2017 and 2016, we had $24.2 million and $19.3 million accrued as customer rebates.

Warranty Obligations

Customers are provided with a limited warranty against certain defects associated with our products for periods of up to fifty years. We estimate the costs to be incurred under these warranties and record a liability in the amount of such costs at the time product revenue is recognized. Factors that affect our warranty liability include the historical and anticipated rates of warranty claims and the cost of resolving such. We periodically assess the adequacy of our recorded warranty liability for each product and adjust the amounts as necessary. While we believe we have a reasonable basis for these assumptions, actual warranty costs in the future could differ from our estimates.

NON-GAAP FINANCIAL MEASURES

In evaluating our business, we utilize several non-GAAP financial measures. A non-GAAP financial measure is generally defined by the SEC as one that purports to measure historical or future financial performance, financial position or cash flows, but excludes or includes amounts that would not be so excluded or included under applicable GAAP guidance. In this report on Form 10-K, we disclose segment earnings (loss) from continuing operations before interest expense, taxes, depreciation and amortization ("EBITDA from continuing operations") which is a non-GAAP financial measure. Additionally, we disclose Adjusted segment EBITDA from continuing operations ("Adjusted EBITDA from continuing operations) which further adjusts EBITDA from continuing operations to exclude stock based compensation expense, (gain) loss on sales or impairment of long lived assets, other operating credits and charges, costs associated with proposed acquisitions, early debt extinguishment and investment income. We also disclose adjusted income from continuing operations which excludes (gain) loss on sale or impairment of long-lived assets, interest outside of normal operations, other operating credits and charges, net, early debt extinguishment and adjusts for a normalized tax rate. Neither EBITDA from continuing operations, Adjusted EBITDA from continuing operations nor adjusted income from continuing operations are a substitute for the GAAP measure of net income or for any other GAAP measures of operating performance.

We have included EBITDA from continuing operations and Adjusted EBITDA from continuing operations in this report on Form 10-K because we use them as important supplemental measures of our performance and believe that they are frequently used by securities analysts, investors and other interested persons in the evaluation of companies in our industry, some of which present EBITDA when reporting their results. We use EBITDA from continuing operations and Adjusted EBITDA from continuing operations to evaluate our performance as compared to other companies in our industry that have different financing and capital structures and/or tax rates. It should be noted that companies calculate EBITDA and Adjusted EBITDA differently and, therefore, our EBITDA and Adjusted EBITDA measures may not be comparable to EBITDA and Adjusted EBITDA reported by other companies. Our EBITDA and Adjusted EBITDA measures have material limitations as performance measures because they exclude interest expense, income tax (benefit) expense and depreciation and amortization which are necessary to operate our business or which we otherwise incur or experience in connection with the operation of our business.

We believe that adjusted income from continuing operations, which excludes (gain) loss on sale or impairment of long-lived assets, interest outside of normal operations, other operating credits and charges, net and early debt extinguishment, adjusted for a normalized tax rate is a useful measure for evaluating our ability to generate earnings and that providing this measure will allow investors to more readily compare the earnings for past and future periods. It should be noted that other companies may present similarly-titled measures differently and, therefore, as presented by us may not be comparable to similarly-titled measures reported by other companies. In addition, adjusted income (loss) from continuing operations has material limitations as a performance measure because it excludes items that are actually incurred or experienced in connection with the operations of our business. Adjusted income from continuing operations is then used to calculate return on invested capital (ROIC). ROIC is calculated as the ratio of adjusted income from continuing operations to average invested capital. Average invested capital is defined as interest-bearing liabilities (debt and pension liabilities) plus shareholder's equity and is calculated as the sum of current and prior year ending amounts divided by two. The ROIC percentage is a non-GAAP financial measure. We believe ROIC is useful to investors as a measure of operating performance and the effectiveness of the use of capital in our operations. We use ROIC as a measure to monitor and evaluate operating performance relative to our invested capital. This measure should not be construed as an alternative to, or substitute for, return on equity or any other measure determined in accordance with GAAP.

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The following table presents significant items by operating segment and reconciles results from continuing operations to EBITDA from continuing operations and Adjusted EBITDA from continuing operations:

Year Ended December 31, 2017 (Dollar amounts in millions)	Siding	OSB	EWP	South America	Other	Corporate	Total
Income (loss) from continuing operations	$186.8	$425.7	$14.9	$ 24.3	$(3.4)	$(257.2)	$391.1
Reconciliation of income (loss) from continuing operations to Adjusted EBITDA from continuing operations							
Provision for income taxes	—	—	—	—	—	119.1	119.1
Interest expense, net of capitalized interest	—	—	—	—	—	19.3	19.3
Depreciation and amortization	30.9	61.6	15.8	9.1	2.8	3.1	123.3
EBITDA from continuing operations	217.7	487.3	30.7	33.4	(0.6)	(115.7)	652.8
Stock-based compensation expense	0.9	0.9	0.3	—	—	7.6	9.7
Loss on sale or impairments of long-lived assets, net	—	—	—	—	—	6.8	6.8
Investment income	—	—	—	—	—	(10.5)	(10.5)
Other operating credits and charges, net	—	—	—	—	—	8.0	8.0
Adjusted EBITDA from continuing operations	$218.6	$488.2	$31.0	$ 33.4	$(0.6)	$(103.8)	$666.8

Year Ended December 31, 2016 (Dollar amounts in millions)	Siding	OSB	EWP	South America	Other	Corporate	Total
Income (loss) from continuing operations	$126.1	$186.2	$(5.8)	$ 17.0	$(1.6)	$(171.6)	$150.3
Reconciliation of income (loss) from continuing operations to Adjusted EBITDA from continuing operations							
Provision for income taxes	—	—	—	—	—	19.8	19.8
Interest expense, net of capitalized interest	—	—	—	—	—	32.1	32.1
Depreciation and amortization	27.4	58.6	12.7	8.6	2.3	3.2	112.8
EBITDA from continuing operations	153.5	244.8	6.9	25.6	0.7	(116.5)	315.0
Stock-based compensation expense	0.9	1.0	0.6	—	—	10.5	13.0
Gain on sale or impairments of long-lived assets, net	—	—	—	—	—	(8.4)	(8.4)
Other operating credits and charges, net	—	—	—	—	—	17.4	17.4
Loss on early debt extinguishment	—	—	—	—	—	17.3	17.3
Investment income	—	—	—	—	—	(8.2)	(8.2)
Adjusted EBITDA from continuing operations	$154.4	$245.8	$7.5	$ 25.6	$0.7	$(87.9)	$346.1

Year Ended December 31, 2015 (Dollar amounts in millions)	Siding	OSB	EWP	South America	Other	Corporate	Total
Income (loss) from continuing operations	$93.2	$(46.3)	$(7.3)	$ 9.8	$(2.8)	$(132.6)	$(86.0)
Reconciliation of income (loss) from continuing operations to Adjusted EBITDA from continuing operations							
Benefit for income taxes	—	—	—	—	—	(2.7)	(2.7)
Interest expense, net of capitalized interest	—	—	—	—	—	31.2	31.2
Depreciation and amortization	19.7	57.0	12.6	7.9	1.8	2.9	101.9
EBITDA from continuing operations	112.9	10.7	5.3	17.7	(1.0)	(101.2)	44.4
Stock-based compensation expense	0.8	1.0	0.5	—	—	7.0	9.3
Loss on sales of and impairments of long-lived assets, net	—	—	—	—	—	2.1	2.1
Other operating credits and charges, net	—	—	—	—	—	16.3	16.3
Other operating credit and charges, associated with JVs	—	—	—	—	—	(0.7)	(0.7)
Investment income	—	—	—	—	—	(4.4)	(4.4)
Adjusted EBITDA from continuing operations	$113.7	$11.7	$5.8	$ 17.7	$(1.0)	$(80.9)	$67.0

The following tables provides the reconciliation of net income to adjusted income from continuing operations.

	For the years ended December 31,				
	2017	2016	2015	2014	2013
Net income (loss)	$389.8	$149.8	$(88.1)	$(75.4)	$177.1
Add (deduct):					
Loss from discontinued operations	1.3	0.5	2.1	(2.0)	(0.3)
(Gain) loss on sale or impairment of long-lived assets, net	6.8	(8.4)	2.1	(3.1)	0.2
Other operating credits and charges, net	8.0	17.4	16.3	7.5	3.8
Interest expense outside of normal operations	—	2.8	—	—	—
Other operating credits and charges, net associated with joint venture	—	—	(0.7)	(1.0)	2.7
Gain on acquisition or sale of joint venture	—	—	—	—	37.1
Early debt extinguishment	—	17.3	—	—	2.3
Reported tax provision	119.1	19.8	(2.7)	(27.2)	41.1
Normalized tax provision at 35%	(183.8)	(69.7)	24.9	35.4	(92.4)
Adjusted income (loss) from continuing operations	$341.2	$129.5	$(46.1)	$(65.8)	$171.6

The following table provides the calculation of return on capital invested.

	For the years ended December 31,				
	2017	2016	2015	2014	2013
Debt	$375.9	$377.0	$753.9	$757.2	$748.2
Notes receivable from asset sales	(22.2)	(22.2)	(432.2)	(432.2)	(432.2)
Stockholders' equity	1,604.5	1,195.7	1,017.0	1,115.8	1,226.3
Pension liabilities, net of pension assets	79.6	92.0	93.4	95.9	51.8
Invested capital	$2,037.8	$1,642.5	$1,432.1	$1,536.7	$1,594.1
Average invested capital	$1,840.1	$1,537.3	$1,484.4	$1,565.4	$1,534.2
Return on invested capital	18.5 %	8.4 %	(3.1)%	(4.2)%	11.2 %

OUR OPERATING RESULTS

Our results of operations for each of our segments are discussed below, as are results of operations for the "other" category which comprises other products that are not individually significant. See Note 24 of the Notes to the consolidated financial statements included in item 8 of this report for further information regarding our segments.

Siding

Our siding segment produces and markets wood-based siding and related accessories and OSB products. We believe that we are a leading wood composite exterior siding producer in North America. We manufacture exterior siding and other cladding products for the residential and commercial building markets, retail and non-residential structures. During the fourth quarter of 2017, we announced our intent to convert the Dawson Creek OSB mill to siding and anticipate for 2018, we will increase the amount of OSB produced in this segment.

Segment sales, operating profits and Adjusted EBITDA from continuing operations for this segment were as follows:

Dollar amounts in millions				Increase (decrease)	
Year ended December 31,	2017	2016	2015	2017 - 2016	2016 - 2015
Sales	$884.0	$752.3	$636.4	18 %	18 %
Operating profits	$186.8	$126.1	$93.2	48 %	35 %
Adjusted EBITDA from continuing operations	$218.6	$154.4	$113.7	42 %	36 %
Adjusted EBITDA margin	24.7 %	20.5 %	17.9 %		

Sales in this segment by product line were as follows:

Dollar amount in millions				Increase (decrease)	
Year ended December 31,	2017	2016	2015	2017 - 2016	2016 - 2015
SmartSide® siding	$757.6	$657.7	$572.6	15 %	15 %
CanExel siding and other hardboard related products	49.4	43.1	39.6	15 %	9 %
OSB	66.9	42.6	13.5	57 %	216 %
Other	10.1	8.9	10.7	13 %	(17)%
Total	$884.0	$752.3	$636.4		

Percent changes in average sales prices and unit shipments are as follows:

	2017 versus 2016		2016 versus 2015	
	Average Selling Price	Unit Shipments	Average Selling Price	Unit Shipments
SmartSide® siding	5 %	10 %	— %	16 %
CanExel siding	3 %	10 %	(6)%	17 %
Commodity OSB	27 %	24 %	32 %	135 %

For the year ended December 31, 2017 compared to 2016, sales volumes increased in our SmartSide siding line based upon increased demand in our key markets. Sales prices in our SmartSide siding product line for the year ended December 31, 2017 as compared to 2016 were due to changes in product mix as well as a price increase, which was implemented in the second quarter of 2017.

For CanExel, sales volumes increased in the year ended December 31, 2017 as compared to 2016 due to increased demand in Canada as well as demand related to the introduction of several new colors. Sales prices were higher for the year ended December 31, 2017 as compared to 2016 due to changes in our product mix and the fluctuations in the U.S. to Canadian dollar as majority of these sales are denominated in Canadian dollars.

For our OSB produced in the siding segment for the year ended December 31, 2017 compared to 2016, sales prices increased as compared to the same periods in the prior year, as discussed in the OSB segment below. The increase in selling price favorably impacted operating results and Adjusted EBITDA from continuing operations by approximately $14.2 million for the year ended December 31, 2017 as compared to 2016.

Overall, the improvement in the siding segment for the year ended December 31, 2017 compared to 2016 was primarily due to increased siding sales volumes and price and higher OSB prices partially offset by increases in raw materials (primarily resins) and cost associated with our planned conversion of our Dawson Creek OSB mill to a siding mill in 2018.

OSB

Our OSB segment manufactures and distributes OSB structural panel products in North America and certain export markets. OSB is an innovative, affordable and environmentally smart product. OSB is manufactured through the use of wood strands arranged in layers and bonded with resins and wax. Significant cost inputs to produce OSB and approximate breakdown percentages for the year ended December 31, 2017 include wood fiber (30%), resin and wax (20%), labor and burden (17%), utilities (5%) and manufacturing and other (29%).

Segment sales, operating profits (losses) and Adjusted EBITDA from continuing operations for this segment were as follows:

Dollar amounts in millions				Increase (decrease)	
Year ended December 31,	2017	2016	2015	2017 - 2016	2016 - 2015
Sales	$1,302.5	$1,027.7	$807.5	27 %	27 %
Operating profits (losses)	$425.7	$186.2	$(46.3)	129 %	NM
Adjusted EBITDA from continuing operations	$488.2	$245.8	$11.7	99 %	NM
Adjusted EBITDA margin	37.5 %	23.9 %	1.4 %		

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Sales in this segment by product line were as follows:

Dollar amount in millions				Increase (decrease)	
Year ended December 31,	2017	2016	2015	2017 - 2016	2016 - 2015
OSB	$1,290.2	$1,016.3	$800.1	27 %	27 %
Other	12.3	11.4	7.4	8 %	54 %
	$1,302.5	$1,027.7	$807.5		

Percent changes in average sales prices and unit shipments are as follows:

	2017 versus 2016		2016 versus 2015	
	Average Net Selling Price	Unit Shipments	Average Net Selling Price	Unit Shipments
OSB	29 %	(1)%	25 %	3 %

For the year ended December 31, 2017 as compared to 2016, OSB prices increased. The increase in OSB prices was likely due to higher demand compared to the supply available in the market and the continued focus on higher value products which results in a higher average selling price. The increase in selling price favorably impacted operating results and Adjusted EBITDA from continuing operations by $293 million. OSB sales volumes were essentially flat between periods.

Overall operating results for OSB for the year ended December 31, 2017 as compared to 2016 increased due to higher sales prices offset by increases in raw material costs (primarily resins), manufacturing costs due to downtime related to capital and maintenance projects and increases in business related marketing costs.

Engineered Wood Products

Our EWP segment manufactures and distributes LVL, LSL, I-Joists and other related products. This segment also includes the sale of I-Joist and LVL products produced by our joint venture with Resolute Forest Products and under a sales and marketing arrangement with Murphy Plywood. Included in this segment is a plywood mill, which primarily produces plywood as a by-product from the LVL production process. OSB is also produced by our LSL facility.

Segment sales, operating losses and Adjusted EBITDA from continuing operations for this segment were as follows:

Dollar amount in millions				Increase (decrease)	
Year ended December 31,	2017	2016	2015	2017 - 2016	2016 - 2015
Sales	$365.9	$296.9	$286.1	23 %	4 %
Operating profits (losses)	$14.9	$(5.8)	$(7.3)	NM	21 %
Adjusted EBITDA from continuing operations	$31.0	$7.5	$5.8	313 %	29 %
Adjusted EBITDA margin	8.5 %	2.5 %	2.0 %		

Sales in this segment by product line were as follows:

Dollar amount in millions				Increase (decrease)	
Year ended December 31,	2017	2016	2015	2017 - 2016	2016 - 2015
LVL	$144.4	$121.9	$118.8	18 %	3 %
LSL	46.8	37.8	34.2	24 %	11 %
I-joist	116.9	99.4	100.8	18 %	(1)%
OSB	22.6	10.8	9.7	109 %	11 %
Plywood	25.1	15.8	13.6	59 %	16 %
Related products	10.1	11.2	9.0	(10)%	24 %
Total	$365.9	$296.9	$286.1		

Percent changes in average sales prices and unit shipments are as follows:

	2017 versus 2016		2016 versus 2015	
	Average Net Selling Price	Unit Shipments	Average Net Selling Price	Unit Shipments
LVL	5 %	11 %	2 %	5 %
LSL	5 %	18 %	4 %	10 %
I-joist	5 %	11 %	1 %	1 %
OSB	2 %	105 %	9 %	1 %
Plywood	14 %	40 %	(4)%	19 %

For the year ended December 31, 2017 as compared to 2016, sales volumes increased in LVL, LSL, I-joist and plywood due to improved market demand due to increased housing starts. Net average selling prices increased due to changes in product mix and price increases implemented across all product lines. OSB prices changed due to changes in product based on the decision to produce a higher percentage of commodity OSB in our Houlton, Maine facility. Plywood prices increased likely due to higher demand compared to the supply available in the market. The increase in selling prices for plywood favorably impacted operating results and Adjusted EBITDA from continuing operations by $3.2 million as compared to 2016. The change in OSB pricing had a minimal impact due to the change in product mix.

Overall operating results for EWP for the year ended December 31, 2017 as compared to 2016 improved due to increased sales prices and volume offset by increases in raw material costs (primarily lumber and veneer).

South America

Our South America segment manufactures and distributes OSB and siding products and other related products in South America. We operate in two geographic areas of South America, Chile and Brazil. We have sales offices located in Chile, Brazil and Peru.

Dollar amount in millions				Increase (decrease)	
Year ended December 31,	2017	2016	2015	2017 - 2016	2016 - 2015
Sales	$155.3	$136.9	$134.9	13 %	1 %
Operating profits	$24.3	$17.0	$9.8	43 %	73 %
Adjusted EBITDA from continuing operations	$33.4	$25.6	$17.7	30 %	45 %
Adjusted EBITDA margin	21.5 %	18.7 %	13.1 %		

Sales in this segment by product were as follows:

Dollar amount in millions				Increase (decrease)	
Year ended December 31,	2017	2016	2015	2017 - 2016	2016 - 2015
OSB	131.7	112.3	112.7	17 %	— %
Siding	19.7	19.6	17.6	1 %	11 %
Other	3.9	5.0	4.6	(22)%	9 %
Total	$155.3	$136.9	$134.9		

Percent changes in average sales prices and unit shipments for 2017 compared to 2016 are as follows:

	2017 versus 2016		2016 versus 2015	
	Average Net Selling Price	Unit Shipments	Average Net Selling Price	Unit Shipments
OSB	9 %	7 %	3 %	(3)%
Siding	6 %	(5)%	4 %	7 %

For the year ended December 31, 2017 as compared to 2016, operating results improved due to increases in sales prices across all product lines. OSB volume was higher due to higher export sales whereas siding volume showed a decline due to lower local sales, primarily in Chile.

Other

Our other products category includes our remaining timber and timberlands and other minor products, services and closed operations which are not classified as discontinued operations.

Sales, operating losses and Adjusted EBITDA from continuing operations for this category were as follows:

Dollar amount in millions				Increase (decrease)	
Year ended December 31,	2017	2016	2015	2017 - 2016	2016 - 2015
Sales	$30.0	$26.9	$29.0	12 %	(7)%
Operating losses	$(3.4)	$(1.6)	$(2.8)	(113)%	43 %
Adjusted EBITDA from continuing operations	$(0.6)	$0.7	$(1.0)	186 %	170 %

Operating results in our other products business declined for 2017 as compared to 2016 due to higher carrying costs on our closed operations.

GENERAL CORPORATE AND OTHER EXPENSE, NET

Net general corporate expense was $110.1 million in 2017 as compared to $103.7 million in 2016. General corporate and other expenses primarily consist of corporate overhead such as wages and benefits, professional fees, insurance and other expenses for corporate functions including certain executive officers, public company costs, information technology, financial services, environmental and safety, legal, supply management, human resources and other corporate functions.

The increase in 2017 as compared to 2016 was primarily due to increased costs associated with corporate initiatives related to sales and marketing activities.

OTHER OPERATING CREDITS AND CHARGES, NET

For a discussion of other operating credits and charges, net, see Notes 1 and 17 of the Notes to the consolidated financial statements included in item 8 of this report.

GAIN (LOSS) ON SALES OF AND IMPAIRMENTS OF LONG-LIVED ASSETS

For a discussion of gain (loss) on sales of and impairments of long-lived assets, see Notes 1 and 18 of the Notes to the consolidated financial statements included in item 8 of this report.

NON-OPERATING INCOME (EXPENSE)

For a discussion of non-operating income (expense), see Note 12 of the Notes to the consolidated financial statements included in item 8 of this report.

INCOME TAXES

We recorded a tax provision in continuing operations of $119.1 million in 2017 and $19.8 million in 2016 and a tax benefit of $2.7 million in 2015. For 2017, the primary differences between the U.S. statutory rate of 35% and the effective rate applied to continuing operations relates to foreign tax rates, decreases in Canadian and state valuation allowances, and the impact of the U.S. tax reform act on our deferred taxes.

We paid $143.1 million of cash taxes and received $0.3 million in cash tax refunds in 2017 and expect to receive $2.2 million in tax refunds and pay $4.5 million in taxes payable from prior years in 2018.

On December 22, 2017 the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Act"). The Act makes broad and complex changes to the U.S. tax code, including but not limited to, reducing the U.S. federal corporate rate from 35 percent to 21 percent, generally eliminating the taxation of dividends from foreign subsidiaries, requiring companies to pay a one-time transition tax on unrepatriated earnings of foreign subsidiaries and creating new taxes on certain foreign earnings.

In connection with our initial analysis of the impact of the Act, we have recorded a net tax benefit of $18.4 million for the year ended December 31, 2017 associated with the revaluation of our net deferred tax liabilities, based on the new federal tax rate of 21 percent. Because the Act allows us to offset accumulated losses of some foreign subsidiaries against the positive income accumulations of others, we have determined our net transition tax to be zero.

Due to the complexities involved, we have not yet completed our analysis of the impact of the provisions of the Act relating to foreign income. Specifically, the Global Intangible Low Taxed Income (GILTI) rules require current inclusion of certain earnings of controlled foreign corporations in the income of the U.S. shareholder. Under GAAP, we are allowed to make an accounting policy choice to either treat additional taxes due to GILTI on a current or deferred basis. If we were to choose the deferred method, our calculation of the deferred balance at December 31, 2017 would depend upon our analysis of foreign income and whether we expect to have GILTI inclusions in future years. Because we are continuing to evaluate these provisions, we have not made any related adjustments in our financial statements.

DEFINED BENEFIT PENSION PLANS

We maintain several qualified and non-qualified defined benefit pension plans in the U.S. and Canada that cover a substantial portion of our employees. The measurement of liabilities related to these plans is based on management's interpretation of the applicable plan provisions and assumptions related to future events, including expected return on plan assets and rate of compensation increases. The discount rate reflects the rate at which benefits could be effectively settled on the measurement date. The projected payment for each year is discounted using the rates specified by the yield curve. The sum of these discounted payments is the benefit obligation. The discount rate disclosed is the single rate applied to all projected payments that creates an equivalent obligation. Actual pension plan asset investment performance will either reduce or increase unamortized pension losses at the end of any fiscal year, which ultimately affects future pension costs. See Note 14 of the Notes to the consolidated financial statements included in item 8 of this report for further information on these plans.

As January 1, 2018, we will retroactively adopt ASU 2017-07, Retirement Benefits - Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. The impact of this adoption will increase our operating income, decrease our non-operating income and expense and increase our Adjusted EBITDA by $9.4 million for the year ended December 31, 2017. There is no impact on net income. This adoption will impact our

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segment results by increasing operating income and Adjusted EBITDA for each segment as follows: Siding $1.9 million; OSB $1.6 million, EWP $0.8 million; Other $0.1 million and Corporate by $2.0 million.
For our U.S. plans, we used a long term rate of return assumption of 5.75% in 2017 and 2016 to calculate the net periodic pension costs. For our Canadian plans, we used a long-term rate of return assumption of 3.00% to 4.25% in 2017 and 2016 to calculate the net periodic pension costs. For 2017, our net periodic pension cost was $11.0 million and we estimate for 2018 our net periodic pension cost will be $8.4 million. This estimate assumes that we will have no curtailment or settlement expenses in 2018. If a settlement or curtailment does occur in 2018, this estimate may change significantly.

LEGAL AND ENVIRONMENTAL MATTERS

For a discussion of legal and environmental matters involving us and the potential impact thereof on our financial position, results of operations and cash flows, see Item 3 in this report as well as Note 19 in the Notes to the consolidated financial statements included in item 8 of this report.

LIQUIDITY AND CAPITAL RESOURCES

Overview

Our principal sources of liquidity are existing cash and investment balances, cash generated by our operations and our ability to borrow under such credit facilities as we may have in effect from time to time. We may also from time to time issue and sell equity, debt or hybrid securities or engage in other capital market transactions.
Our principal uses of liquidity are paying the costs and expenses associated with our operations, servicing outstanding indebtedness, dividends and making capital expenditures. We may also from time to time prepay or repurchase outstanding indebtedness or shares or acquire assets or businesses that are complementary to our operations. Any such repurchases may be commenced, suspended, discontinued or resumed, and the method or methods of effecting any such repurchases may be changed at any time or from time to time without prior notice.

Operating Activities

During 2017, we generated $473.7 million of cash from operations as compared to $342.3 million of cash from operations in 2016. This change reflects improved results of operations for 2017 due to higher OSB prices and increased siding volumes. Our accounts receivables increased $35.0 million during 2017 due to higher OSB prices. Our accounts payable increased by $22.5 million during 2017 primarily due to increases in our salary and wages payable due to higher management incentive accruals and timing of payroll paid. During 2017, we made $2.1 million in contingency payments and $9.5 million in warranty payments.

Investing Activities

During 2017, we used $198.6 million in cash from investing activities. Capital expenditures for 2017 were $148.6 million, primarily related to the expansion in South America operations and siding operations as well as growth and maintenance capital. We also paid $20.8 million for the acquisition of International Barrier Technology. We used $32.0 million to deposit cash with the U.S. I.R.S. to suspend the running of interest on potential underpayments of disputable income tax amounts for the year 2016. Additionally, included in accounts payable is $19.0 million related to capital expenditures that had not yet been paid as of December 31, 2017.
Capital expenditures in 2018 are expected to be approximately $200 million to $250 million related to expansions in our siding business, growth and maintenance projects and our South American expansion.

Financing Activities

In 2017, net cash used in financing activities was $9.4 million. During 2017, we used $2.6 million to repay outstanding debt and $5.9 million for taxes related to net share settlement of equity awards.

CREDIT AGREEMENTS

In December 2013, we entered into a credit agreement with various lenders and American AgCredit, PCA, as administrative agent and CoBank, ACB, as letter of credit issuer. The credit agreement provides for a $200 million revolving credit facility, with a $60 million sublimit for letters of credit. The credit facility terminates and all loans made under the credit agreement become due in December 2022. As of December 31, 2017, no revolving borrowings had been made under the credit facility.

The credit agreement contains financial covenants that require us and our consolidated subsidiaries to have, as of the end of each quarter, (i) a capitalization ratio (i.e., funded debt to total capitalization) of no more than 40% and (ii) a current ratio (i.e, currents assets to current liabilities) of at least 2 to 1, in each case calculated in the manner specified in the credit agreement. As of December 31, 2017 , we were in compliance with all financial covenants under the credit agreement. The credit agreement contains customary events of default, the occurrence of which could result in the acceleration of our obligation to repay the indebtedness outstanding thereunder.

LP Chile is a party to a term loan agreement with Banco de Credito e Inversiones for UF 943,543.7391 (equivalent to $39 million at the time of inception). The loan agreement has a term of 10 years with semi-annual principal payments beginning in June of 2012. The loan bears interest at UF plus 3.9% per annum. The loan contains various restrictive covenants and requires the maintenance by LP Chile of a debt to equity ratio of less than or equal to 1. If LP Chile is late in making payments, LP Chile will also be required to maintain a ratio of net debt to earnings before interest, taxes, depreciation and amortization (EBITDA) of less than or equal to 2.5 and a ratio of EBITDA to financial costs of at least 3. The loan agreement also contains customary events of default, the occurrence of which could result in acceleration of our obligations to repay the indebtedness outstanding thereunder. Since this loan is denominated in other than U.S. dollars, the balance fluctuates based upon changes in the underlying currency rates. The impact of foreign currency exchange rates in 2017 was $0.6 million which was partially offset by a UF change of $0.1 million.

OTHER LIQUIDITY MATTERS

As of December 31, 2017, we had $6.0 million ($23.4 million, par value) of principal invested in auction rate securities (ARS). The ARS held by us are securities with long-term nominal maturities for which the interest rates were historically reset through a Dutch auction each month. We intend to continue to offer our ARS at auction and to consider other options, including alternative buyers and other potential transactions. We do not currently require our ARS to be liquidated in order to fund our day-to-day operations and we are prepared to hold them until maturity, if necessary.

Contingency Reserves

Contingency reserves, which represent an estimate of future cash needs for various contingencies (principally, payments for environmental reserves), totaled $15.1 million at December 31, 2017, of which $3.4 million is estimated to be payable within one year. As with all accounting estimates, there is inherent uncertainty concerning the reliability and precision of such estimates. As described above and in Note 19 of the Notes to the consolidated financial statements included in item 8 of this report, the amounts ultimately paid in resolving these contingencies could exceed the current reserves by a material amount.

Contractual Obligations

The table below summarizes our contractual obligations as of December 31, 2017 over the next several years. See discussion above concerning provisions that could accelerate the due dates on our long-term debt.

Dollars amounts in millions	Payments due by period			
Contractual obligations	Less than 1 year	1-3 years	3-5 years	More than 5 years
Long-term debt	$25.1	$5.3	$—	$350.0
Interest payments on long-term debt[1]	18.1	34.3	34.2	34.1
Operating leases	5.9	7.7	3.4	—
Other long-term obligations [2]	9.1	9.6	6.6	1.5
Total contractual cash obligations [3,4]	$58.2	$56.9	$44.2	$385.6

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[1] The estimate of interest payments assumes interest is paid through the date of maturity or expiration of the related debt based upon stated rates in the respective debt instruments.

[2] Other long term obligations primarily consist of obligations related to information technology infrastructure.

[3] Unrecognized tax positions have been excluded from the above table as it is not reasonably possible to estimate when these may need to be paid. As of December 31, 2017, the amount of uncertain tax positions excluded from the above table is $40.3 million.

[4] As of December 31, 2017, LP had warranty reserves of $24.7 million. These have been excluded from the above table as it is not reasonably possible to determine when these may need to be paid.

POTENTIAL IMPAIRMENTS

We continue to review several mills and investments for potential impairments. Management currently believes we have adequate support for the carrying value of each of these assets based upon the anticipated cash flows that result from our estimates of future demand, pricing and production costs assuming certain levels of planned capital expenditures. As of December 31, 2017, the fair values of LP's facilities were substantially in excess of their carrying value, which supported the conclusion that no impairment is necessary for those facilities. However, if demand and pricing for the relevant products continues at levels significantly below cycle average demand and pricing, or should LP decide to invest capital in alternative projects, or should changes occur related to LP's wood supply for these locations, it is possible that impairment charges will be required.

We also review from time to time possible dispositions of various assets in light of current and anticipated economic and industry conditions, our strategic plan and other relevant factors. Because a determination to dispose of particular assets can require management to make assumptions regarding the transaction structure of the disposition and to estimate the net sales proceeds, which may be less than previous estimates of undiscounted future net cash flows, we may be required to record impairment charges in connection with decisions to dispose of assets.

PROSPECTIVE ACCOUNTING PRONOUNCEMENTS

See Note 2 for discussion of prospective accounting pronouncements in the Notes to the consolidated financial statements included in item 8 of this report.

ITEM 7A. Quantitative and Qualitative Disclosures about Market Risk

Our international operations have exposure to foreign currency rate risks, primarily due to fluctuations in the Canadian dollar, Brazilian real and the Chilean peso. Although we have in the past entered into foreign exchange contracts associated with certain of our indebtedness and may continue to enter into foreign exchange contracts associated with major equipment purchases to manage a portion of the foreign currency rate risk, we historically have not entered into material currency rate hedges with respect to our exposure from operations, although we may do so in the future.

Some of our products are sold as commodities and therefore sales prices fluctuate daily based on market factors over which we have little or no control. The most significant commodity product we sell is OSB. Based upon an assumed North America annual production capacity in the OSB segment of 4.9 billion square feet (3/8" basis) or 4.2 billion square feet (7/16" basis), a $1 change in the annual average price per thousand square feet on 7/16" basis would change annual pre-tax profits by approximately $4.2 million.

We historically have not entered into material commodity futures and swaps, although we may do so in the future.

ITEM 8. Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Louisiana-Pacific Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Louisiana-Pacific Corporation and its subsidiaries (the "Company") as of December 31, 2017 and 2016, and the related consolidated statements of income, comprehensive income, cash flows, and stockholders' equity for each of the three years in the period ended December 31, 2017, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 13, 2018, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ DELOITTE & TOUCHE LLP

Nashville, TN
February 13, 2018

We have served as the Company's auditor since 1997.

Consolidated Balance Sheets
Dollar amounts in millions

	December 31, 2017	December 31, 2016
ASSETS		
Current assets:		
Cash and cash equivalents	$928.0	$659.3
Receivables, net of allowance for doubtful accounts of $0.9 million and $1.0 million at December 31, 2017 and 2016	142.5	108.3
Inventories	259.1	234.6
Prepaid expenses and other current assets	7.8	6.1
Current portion of notes receivable from asset sales	22.2	—
Total current assets	1,359.6	1,008.3
Timber and timberlands	55.7	53.5
Property, plant and equipment, net	926.1	891.4
Goodwill and other intangible assets	26.7	9.7
Notes receivable from asset sales	—	22.2
Investments in and advances to affiliates	7.8	6.2
Restricted cash	13.3	13.2
Other assets	56.8	22.4
Deferred tax asset	2.5	4.3
Total assets	$2,448.5	$2,031.2
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Current portion of long-term debt	$25.1	$2.6
Accounts payable and accrued liabilities	237.1	191.5
Income taxes payable	$4.5	$31.3
Current portion of contingency reserves	3.4	3.4
Total current liabilities	270.1	228.8
Long-term debt, excluding current portion	350.8	374.4
Deferred income taxes	33.4	27.7
Contingency reserves, excluding current portion	11.7	12.7
Other long-term liabilities	178.0	191.9
Stockholders' equity:		
Preferred stock, $1 par value, 15,000,000 shares authorized, no shares issued	—	—
Common stock, $1 par value, 200,000,000 shares authorized, 153,358,542 and 153,358,542 shares issued	153.4	153.4
Additional paid-in capital	470.6	478.2
Retained earnings	1,280.1	890.3
Treasury stock, 8,462,949 shares and 9,041,733 shares, at cost	(177.5)	(189.0)
Accumulated comprehensive loss	(122.1)	(137.2)
Total stockholders' equity	1,604.5	1,195.7
Total liabilities and stockholders' equity	$2,448.5	$2,031.2

See Notes to the Consolidated Financial Statements.

Consolidated Statements of Income
Dollar amounts in millions, except per share

	Year ended December 31,		
	2017	2016	2015
Net sales	$2,733.9	$2,233.4	$1,892.5
Cost of sales (exclusive of depreciation and amortization shown separately below)	1,882.0	1,724.0	1,682.7
Depreciation and amortization	123.3	112.8	101.9
Selling and administrative	190.4	183.6	152.8
(Gain) loss on sale or impairment of long lived assets, net	6.8	(8.4)	2.1
Other operating credits and charges, net	8.0	17.4	16.3
Total operating expenses	2,210.5	2,029.4	1,955.8
Income (loss) from operations	523.4	204.0	(63.3)
Non-operating income (expense):			
Interest expense, net of capitalized interest	(19.3)	(32.1)	(31.2)
Investment income	10.5	8.2	4.4
Other non-operating items	(4.4)	(15.2)	(5.3)
Total non-operating income (expense)	(13.2)	(39.1)	(32.1)
Income (loss) from continuing operations before income taxes	510.2	164.9	(95.4)
Provision (benefit) for income taxes	119.1	19.8	(2.7)
Equity in income of unconsolidated affiliates	—	(5.2)	(6.7)
Income (loss) from continuing operations	391.1	150.3	(86.0)
Loss from discontinued operations before taxes	(2.0)	(0.8)	(3.2)
Benefit for income taxes	(0.7)	(0.3)	(1.1)
Loss from discontinued operations	(1.3)	(0.5)	(2.1)
Net income (loss)	$389.8	$149.8	$(88.1)
Basic net income (loss) per share:			
Income (loss) per share from continuing operations	$2.71	$1.05	$(0.60)
Loss per share from discontinued operations	(0.01)	(0.01)	(0.02)
Net income (loss) per share	$2.70	$1.04	$(0.62)
Diluted net income (loss) per share:			
Income (loss) per share from continuing operations	$2.67	$1.03	$(0.60)
Loss per share from discontinued operations	(0.01)	—	(0.02)
Net income (loss) per share	$2.66	$1.03	$(0.62)
Average shares of common stock used to compute net income (loss) per share:			
Basic	144.4	143.4	142.4
Diluted	146.4	145.3	142.4

See Notes to the Consolidated Financial Statements.

Consolidated Statements of Comprehensive Income
Dollar amounts in millions

	Year ended December 31,		
	2017	2016	2015
Net income (loss)	$389.8	$149.8	$(88.1)
Other comprehensive income (loss), net of tax			
Foreign currency translation adjustments	6.6	8.8	(21.4)
Unrealized gains (losses) on securities, net of reversals	0.8	(0.6)	0.7
Defined benefit pension plans:			
Change benefit obligations, translation adjustment	(0.4)	(0.5)	1.2
Prior service cost	—	—	—
Net gain (loss)	2.5	(2.9)	(0.4)
Amortization of amounts included in net periodic benefit cost:			
Actuarial loss, net of tax	6.1	3.5	4.6
Prior service cost, net of tax	0.3	0.3	0.3
Other	(0.8)	0.3	0.2
Other comprehensive income (loss), net of tax	15.1	8.9	(14.8)
Comprehensive income (loss)	$404.9	$158.7	$(102.9)

See Notes to the Consolidated Financial Statements.

Consolidated Statements of Cash Flows
Dollar amounts in millions

	Year ended December 31,		
	2017	2016	2015
CASH FLOWS FROM OPERATING ACTIVITIES			
Net income (loss)	$389.8	$149.8	$(88.1)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	123.3	112.8	101.9
Equity in income (loss) of unconsolidated affiliates, including dividends	(0.8)	1.5	(3.7)
Other operating credits and charges, net	8.0	17.4	16.3
(Gain) loss on sale or impairment of long-lived assets, net	6.8	(8.4)	2.1
Loss on early debt extinguishment	—	17.3	—
Stock-based compensation related to stock plans	9.7	13.0	9.3
Exchange (gain) loss on remeasurement	2.1	(2.0)	2.8
Cash settlements of warranty, net of accruals	(6.8)	(13.6)	(8.5)
Pension expense (payments), net of contributions	(1.8)	3.7	6.0
Non-cash interest expense, net	0.4	3.8	0.8
Other adjustments, net	0.1	(1.1)	1.2
Changes in assets and liabilities (net of acquistions):			
(Increase) decrease in receivables	(35.0)	(8.9)	10.6
(Increase) decrease in inventories	(22.7)	(11.0)	3.5
(Increase) decrease in prepaid expenses	(1.6)	1.0	2.2
Increase (decrease) in accounts payable and accrued liabilities	22.5	53.8	(20.3)
Increase (decrease) in deferred income taxes	(20.3)	13.2	(6.9)
Net cash provided by operating activities	473.7	342.3	29.2
CASH FLOWS FROM INVESTING ACTIVITIES			
Property, plant, and equipment additions	(148.6)	(124.8)	(113.8)
Proceeds from asset sales	3.2	0.3	0.5
Acquisition of businesses, net of cash acquired	(20.8)	—	—
Investment in and refunds from joint ventures	—	—	1.1
Receipt of proceeds from notes receivable from asset sales	—	410.0	—
Payment of long-term deposit	(32.0)	—	—
(Increase) decrease in restricted cash under letters of credit	—	1.2	(3.9)
Other investing activities, net	(0.4)	(0.4)	0.2
Net cash provided by (used in) investing activities	(198.6)	286.3	(115.9)
CASH FLOWS FROM FINANCING ACTIVITIES			
Borrowings of long-term debt	—	350.0	—
Repayment of long-term debt	(2.6)	(742.5)	(2.3)
Payment of debt issuance fees	(0.5)	(5.2)	—
Taxes paid related to net share settlement of equity awards	(5.9)	(9.2)	(6.1)
Sale of common stock, net of cash payments under equity plans	(0.4)	(0.1)	