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

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 for the fiscal year ended December 31, 2018

or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 For the transition period from to

Commission File No. 1-3157

INTERNATIONAL PAPER COMPANY

(Exact name of registrant as specified in its charter)

New York	**13-0872805**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

6400 Poplar Avenue
Memphis, Tennessee
(Address of principal executive offices)

38197
(Zip Code)

Registrant's telephone number, including area code: (901) 419-9000

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

Title of each class	Name of each exchange on which registered
Common Stock, $1 per share par value	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 ☒ 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 ☒

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 ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (section 229.405 of this chapter) 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. ☒

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

Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

If 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. ☐

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

The aggregate market value of the Company's outstanding common stock held by non-affiliates of the registrant, computed by reference to the closing price as reported on the New York Stock Exchange, as of the last business day of the registrant's most recently completed second fiscal quarter (June 30, 2018) was approximately $21,249,006,136 .

The number of shares outstanding of the Company's common stock as of February 15, 2019 was 400,236,119 .

Documents incorporated by reference:

Portions of the registrant's proxy statement filed within 120 days of the close of the registrant's fiscal year in connection with registrant's 2019 annual meeting of shareholders are incorporated by reference into Part III of this Form 10-K.

INTERNATIONAL PAPER COMPANY
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FOR THE YEAR ENDED DECEMBER 31, 2018

INTERNATIONAL PAPER COMPANY
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FOR THE YEAR ENDED DECEMBER 31, 2018

PART I.

ITEM 1. BUSINESS

GENERAL

International Paper Company (the Company or International Paper, which may also be referred to as we or us) is a global producer of renewable fiber-based packaging, pulp and paper products with manufacturing operations in North America, Latin America, Europe, North Africa, India and Russia. We are a New York corporation, incorporated in 1941 as the successor to the New York corporation of the same name organized in 1898. You can learn more about us by visiting our website at www.internationalpaper.com.

In the United States, at December 31, 2018 , the Company operated 27 pulp, paper and packaging mills, 166 converting and packaging plants, 16 recycling plants and three bag facilities. Production facilities at December 31, 2018 in Canada, Europe, India, North Africa, and Latin America included 16 pulp, paper and packaging mills, 43 converting and packaging plants, and two recycling plants. We operate a printing and packaging products distribution business principally through nine branches in Asia. At December 31, 2018 , we owned or managed approximately 329,000 acres of forestland in Brazil and had, through licenses and forest management agreements, harvesting rights on government-owned forestlands in Russia. Substantially all of our businesses have experienced, and are likely to continue to experience, cycles relating to industry capacity and general economic conditions.

For management and financial reporting purposes, our businesses are separated into three segments: Industrial Packaging; Global Cellulose Fibers; and Printing Papers.

A description of these business segments can be found on pages 23 and 24 of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations . The Company's 50% equity interest in Ilim S.A. (Ilim) is also a separate reportable industry segment.

From 2014 through 2018, International Paper's capital expenditures approximated $7.2 billion , excluding mergers and acquisitions. These expenditures reflect our continuing efforts to use our capital strategically to improve product quality and environmental performance, as well as lower costs and maintain reliability of operations. Capital spending in 2018 was approximately $1.6 billion and is expected to be approximately $1.4 billion in 2019 . You can find more information about capital expenditures on page 28 of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations .

Discussions of acquisitions can be found on page 29 of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations .

You can find discussions of restructuring charges and other special items on pages 22 and 23 of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations .

Throughout this Annual Report on Form 10-K, we "incorporate by reference" certain information in parts of other documents filed with the Securities and Exchange Commission (SEC). The SEC permits us to disclose important information by referring to it in that manner. Please refer to such information. Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, along with all other reports and any amendments thereto filed with or furnished to the SEC, are publicly available free of charge on the Investor Relations section of our website at www.internationalpaper.com as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The information contained on or connected to our website is not incorporated by reference into this Form 10-K and should not be considered part of this or any other report that we filed with or furnished to the SEC.

COMPETITION AND COSTS

The pulp, paper and packaging sectors are large and fragmented, and the areas into which the Company sells its principal products are very competitive. Our products compete with similar products produced by other forest products companies. We also compete, in some instances, with companies in other industries and against substitutes for wood-fiber products.

Many factors influence the Company's competitive position, including price, cost, product quality and services. You can find more information about the impact of these factors on operating profits on pages 17 through 28 of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations . You can find information about the Company's manufacturing capacities on page A-4 of Appendix II .

MARKETING AND DISTRIBUTION

The Company sells products directly to end users and converters, as well as through agents, resellers and paper distributors.

DESCRIPTION OF PRINCIPAL PRODUCTS

The Company's principal products are described on pages 23 and 24 of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations .

SALES VOLUMES BY PRODUCT

Sales volumes of major products for 2018 , 2017 and 2016 were as follows:

Sales Volumes by Product (a)

In thousands of short tons (except as noted)	**2018**	2017	2016
Industrial Packaging			
Corrugated Packaging (b)	**10,624**	10,413	10,392
Containerboard	**3,229**	3,294	3,091
Recycling	**2,282**	2,257	2,450
Saturated Kraft	**196**	181	182
Gypsum/Release Kraft	**227**	229	200
Bleached Kraft	**31**	27	24
EMEA Packaging (b) (c)	**1,476**	1,518	1,477
Asian Box (b) (d)	**—**	—	208
Brazilian Packaging (c)	**351**	357	371
European Coated Paperboard	**390**	398	393
Industrial Packaging	**18,806**	18,674	18,788
Global Cellulose Fibers (*in thousands of metric tons)* (e)	**3,573**	3,708	1,870
Printing Papers			
U.S. Uncoated Papers	**1,886**	1,915	1,872
European and Russian Uncoated Papers	**1,440**	1,483	1,536
Brazilian Uncoated Papers	**1,125**	1,167	1,114
Indian Uncoated Papers	**263**	253	241
Printing Papers	**4,714**	4,818	4,763

(a) Includes third-party and inter-segment sales and excludes sales of equity investees.
(b) Volumes for corrugated box sales reflect consumed tons sold (CTS). Board sales by these businesses reflect invoiced tons.
(c) Excludes newsprint sales volumes at the Madrid, Spain mill through Q3 2017.
(d) Includes sales volumes through the date of sale on June 30, 2016.
(e) Includes North American, European and Brazilian volumes and internal sales to mills. Includes sales volumes from the pulp business acquired beginning December 1, 2016.

RESEARCH AND DEVELOPMENT

The Company operates its primary research and development center in Loveland, Ohio, as well as several other product development facilities, including the Global Cellulose Fibers technology center in Federal Way, Washington.

We direct research and development activities to short-term, long-term and technical assistance needs of customers and operating divisions, and to process, equipment and product innovations. Activities include product development within the operating divisions; studies on innovation and improvement of pulping, bleaching, chemical recovery, paper making, converting and coating processes; packaging design and materials development; mechanical packaging systems, environmentally sensitive printing inks and reduction of environmental discharges; re-use of raw materials in manufacturing processes; recycling of consumer and packaging paper products; energy conservation; applications of computer controls to manufacturing operations; innovations and improvement of products; and development of various new products. Our development efforts specifically address product safety, as well as the minimization of solid waste. The cost to the Company of its research and development operations was $30 million in 2018 , $28 million in 2017 , and $20 million in 2016 .

We own numerous patents, copyrights, trademarks, trade secrets and other intellectual property rights relating to our products and to the processes for their production. We also license intellectual property rights to and from others where advantageous or necessary. Many of the manufacturing processes are among our trade secrets. Some of our products are covered by U.S. and non-U.S. patents and are sold under well known trademarks. We derive a competitive advantage by protecting our trade secrets, patents, trademarks and other intellectual property rights, and by using them as required to support our businesses.

ENVIRONMENTAL PROTECTION

International Paper is subject to extensive federal and state environmental regulation, as well as similar regulations internationally. Our continuing objectives include: (1) controlling emissions and discharges from our facilities into the air, water and groundwater to avoid adverse impacts on the environment, and (2) maintaining compliance with applicable laws and regulations. The Company spent $47 million in 2018 for capital projects to control environmental releases into the air and water, and to assure environmentally sound management and disposal of waste. We expect to spend $70 million in 2019 for environmental capital projects. Capital expenditures for 2020 environmental projects are anticipated to be approximately $70 million. Capital expenditures for 2021 environmental projects are estimated to be $95 million.

The Company has completed capital projects to meet the U.S. Environmental Protection Agency's (EPA) Boiler MACT (maximum achievable control technology) regulations that require owners of specified boilers to meet revised air emissions standards for certain substances. Since 2016, lawsuits challenging all or portions of the Boiler MACT regulations have resulted in the U.S. Court of Appeals for the D.C. Circuit remanding certain portions of the Boiler MACT regulations to the EPA for reconsideration of certain standards in the regulations. We have not identified any additional Boiler MACT capital project expenditures that might result from the outcome of the remands to the EPA.

Amendments lowering National Ambient Air Quality Standards (NAAQS) for sulfur dioxide (SO2), nitrogen dioxide (NO2), fine particulate (PM2.5), and ozone have been finalized by the EPA in recent years but to date have not had a material impact on the Company.

CLIMATE CHANGE

In an effort to mitigate the potential climate change impacts from human activities, various international, national and sub-national (regional, state and local) governmental actions have been or may be undertaken. Presently, these efforts have not materially impacted International Paper, but such efforts may have a material impact on the Company in the future.

International Efforts

A successor program to the 1997 Kyoto Protocol, the Paris Agreement, went into effect in November 2016 and continued international efforts and voluntary commitments toward reducing the emissions of greenhouse gases (GHGs). Consistent with this objective, participating countries aim to balance GHG emissions generation and removal in the second half of this century or, in effect, achieve net-zero global GHG emissions.

As part of the Paris Agreement, many countries, including the U.S. and EU member states, established non-binding emissions reduction targets. The U.S. non-binding commitment is for GHG emissions to be 7% below 2005 GHG emissions levels by 2020 and 26% to 28% below by 2025. Other countries in which we do business made similar non-binding commitments. On August 4, 2017, the U.S. filed official notice to withdraw from the Paris Agreement. Notwithstanding the notice of withdrawal by the U.S., the Company’s voluntary GHG reductions, which are set out in our annual Global Citizenship report, remain roughly in line with the percentages of the U.S. prior target reductions. It is not clear at this time what, if any, further reductions by the Company might be required by the countries in which we operate. Due to this uncertainty, it is not possible at this time to estimate the potential impacts of these agreements on the Company.

To assist member countries in meeting obligations under the Kyoto Protocol, the EU established and continues to operate an Emissions Trading System (EU ETS). Currently, we have two sites directly subject to regulation under Phase III of the EU ETS, one in Poland and one in France. Other sites that we operate in the EU experience indirect impacts of the EU ETS through purchased power pricing. Neither the direct nor indirect impacts of the EU ETS have been material to the Company, but they could be material to the Company in the future depending on how the Paris Agreement's non-binding commitments or allocation of and market prices for GHG credits under existing rules evolve over the coming years.

U.S. Efforts, including State, Regional and Local Measures

In the U.S., the 1997 Kyoto Protocol was not ratified and Congress has not passed GHG legislation. The EPA manages regulations to: (i) control GHGs from mobile sources by adopting transportation fuel efficiency standards; (ii) control GHG emissions from new Electric Generating Units (EGUs); (iii) require reporting of GHGs from sources of GHGs greater than 25,000 tons per year; (iv) in 2015, require states to develop plans to reduce GHGs from utility EGUs and (v) in 2016 EPA took the first steps in the process of developing emissions standards for existing sources in the oil and gas sector.

A few U.S. states have enacted or are considering legal measures to require the reduction of emissions of GHGs by companies and public utilities, primarily through the development of GHG emission inventories or regional GHG cap-and-trade programs. California has already enacted such a program and similar actions are being considered by Washington. The Company does not have any sites currently subject to California's GHG regulatory plan. There may be indirect impacts from changing input costs (such as electricity) at some of our California converting operations but these have yet to manifest themselves in material impacts. Although we are monitoring proposed programs in other states, it is unclear what impacts, if any, state-level GHG rules will have on the Company’s operations.

Summary

Regulation of GHGs continues to evolve in various countries in which we do business. While it is likely that there will be increased governmental action regarding GHGs and climate change in the future, it is unclear when such actions will occur and at this time it is not reasonably possible to estimate Company costs of compliance with rules that have not yet been adopted or implemented and may not be adopted or implemented in the future. In addition to possible direct impacts, future legislation and regulation could have indirect impacts on International Paper, such as higher prices for transportation, energy and other inputs, as well as more protracted air permitting processes, causing delays and higher costs to implement capital projects. International Paper has controls and procedures in place to stay informed about developments concerning possible climate change legislation and regulation in the U.S. and in other countries where we operate. We regularly assess whether such legislation or regulation may have a material effect on the Company, its operations or financial condition, and whether we have any related disclosure obligations.

International Paper plays a significant role in responding to the climate change challenge. Our entire business depends upon the sustainability of forests. We transform renewable resources into recyclable products that people depend on every day. This cycle begins with sourcing renewable fiber from responsibly managed forests, and at the end of use our products are recycled into new products at a higher rate than any other base material. We will continue to lead the world in responsible forest stewardship to ensure healthy and productive forest ecosystems for generations to come. Our efforts to advance sustainable forest management and restore forest landscapes are an important lever for mitigating climate change through carbon storage in forests. Furthermore, we use biomass and manufacturing residuals (rather than fossil fuels) to generate a substantial majority of the manufacturing energy at our mills.

Additional information regarding climate change and International Paper is available in our 2017 Global Citizenship report found on our website at www.internationalpaper.com, though this information is not incorporated by reference into this Form 10-K and should not be considered part of this or any other report that we file with or furnish to the SEC.

EMPLOYEES

As of December 31, 2018 , we have approximately 53,000 employees, nearly 33,000 of whom are located in the United States. Of our U.S. employees, approximately 23,000 are hourly, with unions representing approximately 14,000 employees. Approximately 11,000 of this number are represented by the United Steelworkers union (USW).

International Paper, the USW, and several other unions have entered into two master agreements covering various mills and converting facilities. These master agreements cover several specific items, including wages, select benefit programs, successorship, employment security, and health and safety. Individual facilities continue to have local agreements for other subjects not covered by the master agreements. If local facility agreements are not successfully negotiated at the time of expiration, under the terms of the master agreements the local contracts will automatically renew with the same terms in effect. The master agreements cover the majority of our union represented mills and converting facilities. In addition, International Paper is party to a master agreement with District Council 2, International Brotherhood of Teamsters, covering additional converting facilities.

EXECUTIVE OFFICERS OF THE REGISTRANT

Mark S. Sutton, 57, chairman (since January 1, 2015) & chief executive officer (since November 1, 2014). Mr. Sutton previously served as president & chief operating officer from June 1, 2014 to October 31, 2014, senior vice president - industrial packaging from November 2011 to May 31, 2014, senior vice president - printing and communications papers of the Americas from 2010 until 2011, senior vice president - supply chain from 2008 to 2009, vice president - supply chain from 2007 until 2008, and vice president - strategic planning from 2005 until 2007. Mr. Sutton joined International Paper in 1984. Mr. Sutton serves on the board of directors of The Kroger Company. He is a member of The Business Council and the Business Roundtable and serves on the American Forest & Paper Association board of directors and the international advisory board of the Moscow School of Management - Skolkovo. He was appointed chairman of the U.S. Russian Business Council and was also appointed to the U.S. Section of the U.S.-Brazil CEO Forum. He also serves on the board of directors of Memphis Tomorrow and board of governors for New Memphis Institute. Mr. Sutton has been a director since June 1, 2014.

W. Michael Amick, Jr., 55, senior vice president - paper the Americas & India since January 1, 2017. Mr. Amick previously served as senior vice president - North American papers & consumer packaging from July 2016 until December 2016, senior vice president - North American papers, pulp & consumer packaging from November 2014 until June 2016, vice president - president, IP India, from August 2012 to October 2014, and vice president and general manager for the coated paperboard business from 2010 to 2012. Mr. Amick joined International Paper in 1990.

Tommy S. Joseph, 59, senior vice president - manufacturing, technology, EH&S and global sourcing since January 2010. Mr. Joseph previously served as senior vice president - manufacturing, technology, EH&S from February 2009 until December 2009, and vice president - technology from 2005 until February 2009. Mr. Joseph is a director of Ilim in which International Paper holds a 50% interest, and of its subsidiary, Ilim Group. Mr. Joseph joined International Paper in 1983.

Timothy S. Nicholls, 57, senior vice president & chief financial officer since June 2018. Mr. Nicholls previously served as senior vice president - industrial packaging the Americas from January 2017 through June 2018, senior vice president - industrial packaging from November 2014 through December 2016, senior vice president - printing and communications papers of the Americas from November 2011 through October 2014, senior vice president and chief financial officer from 2007 until 2011, vice president and executive project leader of IP Europe during 2007, and vice president and chief financial officer - IP Europe from 2005 until 2007. Mr. Nicholls joined International Paper in 1991.

Thomas J. Plath, 55, senior vice president - human resources and global citizenship since March 1, 2017. Mr. Plath previously served as vice president - human resources, global businesses from November 2014 through February 2017, and vice president - HR manufacturing, technology, EH&S and global supply chain from April 2013 to November 2014. Mr. Plath joined International Paper in 1991.

Jean-Michel Ribieras, 56, senior vice president - industrial packaging the Americas since June 2018. Mr. Ribieras previously served as senior vice president - global cellulose fibers from July 2016 through June 2018, senior vice president - president, IP Europe, Middle East, Africa & Russia from 2013 until June 2016, and president - IP Latin America from 2009 until 2013. Mr. Ribieras joined International Paper in 1993.

Sharon R. Ryan, 59, senior vice president, general counsel & corporate secretary since November 2011. Ms. Ryan previously served as vice president, acting general counsel & corporate secretary from May 2011 until November 2011, vice president from March 2011 until May 2011, associate general counsel, chief ethics and compliance officer from 2009 until 2011, and associate general counsel from 2006 until 2009. Ms. Ryan joined International Paper in 1988.

John V. Sims, 56, senior vice president - president, IP Europe, Middle East, Africa & Russia since July 2016. Mr. Sims previously served as vice president and general manager, European papers from March 2016 until June 2016, vice president & general manager, North American papers from 2013 until February 2016, and vice president, finance and strategy, industrial packaging, from 2009 until 2013. Mr. Sims is a director of Ilim in which International Paper holds a 50% interest, and of its subsidiary, Ilim Group. Mr. Sims joined International Paper in 1994.

Catherine I. Slater, 55, senior vice president - global cellulose fibers & IP Asia since June 2018. Ms. Slater previously served as senior vice president - consumer packaging from December 2016 through December 2017. Ms. Slater joined International Paper from Weyerhaeuser Company in December 2016, effective with the completion of the acquisition of Weyerhaeuser's cellulose fibers business, which she previously led. Ms. Slater's 24-year career with Weyerhaeuser included leadership roles in manufacturing, printing papers, consumer products, wood products and the cellulose fibers business.

Gregory T. Wanta, 53, senior vice president - North American container since November 2016. Mr. Wanta has served in a variety of roles of increasing responsibility in manufacturing and commercial leadership roles in specialty papers, coated paperboard, printing papers, foodservice and industrial packaging, including vice president, central region, Container the Americas, from January 2012 through October 2016. Mr. Wanta joined International Paper in 1991.

RAW MATERIALS

Raw materials essential to our businesses include wood fiber, purchased in the form of pulpwood, wood chips and old corrugated containers (OCC), and certain chemicals, including caustic soda and starch. For further information concerning fiber supply purchase agreements, see page 30 .

FORWARD-LOOKING STATEMENTS

Certain statements in this Annual Report on Form 10-K (including the exhibits hereto) that are not historical in nature may be considered "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995. These statements are often identified by the words, "will," "may," "should," "continue," "anticipate," "believe," "expect," "plan," "appear," "project," "estimate," "intend," and words of a similar nature. These statements are not guarantees of future performance and reflect management's current views with respect to future events, which are subject to risks and uncertainties that could cause actual results to differ materially from those expressed or implied in these statements. Factors which could cause actual results to differ include but are not limited to: (i) the level of our indebtedness and changes in interest rates; (ii) industry conditions, including but not limited to changes in the cost or availability of raw materials, energy and transportation costs, competition we face, cyclicality and changes in consumer preferences, demand and pricing for our products; (iii) global economic conditions and political changes, including but not limited to the impairment of financial institutions, changes in currency exchange rates, credit ratings issued by recognized credit rating organizations, the amount of our future pension funding obligation, changes in tax laws and pension and health care costs; (iv) unanticipated expenditures related to the cost of compliance with existing and new environmental and other governmental regulations and to actual or potential litigation; (v) whether we experience a material disruption at one of our manufacturing facilities; (vi) risks inherent in conducting business through a joint venture; and (vii) our ability to achieve the benefits we expect from all acquisitions, divestitures and restructurings. These and other factors that could cause or contribute to actual results differing materially from such forward-looking statements are discussed in greater detail below in "Item 1A. Risk Factors." We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

ITEM 1A. RISK FACTORS

The Company faces risks in the normal course of business and through global, regional, and local events that could have an adverse impact on its reputation, operations, and financial performance. The Board of Directors exercises oversight of the Company's enterprise risk management program, which includes strategic, operational and financial matters, as well as compliance and legal risks. The Audit and Finance Committee coordinates the risk oversight role exercised by the Board's standing committees and management, and it receives updates on the risk management processes twice per year.

In addition to the risks and uncertainties discussed elsewhere in this Annual Report on Form 10-K (particularly in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations), or in the Company's other filings with the Securities and Exchange Commission, the following are some important factors that could cause the Company's actual results to differ materially from those projected in any forward-looking statement.

RISKS RELATING TO INDUSTRY CONDITIONS

CHANGES IN THE COST OR AVAILABILITY OF RAW MATERIALS, ENERGY AND TRANSPORTATION COULD AFFECT OUR PROFITABILITY. We rely heavily on the use of certain raw materials (principally virgin wood fiber, recycled fiber, caustic soda and starch), energy sources (principally biomass, natural gas, electricity and fuel oil) and third-party companies that transport our goods. The market price of virgin wood fiber varies based upon availability and source. The global supply and demand for recycled fiber may be affected by trade policies between countries, individual governments' legislation and regulations, as well as changes in the global economy. In addition, the increase in demand of products manufactured, in whole or in part, from recycled fiber, on a global basis, may cause occasional significant fluctuations in recycled fiber prices. Energy prices, in particular prices for oil and natural gas, have fluctuated dramatically in the past and may continue to fluctuate in the future. The availability of labor and the market price for diesel fuel may affect our costs for third-party transportation. Our profitability has been, and will continue to be, affected by changes in the costs and availability of such raw materials, energy sources and transportation sources.

THE INDUSTRIES IN WHICH WE OPERATE EXPERIENCE BOTH ECONOMIC CYCLICALITY AND CHANGES IN CONSUMER PREFERENCES. FLUCTUATIONS IN THE PRICES OF, AND THE DEMAND FOR, OUR PRODUCTS COULD MATERIALLY AFFECT OUR FINANCIAL CONDITION, RESULTS OF OPERATIONS AND CASH FLOWS. Substantially all of our businesses have experienced, and are likely to continue to experience, cycles relating to industry capacity and general economic conditions. The length and magnitude of these cycles have varied over time and by product. In addition, changes in consumer preferences may increase or decrease the demand for our products. These consumer preferences affect the prices of our products. Consequently, our financial results are sensitive to changes in the pricing and demand for our products.

COMPETITION IN THE UNITED STATES AND INTERNATIONALLY COULD NEGATIVELY IMPACT OUR FINANCIAL RESULTS. We operate in a competitive environment, both in the United States and internationally, in all of our operating segments. Product innovations, manufacturing and operating efficiencies, and marketing, distribution and pricing strategies pursued or achieved by competitors could negatively impact our financial results.

RISKS RELATING TO MARKET AND ECONOMIC FACTORS

ADVERSE DEVELOPMENTS IN GENERAL BUSINESS AND ECONOMIC CONDITIONS COULD HAVE AN ADVERSE EFFECT ON THE DEMAND FOR OUR PRODUCTS AND OUR FINANCIAL CONDITION AND RESULTS OF OPERATIONS. General economic conditions may adversely affect industrial non-durable goods production, consumer spending, commercial printing and advertising activity, white-collar employment levels and consumer confidence, all of which impact demand for our products. In addition, volatility in the capital and credit markets, which impacts interest rates, currency exchange rates and the availability of credit, could have a material adverse effect on our business, financial condition and our results of operations.

CHANGES IN INTERNATIONAL CONDITIONS COULD ADVERSELY AFFECT OUR BUSINESS AND RESULTS OF OPERATIONS. Our operating results and business prospects could be substantially affected by risks related to the countries outside the United States in which we have manufacturing facilities or sell our products. Specifically, Russia, Brazil, Poland, India, and Turkey, where we have substantial manufacturing facilities, are countries that are exposed to economic and political instability in their respective regions of the world. Fluctuations in the value of local currency versus the U.S. dollar, downturns in economic activity, adverse tax consequences or rulings, nationalization or any change in social, political or labor conditions in any of these countries or regions could negatively affect our financial results. Trade protection measures in favor of local producers of competing products, including governmental subsidies, tax benefits and other measures giving local producers a competitive advantage over International Paper, may also adversely impact our operating results and business prospects in these countries. Likewise, disruption in existing trade agreements or increased trade friction between countries (e.g., the U.S. and China) could have a negative effect on our business and results of operations by restricting the free flow of goods and services across borders. In addition, our international operations are subject to regulation under U.S. law and other laws related to operations in foreign jurisdictions. For example, the Foreign Corrupt Practices Act prohibits U.S. companies and their representatives from offering, promising, authorizing or making payments to foreign officials for the purpose of obtaining or retaining business abroad. Failure to comply with domestic or foreign laws could result in various adverse consequences, including the imposition of civil or criminal sanctions and the prosecution of executives overseeing our international operations.

THE LEVEL OF OUR INDEBTEDNESS COULD ADVERSELY AFFECT OUR FINANCIAL CONDITION AND IMPAIR OUR ABILITY TO OPERATE OUR BUSINESS. As of December 31, 2018 , International Paper had approximately $10.7 billion of outstanding indebtedness. The level of our indebtedness could have important consequences to our financial condition, operating results and business, including the following:

- it may limit our ability to obtain additional debt or equity financing for working capital, capital expenditures, product development, dividends, share repurchases, debt service requirements, acquisitions and general corporate or other purposes;
- a portion of our cash flows from operations will be dedicated to payments on indebtedness and will not be available for other purposes, including operations, capital expenditures and future business opportunities;
- the debt service requirements of our indebtedness could make it more difficult for us to satisfy other obligations;
- our indebtedness that is subject to variable rates and, in the instance such variable rates use the London Interbank Offered Rate (LIBOR) as a benchmark, exposes us to a possible increase in debt service obligations in the event that the method for determining LIBOR changes, LIBOR is replaced by an alternative reference rate or LIBOR is phased out altogether;
- it may limit our ability to adjust to changing market conditions and place us at a competitive disadvantage compared to our competitors that have less debt; and
- it may increase our vulnerability to a downturn in general economic conditions or in our business, and may make us unable to carry out capital spending that is important to our growth.

In addition, we are subject to agreements that require meeting and maintaining certain financial ratios and covenants. A significant or prolonged downturn in general business and economic conditions may affect our ability to comply with these covenants or meet those financial ratios and tests and could require us to take action to reduce our debt or to act in a manner contrary to our current business objectives.

CHANGES IN CREDIT RATINGS ISSUED BY NATIONALLY RECOGNIZED STATISTICAL RATING ORGANIZATIONS COULD ADVERSELY AFFECT OUR COST OF FINANCING AND HAVE AN ADVERSE

EFFECT ON THE MARKET PRICE OF OUR SECURITIES. Maintaining an investment-grade credit rating is an important element of our financial strategy, and a downgrade of the Company's ratings below investment grade will likely eliminate our ability to access the commercial paper market, may limit our access to the capital markets, have an adverse effect on the market price of our securities, increase our cost of borrowing and require us to post collateral for derivatives in a net liability position. The Company's desire to maintain its investment grade rating may cause the Company to take certain actions designed to improve its cash flow, including sale of assets, suspension or reduction of our dividend and reductions in capital expenditures and working capital.

Under the terms of the agreements governing approximately $1.4 billion of our debt as of December 31, 2018 , the applicable interest rate on such debt may increase upon each downgrade in our credit rating below investment grade. As a result, a downgrade in our credit rating below investment grade may lead to an increase in our interest expense. There can be no assurance that such credit ratings will remain in effect for any given period of time or that such ratings will not be lowered, suspended or withdrawn entirely by the rating agencies, if, in each rating agency's judgment, circumstances so warrant. Any such downgrade, suspension or withdrawal of our credit ratings could adversely affect our cost of borrowing, limit our access to the capital markets or result in more restrictive covenants in agreements governing the terms of any future indebtedness that we may incur.

DOWNGRADES IN THE CREDIT RATINGS OF BANKS ISSUING CERTAIN LETTERS OF CREDIT WILL INCREASE OUR COST OF MAINTAINING CERTAIN INDEBTEDNESS AND MAY RESULT IN THE ACCELERATION OF DEFERRED TAXES. We are subject to the risk that a bank with currently issued irrevocable letters of credit supporting installment notes delivered to Temple-Inland in connection with Temple-Inland's 2007 sales of forestlands may be downgraded below a required rating. Since 2007, certain banks have fallen below the required ratings threshold and were successfully replaced, or waivers were obtained regarding their replacement. As a result of continuing uncertainty in the banking environment, a number of the letter-of-credit banks currently in place remain subject to risk of downgrade and the number of qualified replacement banks remains limited. The downgrade of one or more of these banks may subject the Company to additional costs of securing a replacement letter-of-credit bank or could result in an acceleration of payments of up to $538 million in deferred income taxes if replacement banks cannot be obtained. The deferred taxes are currently recorded in the Company's consolidated financial statements. See Note 14, Variable Interest Entities , on pages 65 and 66 , and Note 12, Income Taxes , on pages 58 through 62 , in Item 8. Financial Statements and Supplementary Data for further information.

OUR PENSION AND HEALTH CARE COSTS ARE SUBJECT TO NUMEROUS FACTORS WHICH COULD CAUSE THESE COSTS TO CHANGE. We have defined benefit pension plans covering substantially all U.S. salaried employees hired prior to July 1, 2004 (or later for certain acquired populations, as described in Note 18. Retirement Plans , on pages 70 through 77 , in Item 8. Financial Statements and Supplementary Data) and substantially all hourly and union employees regardless of hire date. The Company has frozen participation under these plans for U.S. salaried employees, including credited services and compensation on or after January 1, 2019; however, the pension freeze does not affect benefits accrued through December 31, 2018. We provide retiree health care benefits to certain former U.S. hourly employees, as well as financial assistance towards the cost of individual retiree medical coverage for certain former U.S. salaried employees. Our pension costs are dependent upon numerous factors resulting from actual plan experience and assumptions of future experience. Pension plan assets are primarily made up of equity and fixed income investments. Fluctuations in actual equity market returns, changes in general interest rates and changes in the number of retirees may result in increased pension costs in future periods. Likewise, changes in assumptions regarding current discount rates and expected rates of return on plan assets could increase pension costs.

OUR PENSION PLANS ARE CURRENTLY UNDERFUNDED ON A PROJECTED BENEFIT OBLIGATION BASIS, AND OVER TIME WE MAY BE REQUIRED TO MAKE CASH PAYMENTS TO THE PLANS, REDUCING THE CASH AVAILABLE FOR OUR BUSINESS. We record a liability associated with our pension plans equal to the excess of the benefit obligation over the fair value of plan assets. The benefit liability recorded under the provisions of Accounting Standards Codification (ASC) 715, "Compensation – Retirement Benefits," at December 31, 2018 was $1.8 billion . The amount and timing of future contributions will depend upon a number of factors, including the actual earnings and changes in values of plan assets and changes in interest rates.

RISKS RELATING TO OUR OPERATIONS

MATERIAL DISRUPTIONS AT ONE OF OUR MANUFACTURING FACILITIES COULD NEGATIVELY IMPACT OUR FINANCIAL RESULTS. We operate our facilities in compliance with applicable rules and regulations and take measures to minimize the risks of disruption at our facilities. A material disruption at our corporate headquarters or one of our manufacturing facilities could prevent us from meeting customer demand, reduce our sales and/or negatively impact our financial condition. Any of our manufacturing facilities, or any of our machines within an otherwise operational facility, could cease operations unexpectedly due to a number of events, including:

- fires, floods, earthquakes, hurricanes or other catastrophes;
- the effect of a drought or reduced rainfall on its water supply;
- the effect of other severe weather conditions on equipment and facilities;
- terrorism or threats of terrorism;
- domestic and international laws and regulations applicable to our Company and our business partners, including joint venture partners, around the world;
- unscheduled maintenance outages;
- prolonged power failures;
- an equipment failure;
- a chemical spill or release;
- explosion of a boiler or other equipment;
- damage or disruptions caused by third parties operating on or adjacent to one of our manufacturing facilities;
- disruptions in the transportation infrastructure, including roads, bridges, railroad tracks and tunnels;
- widespread outbreak of an illness or any other communicable disease, or any other public health crisis;
- labor difficulties; and
- other operational problems.

Any such downtime or facility damage could prevent us from meeting customer demand for our products and/or require us to make unplanned expenditures. If one of these machines or facilities were to incur significant downtime, our ability to meet our production targets and satisfy customer requirements could be impaired, resulting in lower sales and having a negative effect on our business and financial results.

CERTAIN OPERATIONS ARE CONDUCTED BY JOINT VENTURES THAT WE CANNOT OPERATE SOLELY FOR OUR BENEFIT. Certain operations in Russia are carried on by a joint venture, Ilim. In joint ventures, we share ownership and management of a company with one or more parties who may or may not have the same goals, strategies, priorities or resources as we do. In general, joint ventures are intended to be operated for the benefit of all co-owners, rather than for our exclusive benefit. Operating a business as a joint venture often requires additional organizational formalities as well as time-consuming procedures for sharing information and making decisions. In joint ventures, we are required to pay more attention to our relationship with our co-owners as well as with the joint venture, and if a co-owner changes, our relationship may be adversely affected. In addition, the benefits from a successful joint venture are shared among the co-owners, so we receive only our portion of those benefits.

WE MAY NOT ACHIEVE THE EXPECTED BENEFITS FROM ACQUISITIONS, JOINT VENTURES, DIVESTITURES, CAPITAL INVESTMENTS AND OTHER CORPORATE TRANSACTIONS. Our strategy for long-term growth, productivity and profitability depends, in part, on our ability to accomplish prudent acquisitions, joint ventures, divestitures, capital investments and other corporate transactions and to realize the benefits we expect from such transactions, and we are subject to the risk that we may not achieve the expected benefits. Among the benefits we expect from potential as well as completed acquisitions and joint ventures are synergies, cost savings, growth opportunities or access to new markets (or a combination thereof), and in the case of divestitures, the realization of proceeds from the sale of businesses and assets to purchasers who place higher strategic value on such businesses and assets than does International Paper. In January 2018, for example, we completed a transaction transferring our North American Consumer Packaging business to Graphic Packaging in exchange for, among other things, an equity interest in the combined business of 20.5%. The success of the transaction and the value of our equity interest will depend on variables we do not control, such as the financial performance of the combined business and on the ability of the combined business to realize anticipated growth opportunities, cost savings and other synergies.

WE ARE SUBJECT TO INFORMATION TECHNOLOGY RISKS RELATED TO BREACHES OF SECURITY PERTAINING TO SENSITIVE COMPANY, CUSTOMER, EMPLOYEE AND VENDOR INFORMATION AS WELL AS BREACHES IN THE TECHNOLOGY USED TO MANAGE OPERATIONS AND OTHER BUSINESS PROCESSES. Our business operations rely upon secure information technology systems for data capture, processing, storage and reporting. Despite careful security and controls design, implementation, updating and independent third party verification, our information technology systems, and those of our third party providers, could become subject to employee error or malfeasance, cyber attacks, or natural disasters. Network, system, application and data breaches could result in operational disruptions or information misappropriation including, but not limited to, interruption to systems availability, denial of access to and misuse of applications required by our customers to conduct business with International Paper. Access to internal applications required to plan our operations, source materials, manufacture and ship finished goods and account for orders could be denied or misused. Theft of intellectual property or trade secrets, and inappropriate disclosure of confidential company, employee, customer or vendor information, could stem from such incidents. Any of these operational disruptions and/or misappropriation of information could result in lost sales, business delays, negative publicity, government enforcement and could have a material effect on our business.

RISKS RELATING TO LEGAL PROCEEDINGS AND COMPLIANCE COSTS

WE ARE SUBJECT TO A WIDE VARIETY OF LAWS, REGULATIONS AND OTHER GOVERNMENT REQUIREMENTS THAT MAY CHANGE IN SIGNIFICANT WAYS, AND THE COST OF COMPLIANCE WITH SUCH REQUIREMENTS COULD IMPACT OUR BUSINESS AND RESULTS OF OPERATIONS. Our operations are subject to regulation under a wide variety of U.S. federal and state and non-U.S. laws, regulations and other government requirements -- including, among others, those relating to the environment, health and safety, labor and employment, data privacy, tax, trade and health care. There can be no assurance that laws, regulations and government requirements will not be changed, applied or interpreted in ways that will require us to modify our operations and objectives or affect our returns on investments by restricting existing activities and products, subjecting them to escalating costs.

For example, we have incurred, and expect that we will continue to incur, significant capital, operating and other expenditures complying with applicable environmental laws and regulations. There can be no assurance that future remediation requirements and compliance with existing and new laws and requirements, including with global climate change laws and regulations, will not require significant expenditures, or that existing reserves for specific matters will be adequate to cover future costs. We could also incur substantial fines or sanctions, enforcement actions (including orders limiting our operations or requiring corrective measures), natural resource damages claims, cleanup and closure costs, and third-party claims for property damage and personal injury as a result of violations of, or liabilities under, environmental laws, regulations, codes and common law. The amount and timing of environmental expenditures is difficult to predict, and, in some cases, liability may be imposed without regard to contribution or to whether we knew of, or caused, the release of hazardous substances.

As another example, we are subject to a number of labor and employment laws and regulations that could significantly increase our operating costs and reduce our operational flexibility. Additionally, we are subject to complex and evolving U.S. and international privacy laws and regulations, including those pertaining to the handling of personal data, such as the General Data Protection Regulation (GDPR). Government authorities around the world are considering, or are in the process of implementing, new data protection regulations. Many of these laws and regulations are subject to uncertain application, interpretation or enforcement standards that could result in claims, changes to our business practices, penalties, increased operating costs or other impacts on our businesses.

As a final example, the application of tax law is subject to interpretation and is subject to audit by taxing authorities. Additionally, administrative guidance can be incomplete or vary from legislative intent, and therefore the application of the tax law is uncertain. While we believe the positions reported by the Company comply with relevant tax laws and regulations, taxing authorities could interpret our application of certain laws and regulations differently. We are currently subject to tax audits in the U.S., Brazil, Poland, Russia and other taxing jurisdictions around the world. In some cases, we have appealed and may continue to appeal, assessments by taxing authorities in the court system. As such, tax controversy matters may result in previously unrecorded tax expenses, higher future tax expenses or the assessment of interest and penalties.

RESULTS OF LEGAL PROCEEDINGS COULD HAVE A MATERIAL EFFECT ON OUR CONSOLIDATED FINANCIAL STATEMENTS. The costs and other effects of pending litigation against us cannot be determined with certainty. Although we do not believe that the outcome of any pending or threatened lawsuits or claims will have a material effect on our business or consolidated financial statements, there can be no assurance that the outcome of any lawsuit or claim will be as expected.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

FORESTLANDS

As of December 31, 2018 , the Company owned or managed approximately 329,000 acres of forestlands in Brazil, and had, through licenses and forest management agreements, harvesting rights on government-owned forestlands in Russia. All owned lands in Brazil are independently third-party certified for sustainable forestry under the Brazilian National Forest Certification Program (CERFLOR) and the Forest Stewardship Council (FSC).

MILLS AND PLANTS

A listing of our production facilities by segment, the vast majority of which we own, can be found in Appendix I hereto, which is incorporated herein by reference.

The Company's facilities are in good operating condition and are suited for the purposes for which they are presently being used. We continue to study the economics of modernization or adopting other alternatives for higher cost facilities.

CAPITAL INVESTMENTS AND DISPOSITIONS

Given the size, scope and complexity of our business interests, we continually examine and evaluate a wide variety of business opportunities and planning alternatives, including possible acquisitions and sales or other dispositions of properties. You can find a discussion about the level of planned capital investments for 2019 on page 30 , and dispositions and restructuring activities as of December 31, 2018 , on pages 21 through 23 of Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations , and on page 52 and pages 54 and 55 of Item 8. Financial Statements and Supplementary Data .

ITEM 3. LEGAL PROCEEDINGS

Information concerning the Company's legal proceedings is set forth in Note 13 Commitments and Contingent Liabilities on pages 62 through 65 of Item 8. Financial Statements and Supplementary Data .

Additionally, in the third quarter of 2018, the Company received a natural resource damages penalty assessment of RUB 18.8 million (approximately $275,000) arising from the Company's voluntary disclosure of mercury contamination identified in sediment in a river tributary that traverses the site of the Company's mill in Svetogorsk, Russia. The mercury contamination is associated with a former manufacturing facility located on the Svetogorsk mill site. The Company is cooperating with the Russian government to resolve the matter.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II.

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

As of the filing of this Annual Report on Form 10-K, the Company's common shares are traded on the New York Stock Exchange (NYSE: IP). As of February 15, 2019 , there were approximately 11,316 record holders of common stock of the Company.

The table below presents information regarding the Company's purchases of its equity securities for the time periods presented.

PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS.

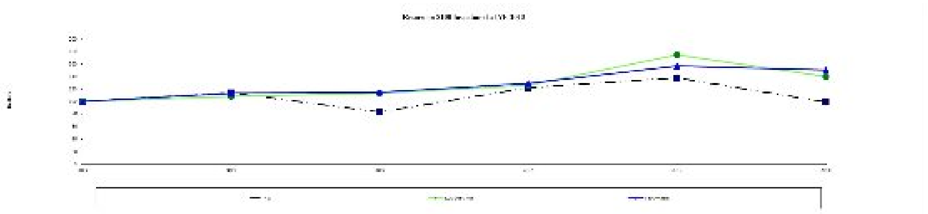
Period	Total Number of Shares Purchased (a)	Average Price Paid per Share	Total Number of Shares (or Units) Purchased as Part of Publicly Announced Programs	Maximum Number (or Approximate Dollar Value) of Shares that May Yet Be Purchased Under the Plans or Programs (in billions)
October 1, 2018 - October 31, 2018	2,225,310	$ 44.94	2,225,188	$ 2.33
November 1, 2018 - November 30, 2018	1,475,242	45.79	1,474,900	2.27
December 1, 2018 - December 31, 2018	725,363	45.51	712,442	2.23
Total	4,425,915			

(a) *13,385 shares were acquired from employees from share withholdings to pay income taxes under the Company's restricted stock programs. During these periods, 4,412,530 shares were purchased under our share repurchase program, which was approved by our Board of Directors and announced on July 8, 2014 and October 9, 2018. Through this program, which does not have an expiration date, we were authorized to purchase, in open market transactions (including block trades), privately negotiated transactions or otherwise, up to $3.5 billion aggregate amount of shares of our common stock. As of February 15, 2019, approximately $2.19 billion aggregate amount of shares of our common stock remained authorized for purchase under this program.*

PERFORMANCE GRAPH

The performance graph shall not be deemed to be “soliciting material” or to be “filed” with the Commission or subject to Regulation 14A or 14C, or to the liabilities of Section 18 of the Exchange Act of 1934, as amended.

The following graph compares a $100 investment in Company stock on December 31, 2013 with a $100 investment in our Return on Invested Capital (ROIC) Peer Group and the S&P 500 also made at market close on December 31, 2013. The graph portrays total return, 2013–2018, assuming reinvestment of dividends.



Note 1. The companies included in the ROIC Peer Group are Domtar Inc., Fibria Celulose S.A., Graphic Packaging Holding Company, Klabin S.A., Metsa Board Corporation, Mondi Group, Packaging Corporation of America, Smurfit Kappa Group, Stora Enso Group, and UPM-Kymmene Corp. MeadWestvaco Corp. and Rock-Tenn Company are included in the ROIC Peer Group results through 2014 and subsequently, after the merger of those companies, WestRock was added to the Peer group beginning in 2015.

Note 2. Returns are calculated in $USD.

ITEM 6. SELECTED FINANCIAL DATA

FIVE-YEAR FINANCIAL SUMMARY (a)

Dollar amounts in millions, except per share amounts and stock prices	**2018**		2017		2016		2015		2014	
RESULTS OF OPERATIONS										
Net sales	**$ 23,306**		$ 21,743		$ 19,495		$ 20,675		$ 21,889	
Costs and expenses, excluding interest	**20,989**		20,323		18,180		18,988		20,548	
Earnings (loss) from continuing operations before income taxes and equity earnings	**1,781**	**(b)**	848	(e)	795	(h)	1,132	(k)	734	(n)
Equity earnings (loss), net of taxes	**336**		177		198		117		(200)	
Discontinued operations, net of taxes	**345**	**(c)**	34	(f)	102	(i)	85	(l)	77	(o)
Net earnings (loss)	**2,017**	**(b-d)**	2,144	(e-g)	902	(h-j)	917	(k-m)	536	(n-p)
Noncontrolling interests, net of taxes	**5**		—		(2)		(21)		(19)	
Net earnings (loss) attributable to International Paper Company	**2,012**	**(b-d)**	2,144	(e-g)	904	(h-j)	938	(k-m)	555	(n-p)
FINANCIAL POSITION										
Current assets less current liabilities	**$ 2,302**		$ 3,175		$ 2,601		$ 2,244		$ 2,719	
Plants, properties and equipment, net	**13,067**		13,265		13,003		11,000		11,794	
Forestlands	**402**		448		456		366		507	
Total assets	**33,576**		33,903		33,093		30,271		28,369	
Notes payable and current maturities of long-term debt	**639**		311		239		426		742	
Long-term debt	**10,015**		10,846		11,075		8,844		8,584	
Total shareholders' equity	**7,362**		6,522		4,341		3,884		5,115	
BASIC EARNINGS PER SHARE ATTRIBUTABLE TO INTERNATIONAL PAPER COMPANY COMMON SHAREHOLDERS										
Earnings (loss) from continuing operations	**$ 4.07**		$ 5.11		$ 1.95		$ 2.05		$ 1.12	
Discontinued operations	**0.84**		0.08		0.25		0.20		0.18	
Net earnings (loss)	**4.91**		5.19		2.20		2.25		1.30	
DILUTED EARNINGS PER SHARE ATTRIBUTABLE TO INTERNATIONAL PAPER COMPANY COMMON SHAREHOLDERS										
Earnings (loss) from continuing operations	**$ 4.02**		$ 5.05		$ 1.93		$ 2.03		$ 1.10	
Discontinued operations	**0.83**		0.08		0.25		0.20		0.19	
Net earnings (loss)	**4.85**		5.13		2.18		2.23		1.29	
Cash dividends	**1.925**		1.863		1.783		1.640		1.450	
COMMON STOCK PRICES										
High	**$ 66.94**		$ 58.96		$ 54.68		$ 57.90		$ 55.73	
Low	**37.55**		49.60		32.50		36.76		44.24	
Year-end	**40.36**		57.94		53.06		37.70		53.58	
FINANCIAL RATIOS										
Current ratio	**1.5**		1.6		1.6		1.6		1.5	
Total debt to capital ratio	**0.59**		0.63		0.72		0.70		0.65	
Return on shareholders' equity	**28.4%**		43.9%		22.1%		20.0%		7.7%	
CAPITAL EXPENDITURES	**$ 1,572**		$ 1,391		$ 1,348		$1,487		$1,366	
NUMBER OF EMPLOYEES	**53,000**		56,000		55,000		56,000		58,000	

FINANCIAL GLOSSARY

Current ratio—
current assets divided by current liabilities.

Total debt to capital ratio—
long-term debt plus notes payable and current maturities of long-term debt divided by long-term debt, notes payable and current maturities of long-term debt and total shareholders' equity.

Return on shareholders' equity—
net earnings attributable to International Paper Company divided by average shareholders' equity (computed monthly).

FOOTNOTES TO FIVE-YEAR FINANCIAL SUMMARY

(a) All prior periods presented have been restated to reflect the North American Consumer Packaging business and the xpedx business as discontinued operations (excluding cash flow related items) and prior period amounts have been adjusted to conform with current year presentation, if applicable.

2018:

(b) Includes the following charges (gains):

	2018	
In millions	**Before Tax**	**After Tax**
Smurfit-Kappa acquisition proposal costs	**12**	**9**
Legal settlement	**9**	**7**
Litigation settlement recovery	**(5)**	**(4)**
Environmental remediation reserve adjustment	**9**	**7**
EMEA Packaging optimization	**47**	**34**
Abandoned property removal	**32**	**24**
Riverdale mill conversion costs	**9**	**7**
Brazil Packaging impairment	**122**	**81**
Debt extinguishment costs	**10**	**7**
Gain on sale of investment in Liaison Technologies	**(31)**	**(23)**
Total special items	**$ 214**	**$ 149**
Non-operating pension expense	**494**	**371**
Total	**$ 708**	**$ 520**

(c) Includes the following charges (gains):

	2018	
In millions	**Before Tax**	**After Tax**
North American Consumer Packaging transaction costs	**25**	**19**
North American Consumer Packaging gain on transfer	**(488)**	**(364)**
Total	**$ (463)**	**$ (345)**

(d) Includes the following tax expenses (benefits):

In millions	**2018**
State income tax legislative changes	**$ 9**
Tax benefit of Tax Cuts and Jobs Act	**(36)**
International investment restructuring	**19**
Foreign tax audits	**25**
Total	**$ 17**

2017:

(e) Includes the following charges (gains):

	2017	
In millions	**Before Tax**	**After Tax**
Gain on sale of investment in ArborGen	$ (14)	$ (9)
Costs associated with the pulp business acquired in 2016	33	20
Amortization of Weyerhaeuser inventory fair value step-up	14	8
Holmen bargain purchase gain	(6)	(6)
Abandoned property removal	20	13
Kleen Products settlement	354	219
Asia Foodservice sale	9	4
Brazil Packaging wood supply accelerated amortization	10	7
Debt extinguishment costs	83	51
Interest income on income tax refund claims	(5)	(3)
Other items	(2)	(2)
Total special items	$ 496	$ 302
Non-operating pension expense	484	298
Total	$ 980	$ 600

(f) Includes the operating earnings of the North American Consumer Packaging business for the full year. Also includes the following charges (gains):

	2017	
In millions	Before Tax	After Tax
North American Consumer Packaging transaction costs	$ 17	$ 10
Non-operating pension expense	45	28
Total	$ 62	$ 38

(g) Includes the following tax expenses (benefits):

In millions	**2017**
International legal entity restructuring	$ 34
Income tax refund claims	(113)
Cash pension contribution	38
International tax law change	9
Tax benefit of Tax Cuts and Jobs Act	(1,222)
Total	$ (1,254)

2016:

(h) Includes the following charges (gains):

	2016	
In millions	Before Tax	After Tax
Riegelwood mill conversion costs	$ 9	$ 6
India Packaging evaluation write-off	17	11
Write-off of certain regulatory pre-engineering costs	8	5
Early debt extinguishment costs	29	18
Costs associated with the newly acquired pulp business	31	21
Asia Box impairment / restructuring	70	58
Gain on sale of investment in Arizona Chemical	(8)	(5)
Turkey mill closure	7	6
Amortization of Weyerhaeuser inventory fair value step-up	19	11
Total special items	$ 182	$ 131
Non-operating pension expense	610	375
Total	$ 792	$ 506

(i) Includes the operating earnings of the North American Consumer Packaging business for the full year. Also includes the following charges (gains):

	2016	
In millions	Before Tax	After Tax
xpedx legal settlement	$ 8	$ 5
Total	$ 8	$ 5

(j) Includes the following tax expenses (benefits):

In millions	2016
Cash pension contribution	$ 23
U.S. Federal audit	(14)
Brazil goodwill	(57)
International legal entity restructuring	(6)
Luxembourg tax rate change	31
Total	$ (23)

2015:

(k) Includes the following charges (gains):

	2015	
In millions	Before Tax	After Tax
Riegelwood mill conversion costs, net of proceeds from sale of the Carolina Coated Bristols brand	$ 8	$ 4
Timber monetization restructuring	16	10
Early debt extinguishment costs	207	133
IP-Sun JV impairment	174	180
Legal reserve adjustment	15	9
Refund and state tax credits	(4)	(2)
Impairment of Orsa goodwill and trade name intangible	137	137
Other items	6	5
Total special items	$ 559	$ 476
Non-operating pension expense	258	157
Total	$ 817	$ 633

(l) Includes the operating earnings of the North American Consumer Packaging business for the full year .

(m) Includes the following tax expenses (benefits):

In millions	**2015**
IP-Sun JV impairment	$ (67)
Cash pension contribution	23
Other items	7
Total	$ (37)

2014:

(n) Includes the following charges (gains):

	2014	
In millions	Before Tax	After Tax
Temple-Inland integration	$ 16	$ 10
Courtland mill shutdown	554	338
Early debt extinguishment costs	276	169
India legal contingency resolution	(20)	(20)
Multi-employer pension plan withdrawal liability	35	21
Foreign tax amnesty program	32	17
Asia Industrial Packaging goodwill impairment	100	100
Loss on sale by investee and impairment of investment	47	36
Other items	12	9
Total special items	$ 1,052	$ 680
Non-operating pension expense	212	129
Total	$ 1,264	$ 809

(o) Includes the operating earnings of the North American Consumer Packaging business and the xpedx business prior to the spin-off, and the following charges (gains):

	2014	
In millions	**Before Tax**	**After Tax**
xpedx spinoff	$ 24	$ 16
Building Products divestiture	16	9
xpedx restructuring	1	(1)
Total	$ 41	$ 24

(p) Includes the following tax expenses (benefits):

In millions	**2014**
State legislative tax change	$ 10
Internal restructuring	(90)
Other items	(1)
Total	$ (81)

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

EXECUTIVE SUMMARY

Full-year 2018 net earnings were $2.0 billion ($4.85 per diluted share) compared with net earnings of $2.1 billion ($5.13 per diluted share) for full-year 2017. Full-year 2017 net earnings included a provisional net tax benefit of $1.2 billion ($2.93 per diluted share) related to the U.S. enactment of the Tax Cuts and Jobs Act of 2017 reported as a special item.

International Paper delivered strong earnings, returns and cash generation in 2018, driven by solid commercial and operational performance across our three businesses. Business segment operating profit improved by approximately $800 million to $2.9 billion in 2018, driven primarily by price and mix improvements, with revenue growth of 7.2%. We continued to grow value for our shareholders with a return which was significantly above our cost of capital and marks our ninth consecutive year with value-creating returns. The Company made strategic investments to strengthen our businesses. Among these, we completed the final phase of our multi-year North American containerboard mill system optimization projects, which gives us the added flexibility we need around capacity, products and geographies. We also invested in our North American corrugated packaging system to enhance our capabilities and strengthen our position with the fastest growing segments. In our EMEA Packaging business, we completed the conversion of the Madrid, Spain mill and started production of high-performance, lightweight recycled containerboard to capture the integrated margin with our EMEA box system. International Paper continued to deliver strong cash generation in 2018, which we used to strengthen our balance sheet and return cash to shareholders. We decreased balance sheet debt by about $500 million, and we returned $1.5 billion to shareholders through dividends of about $800 million and share repurchases of about $700 million. The Company increased its dividend for the seventh consecutive year and reduced shares outstanding by 3%.

The Company's 2018 results include significant price and mix improvements driven by price realization across our three business segments. Improved mix contributed to the Company's strong performance, particularly in our Global Cellulose Fibers business where we continued to grow fluff pulp volume. Weather events in North America and startup costs associated with the Madrid, Spain mill negatively impacted operations, and planned maintenance outages were higher. Input costs increased in 2018, driven by higher wood fiber, chemicals, distribution and energy costs, and were partially offset by lower recovered fiber costs. Equity earnings increased by $159 million to $336 million in 2018, driven by excellent commercial and operational performance in our Ilim joint venture and first-year equity earnings from Graphic Packaging International Partners, LLC (GPIP). In total, our equity investments provided $153 million in cash dividends to International Paper in 2018.

Looking ahead to the first quarter 2019, domestic industry conditions remain healthy. We anticipate lower seasonal demand in North America Industrial Packaging and Brazil Papers, as well as lower export volume in Industrial Packaging, as customer destocking continues. In Global Cellulose Fibers we anticipate lower volume due to slower growth in developing markets and customer destocking, as well as a temporary setback in fluff pulp volume resulting from poor execution of a mix improvement plan. Consequently, we expect downward pressure on export price and mix in Industrial Packaging and Global Cellulose Fibers during the first quarter. Operating costs are expected to increase in our three business segments due to lower volume, higher seasonal energy consumption and timing of spending. In addition, planned maintenance outage expense is expected to increase significantly as we move from a low-outage fourth quarter to a heavy-outage first quarter, with first-half 2019 representing nearly 80% of total planned maintenance outage expense in 2019. Input costs are expected to be stable in Industrial Packaging and Global Cellulose Fibers and increase modestly in Printing Papers, mainly due to higher wood costs in North America. Lastly, we expect equity earnings for our Ilim joint venture to remain stable in the first quarter.

Looking to full-year 2019, we remain focused on maximizing value creation for our shareholders. We anticipate meaningful growth in cash generation driven by commercial and operational excellence, lower capital expenditures and higher dividends from our equity investments. We continue to see healthy box demand in North America Industrial Packaging and expect solid demand growth for fluff pulp used in absorbent hygiene products. In Global Cellulose Fibers we expect our fluff pulp volume to recover as we execute on our mix improvement initiatives. In Printing Papers, the business is performing very well and we have good momentum as we move into 2019, with expected price realization from recent price increases. In Europe, the benefits of the Madrid, Spain mill will accelerate through the year. We expect lower planned maintenance outage expense and capital investments of $1.4 billion, which is about $200 million lower than 2018. Our Ilim joint venture is well positioned to thrive through near-term destocking in softwood market pulp in China and we expect to receive about $200 million in cash dividends from the joint venture in 2019. All in, we expect strong cash generation, which we will use to maximize value for our shareholders by strengthening our balance sheet and returning cash to shareholders. We are committed to a strong and competitive dividend and have a $2.2 billion share repurchase authority remaining.

Adjusted Operating Earnings and Adjusted Operating Earnings Per Share are non-GAAP measures and are defined as net earnings from continuing operations (a GAAP measure) excluding special items and non-operating pension expense. Net earnings (loss) and Diluted earnings (loss) per share attributable to common shareholders are the most directly comparable GAAP measures. The Company calculates Adjusted Operating Earnings by excluding the after-tax effect of non-operating pension expense, items considered by management to be unusual and discontinued operations from the earnings reported under GAAP. Adjusted Operating Earnings Per Share is calculated by dividing Adjusted Operating Earnings by diluted average shares of common stock outstanding. Management uses this measure to focus on on-going operations, and believes that it is useful to investors because it enables them to perform meaningful comparisons of past and present operating results. The Company believes that using this information, along with the most direct comparable GAAP measure, provides for a more complete analysis of the results of operations.

The following are reconciliations of Earnings (loss) attributable to common shareholders to Adjusted operating earnings (loss) attributable to common shareholders.

	2018	2017	2016
Earnings (Loss) Attributable to Shareholders	**$ 2,012**	$ 2,144	$ 904
Less - Discontinued operations (gain) loss	**(345)**	(34)	(102)
Earnings (Loss) from Continuing Operations	**1,667**	2,110	802
Add back - Non-operating pension expense (income)	**494**	484	610
Add back - Net special items expense (income)	**214**	496	182
Income tax effect - Non-operating pension and special items expense	**(171)**	(1,634)	(309)
Adjusted Operating Earnings (Loss) Attributable to Shareholders	**$ 2,204**	$ 1,456	$ 1,285

	2018	2017	2016
Diluted Earnings (Loss) Per Share Attributable to Shareholders	**$ 4.85**	$ 5.13	$ 2.18
Less - Discontinued operations (gain) loss per share	**(0.83)**	(0.08)	(0.25)
Diluted Earnings (Loss) Per Share from Continuing Operations	**4.02**	5.05	1.93
Add back - Non-operating pension expense (income) per share	**1.19**	1.16	1.47
Add back - Net special items expense (income) per share	**0.52**	1.19	0.44
Income tax effect per share - Non-operating pension and special items expense	**(0.41)**	(3.91)	(0.75)
Adjusted Operating Earnings (Loss) Per Share Attributable to Shareholders	**$ 5.32**	$ 3.49	$ 3.09

	Three Months Ended December 31, 2018	Three Months Ended September 30, 2018	Three Months Ended December 31, 2017
Earnings (Loss) Attributable to Shareholders	**$ 316**	$ 562	$ 1,460
Less - Discontinued operations (gain) loss	**—**	—	8
Earnings (Loss) from Continuing Operations	**316**	562	1,468
Add back - Non-operating pension expense (income)	**429**	25	386
Add back - Net special items expense (income)	**(15)**	142	106
Income tax effect - Non-operating pension and special items expense	**(60)**	(88)	(1,430)
Adjusted Operating Earnings (Loss) Attributable to Shareholders	**$ 670**	$ 641	$ 530

	Three Months Ended December 31, 2018	Three Months Ended September 30, 2018	Three Months Ended December 31, 2017
Diluted Earnings (Loss) Per Share Attributable to Shareholders	**$ 0.78**	$ 1.37	$ 3.50
Less - Discontinued operations (gain) loss per share	**—**	—	0.02
Diluted Earnings (Loss) Per Share from Continuing Operations	**0.78**	1.37	3.52
Add back - Non-operating pension expense (income) per share	**1.05**	0.06	0.92
Add back - Net special items expense (income) per share	**(0.04)**	0.34	0.25
Income tax effect per share - Non-operating pension and special items expense	**(0.14)**	(0.21)	(3.42)
Adjusted Operating Earnings (Loss) Per Share Attributable to Shareholders	**$ 1.65**	$ 1.56	$ 1.27

Free Cash Flow is a non-GAAP measure and the most directly comparable GAAP measure is cash provided by operations. Management believes that free cash flow is useful to investors as a liquidity measure because it measures the amount of cash generated that is available, after reinvesting in the business, to maintain a strong balance sheet, pay dividends, repurchase stock, service debt and make investments for future growth. It should not be inferred that the entire free cash flow amount is available for discretionary expenditures. By adjusting for certain items that are not indicative of the Company's ongoing performance, free cash flow also enables investors to perform meaningful comparisons between past and present periods.

The Company generated Free Cash Flow of approximately $1.7 billion , $2.0 billion and $1.9 billion in 2018 , 2017 and 2016 , respectively. The following are reconciliations of free cash flow to cash provided by operations:

In millions	**2018**	2017	2016
Cash provided by operations	**$ 3,226**	$ 1,757	$ 2,478
Adjustments:			
Cash invested in capital projects	**(1,572)**	(1,391)	(1,348)
Cash contribution to pension plan	**—**	1,250	750
Cash payment for Kleen Settlement	**—**	354	—
Free Cash Flow	**$ 1,654**	$ 1,970	$ 1,880

In millions	**Three Months Ended December 31, 2018**	Three Months Ended September 30, 2018	Three Months Ended December 31, 2017
Cash provided by operations	**$ 821**	$ 941	$ 1,188
Adjustments:			
Cash invested in capital projects	**(286)**	(357)	(456)
Free Cash Flow	**$ 535**	$ 584	$ 732

Results of Operations

Business Segment Operating Profits are used by International Paper's management to measure the earnings performance of its businesses. Management uses this measure to focus on on-going operations and believes that it is useful to investors because it enables them to perform meaningful comparisons of past and present operating results. International Paper believes that using this information, along with net earnings, provides a more complete analysis of the results of operations by year. Business Segment Operating Profits are defined as earnings (loss) from continuing operations before income taxes and equity earnings, but including the impact of equity earnings and noncontrolling interests, excluding interest expense, net, corporate items, net, corporate special items, net, and non-operating pension expense. Business Segment Operating Profits are defined by the Securities and Exchange Commission as a non-GAAP financial measure, and are not GAAP alternatives to net income or any other operating measure prescribed by accounting principles generally accepted in the United States.

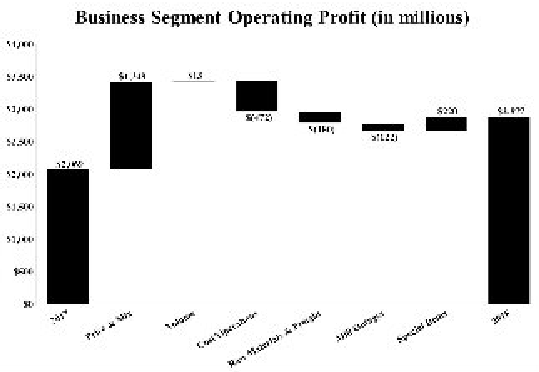
International Paper operates in three segments: Industrial Packaging, Global Cellulose Fibers and Printing Papers.

The following table presents a reconciliation of net earnings (loss) from continuing operations attributable to International Paper Company to its total Business Segment Operating Profit:

In millions	**2018**	2017	2016
Net Earnings (Loss) From Continuing Operations Attributable to International Paper Company	**$ 1,667**	$ 2,110	$ 802
Add back (deduct)			
Income tax provision (benefit)	**445**	(1,085)	193
Equity (earnings) loss, net of taxes	**(336)**	(177)	(198)
Noncontrolling interests, net of taxes	**5**	—	(2)
Earnings (Loss) From Continuing Operations Before Income Taxes and Equity Earnings	**1,781**	848	795
Interest expense, net	**536**	572	520
Noncontrolling interests/equity earnings included in operations	**(10)**	(2)	1
Corporate items, net	**67**	91	121
Corporate special items, net (income) expense	**9**	76	55
Non-operating pension expense	**494**	484	610
	$ 2,877	$ 2,069	$ 2,102
Business Segment Operating Profit			
Industrial Packaging	**$ 2,093**	$ 1,547	$ 1,741
Global Cellulose Fibers	**251**	65	(179)
Printing Papers	**533**	457	540
Business Segment Operating Profit	**$ 2,877**	$ 2,069	$ 2,102

Business Segment Operating Profits in 2018 included a net loss from special items of $205 million compared with $425 million in 2017 and $127 million in 2016 . Operationally, compared with 2017, the benefits from higher average sales price realizations and mix ($1.3 billion) and higher sales volumes ($13 million) were partially offset by higher input costs ($180 million), higher maintenance outage costs ($122 million) and higher operating costs ($472 million).

Corporate items, net, includes operating profits (losses) of previously divested businesses of $0 million in both 2018 and 2017 and $(2) million in 2016.



The principal changes in operating profit by business segment were as follows:

- Industrial Packaging’s profits of $2.1 billion were $546 million higher than in 2017 as the benefits of higher average sales price realizations, net of mix, higher sales volumes and lower input costs were partially offset by higher operating costs and higher maintenance outage costs. In addition, operating profits in 2018 included a charge of $122 million related to the impairment of fixed assets and an intangible asset in our Brazil Packaging business, charges of $47 million related to the optimization of our EMEA Packaging business, charges of $20 million for the removal of abandoned property at our mills and income of $5 million related to a litigation settlement recovery. In 2017, operating profits included a charge of $354 million related to the settlement of the Kleen Products anti-trust class action lawsuit, charges of $14 million for the removal of abandoned property at our mills, a charge of $10 million for the accelerated amortization of an intangible asset in Brazil and a gain of $6 million for a net bargain purchase gain associated with the 2016 acquisition of Holmen Paper's newsprint mill in Madrid, Spain.
- Global Cellulose Fibers' operating profit of $251 million was $186 million favorable versus 2017 as the benefits of higher average sales price realizations and improved mix were partially offset by lower sales volumes, higher input costs, higher maintenance outage costs and higher operating costs. Operating profits in 2018 included a charge of $11 million for the removal of abandoned property at our mills. In 2017, operating earnings included $33 million of costs associated with the acquisition and integration of the pulp business acquired in late 2016 from Weyerhaeuser, a charge of $14 million for the amortization of the remaining inventory fair value adjustment associated with that acquisition and a charge of $4 million for the removal of abandoned property at our mills.
- Printing Papers’ profits of $533 million represented a $76 million increase in operating profits from 2017. The benefits from higher average sales price realizations, net of mix, were partially offset by lower sales volumes, higher input costs, higher maintenance outage costs and higher operating costs. Operating profits in 2018 included charges of $9 million associated with the announced conversion of a paper machine at our Riverdale mill to containerboard production and a charge of $1 million for the removal of abandoned property at our mills. Op erating profits in 2017 included charges of $2 million for the removal of abandoned property at our mills.

Liquidity and Capital Resources

For the year ended December 31, 2018 , International Paper generated $3.2 billion of cash flow from operations compared with $1.8 billion in 2017 and $2.5 billion in 2016 . Cash flow from operations included $1.25 billion and $750 million of cash pension contributions in 2017 and 2016, respectively. Capital spending for 2018 totaled $1.6 billion , or 118% of depreciation and amortization expense. Our liquidity position remains strong, supported by approximately $2.1 billion of credit facilities that we believe are adequate to meet future liquidity requirements. Maintaining an investment-grade credit rating for our long-term debt continues to be an important element in our overall financial strategy.

We expect another strong year of cash generation in 2019 , which we will use to maximize shareholder value by strengthening our balance sheet, returning meaningful cash to shareholders through dividends and share repurchases and investing organically to grow future cash generation.

Capital spending for 2019 is planned at $1.4 billion , or about 104% of depreciation and amortization, including approximately $400 million of strategic investments.

RESULTS OF OPERATIONS

While the operating results for International Paper’s various business segments are driven by a number of business-specific factors, changes in International Paper’s operating results are closely tied to changes in general economic conditions in North America, Europe, Russia, Latin America, India, North Africa and the Middle East. Factors that impact the demand for our products include industrial non-durable goods production, consumer spending, commercial printing and advertising activity, white-collar employment levels, and movements in currency exchange rates.

Product prices are affected by general economic trends, inventory levels, currency exchange rate movements and worldwide capacity utilization. In addition to these revenue-related factors, net earnings are impacted by various cost drivers, the more significant of which include changes in raw material costs, principally wood, recycled fiber and chemical costs; energy costs; freight costs; mill outage costs; salary and benefits costs, including pensions; and manufacturing conversion costs.

The following is a discussion of International Paper's results of operations for the year ended December 31, 2018 , and the major factors affecting these results compared to 2017 and 2016 .

For the year ended December 31, 2018 , International Paper reported net sales of $23.3 billion , compared with $21.7 billion in 2017 and $19.5 billion in 2016 . International net sales (including U.S. exports) totaled $8.8 billion or 38% of total sales in 2018 . This compares with international net sales of $8.4 billion in 2017 and $6.9 billion in 2016 .

Full year 2018 net earnings attributable to International Paper Company totaled $2.0 billion ($4.85 per diluted share), compared with net earnings of $2.1 billion ($5.13 per diluted share) in 2017 and $904 million ($2.18 per diluted share) in 2016 . Amounts in all periods include the results of discontinued operations.

Earnings from continuing operations attributable to International Paper Company after taxes in 2018 , 2017 and 2016 were as follows:

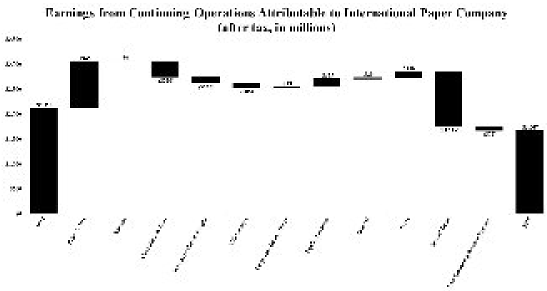
In millions	**2018**	2017	2016
Earnings from continuing operations attributable to International Paper Company	**$ 1,667 (a)**	$ 2,110 (b)	$ 802 (c)

(a) Includes $166 million of net special items charges and $371 million of non-operating pension expense which included a pre-tax charge of $424 million ($318 million after taxes) for a settlement accounting charge associated with an annuity purchase and transfer of pension obligations for approximately 23,000 retirees.

(b) Includes $952 million of net special items income which included a provisional net tax benefit of $1.2 billion related to the enactment of the Tax Cut and Jobs Act and $298 million of non-operating pension expense which included a pre-tax charge of $376 million ($232 million after taxes) for a settlement accounting charge associated with an annuity purchase and transfer of pension obligations for approximately 45,000 retirees.

(c) Includes $108 million of net special items charges and $375 million of non-operating pension expense which included a pre-tax charge of $439 million ($270 million after taxes) for a settlement accounting charge associated with payments under a term-vested lump sum buyout.

Compared with 2017 , the benefits from higher sales volumes, higher average sales price realizations, net of mix, lower corporate and other costs, lower net interest expense and lower tax expense, were partially offset by higher operating costs, higher input costs and higher maintenance outage costs. In addition, 2018 results included higher equity earnings, net of taxes, relating to the Company's investments in Ilim and GPIP.



See Business Segment Results on pages 24 through 28 for a discussion of the impact of these factors by segment.

Discontinued Operations

2018 :

In 2018, discontinued operations included an after-tax gain of $364 million on the transfer of the North American Consumer Packaging business and after-tax charges of $19 million for costs associated with the transfer.

2017 :

On January 1, 2018, the Company completed the transfer of its North American Consumer Packaging business, which included its North American Coated Paperboard and Foodservice businesses, to a subsidiary of Graphic Packaging Holding Company. International Paper received a 20.5% ownership interest in GPIP, a subsidiary of Graphic Packaging Holding Company, that holds the assets of the combined business. As a result of this transfer, all prior year amounts have been adjusted to reflect the North American Consumer Packaging business as a discontinued operation. See Note 8 Divestitures and Impairments on pages 54 and 55 of Item 8. Financial Statements and Supplementary Data for further discussion.

Included in discontinued operations were the operating earnings of the North American Consumer Packaging business, an after-tax charge of $10 million for costs associated with the transfer and an after-tax charge of $28 million for non-operating pension expenses related to curtailment charges and termination benefits in connection with this same transaction.

2016 :

In 2016, discontinued operations included the operating earnings of the North American Consumer Packaging business and an after-tax charge of $5 million expense associated with a legal settlement related to the xpedx business.

Income Taxes

A net income tax provision of $445 million was recorded for 2018 , including a tax benefit of $36 million to revise our 2017 estimated tax related to the enactment of the Tax Cuts and Jobs Act, tax expense of $25 million related to foreign tax audits, tax expense of $19 million related to an international investment restructuring and tax expense of $9 million related to state income tax legislative changes. Excluding these items, a $65 million net tax benefit for other special items and a $123 million tax benefit related to non-operating pension expense, the tax provision was $616 million, or 25% of pre-tax earnings before equity earnings.

A net income tax benefit of $1.1 billion was recorded for 2017 , including a provisional net tax benefit of $1.2 billion related to the enactment of the Tax Cuts and Jobs Act, tax benefits of $113 million related to income tax refund claims, tax expense of $9 million related to an international tax law change, tax expense of $34 million related to international investment restructuring and tax expense of $38 million associated with a cash pension contribution. Excluding these items, a $194 million net tax benefit for other special items and a $186 million tax benefit related to non-operating pension expense, the tax provision was $549 million, or 30% of pre-tax earnings before equity earnings.

A net income tax provision of $193 million was recorded for 2016 , including tax benefits of $63 million related to legal entity restructurings, tax expense of $31 million associated with a tax rate change in Luxembourg, tax expense of $23 million associated with a $750 million cash pension contribution, and a tax benefit of $14 million related to the closure of a federal tax audit. Excluding these items, a $51 million net tax benefit for other special items and a $235 million tax benefit related to non-operating pension expense, the tax provision was $502 million, or 32% of pre-tax earnings before equity earnings.

Equity Earnings, Net of Taxes

Equity earnings, net of taxes, consisted principally of the Company's share of earnings from its 50% investment in Ilim of $290 million, $183 million and $199 million in 2018, 2017 and 2016, respectively, and from its 20.5% ownership interest in GPIP of $46 million in 2018 (see pages 27 and 28).

Interest Expense and Noncontrolling Interest

Net corporate interest expense totaled $536 million in 2018 , $572 million in 2017 and $520 million in 2016 . Net interest expense in 2017 includes $5 million of interest income associated with income tax refund claims. The decrease in 2018 compared with 2017 was due to lower average outstanding debt. The increase in 2017 compared with 2016 was due to higher average outstanding debt.

Net earnings attributable to noncontrolling interests were $5 million in 2018 , compared with $0 million in 2017 and a loss of $2 million in 2016 . The increase in 2018 was primarily due to improved earnings in our India Papers business.

Special Items

Restructuring and Other Charges, Net

International Paper continually evaluates its operations for improvement opportunities targeted to (a) focus our portfolio on our core businesses, (b) realign capacity to operate fewer facilities with the same revenue capability and close high cost facilities, and (c) reduce costs.

During 2018 , 2017 and 2016 , pre-tax restructuring and other charges, net totaling $29 million , $67 million and $54 million were recorded. Details of these charges were as follows:

Restructuring and Other, Net

In millions	**2018**	2017	2016
Business Segments			
EMEA Packaging optimization	**$ 47 (a)**	$ —	$ —
Riverdale mill paper machine conversion severance reserve	**3 (b)**	—	—
Turkey mill closure	**—**	—	7 (a)
	50	**—**	**7**
Corporate			
Early debt extinguishment costs (see Note 15)	**$ 10**	$ 83	$ 29
Gain on sale of investment in Liaison Technologies	**(31)**	—	—
Gain on sale of investment in ArborGen	**—**	(14)	—
India Packaging business evaluation write-off	**—**	—	17
Gain on sale of investment in Arizona Chemical	**—**	—	(8)
Riegelwood mill conversion costs net of proceeds from the sale of Carolina Coated Bristols brand	**—**	—	9
Other Items	**—**	(2)	—
	(21)	67	47
Total	**$ 29**	$ 67	$ 54

(a) Recorded in the Industrial Packaging business segment.
(b) Recorded in the Printing Papers business segment.

Other Corporate Special Items

In addition, other pre-tax corporate special items totaling $30 million , $0 million and $8 million were recorded in 2018 , 2017 and 2016 , respectively. Details of these charges were as follows:

Other Corporate Items			
In millions	**2018**	2017	2016
Smurfit-Kappa acquisition proposal costs	**$ 12**	$ —	$ —
Environmental remediation reserve adjustment	**9**	—	—
Legal settlement	**9**	—	—
Write-off of certain regulatory pre-engineering costs	**—**	—	8
Total	**$ 30**	$ —	$ 8

Impairments of Goodwill

No goodwill impairment charges were recorded in 2018, 2017 or 2016.

Net Losses on Sales and Impairments of Businesses

Net losses on sales and impairments of businesses included in special items totaled a pre-tax loss of $122 million in 2018 related to the impairment of an intangible asset and fixed assets in the Brazil Packaging business, a pre-tax loss of $9 million in 2017 related to the write down of the long-lived assets of the Company's Asia foodservice business to fair value and a pre-tax loss of $70 million related to severance and the impairment of the IP Asia Packaging business in 2016 . See Note 8 Divestitures and Impairments on pages 54 and 55 of Item 8. Financial Statements and Supplementary Data for further discussion.

DESCRIPTION OF BUSINESS SEGMENTS

International Paper's business segments discussed below are consistent with the internal structure used to manage these businesses. All segments are differentiated on a common product, common customer basis consistent with the business segmentation generally used in the forest products industry.

Industrial Packaging

International Paper is the largest manufacturer of containerboard in the United States. Our U.S. production capacity is over 13 million tons annually. Our products include linerboard, medium, whitetop, recycled linerboard, recycled medium and saturating kraft. About 80% of our production is converted into corrugated boxes and other packaging by our 179 North American container plants. Additionally, we recycle approximately one million tons of OCC and mixed and white paper through our 18 recycling plants. Our container plants are
supported by regional design centers, which offer total packaging solutions and supply chain initiatives. In EMEA, our operations include one recycled fiber containerboard mill in Morocco, a recycled containerboard mill in Spain and 26 container plants in France, Italy, Spain, Morocco and Turkey. In Brazil, our operations include three containerboard mills and four box plants.

International Paper also produces high quality coated paperboard for a variety of packaging end uses with 428,000 tons of annual capacity at our mills in Poland and Russia.

Global Cellulose Fibers

Our cellulose fibers product portfolio includes fluff, market and specialty pulps. International Paper is the largest producer of fluff pulp which is used to make absorbent hygiene products like baby diapers, feminine care, adult incontinence and other non-woven products. Our market pulp is used for tissue and paper products. We continue to invest in exploring new innovative uses for our products, such as our specialty pulps, which are used for non-absorbent end uses including textiles, filtration, construction material, paints and coatings, reinforced plastics and more. Our products are made in the United States, Canada, France, Poland, and Russia and are sold around the world. International Paper facilities have annual dried pulp capacity of about 4 million metric tons.

Printing Papers

International Paper is one of the world's largest producers of printing and writing papers. The primary product in this segment is uncoated papers. This business produces papers for use in copiers, desktop and laser printers and digital imaging. End-use applications include advertising and promotional materials such as brochures, pamphlets, greeting cards, books, annual reports and direct mail. Uncoated papers also produces a variety of grades that are converted by our customers into envelopes, tablets, business forms and file folders. Uncoated papers are sold under private label and International Paper brand names that include *Hammermill, Springhill, Williamsburg, Postmark, Accent, Great White, Chamex, Ballet* , *Rey, Pol, and Svetocopy* . The mills producing uncoated papers are located in the United States, France, Poland, Russia, Brazil and India. The mills have uncoated paper production capacity of over 4 million tons annually. Brazilian operations function through International Paper do Brasil, Ltda, which owns or manages approximately 329,000 acres of forestlands in Brazil.

Ilim

In October 2007, International Paper and Ilim completed a 50:50 joint venture to operate a pulp and paper business located in Russia. Ilim's facilities include three paper mills located in Bratsk, Ust-Ilimsk, and Koryazhma, Russia, with combined total pulp and paper capacity of over 3.4 million metric tons. Ilim has exclusive harvesting rights on timberland and forest areas exceeding 18.9 million acres (7.66 million hectares).

GPIP

On January 1, 2018, the Company completed the transfer of its North American Consumer Packaging business, which includes its North American Coated Paperboard and Foodservice businesses, to Graphic Packaging International Partners, LLC (GPIP), a subsidiary of Graphic Packaging Holding Company, in exchange for a 20.5% ownership interest in GPIP. GPIP subsequently transferred the North American Consumer Packaging business to Graphic Packaging International, LLC (GPI), a wholly-owned subsidiary of GPIP that holds the assets of the combined business.

Products and brand designations appearing in italics are trademarks of International Paper or a related company.

BUSINESS SEGMENT RESULTS

The following tables present net sales and operating profit (loss) which is the Company's measure of segment profitability. The tables include a detail of special items in each year, where applicable, in order to show operating profit before special items.

Industrial Packaging

Demand for Industrial Packaging products is closely correlated with non-durable industrial goods production, as well as with demand for processed foods, poultry, meat and agricultural products. In addition to prices and volumes, major factors affecting the profitability of Industrial Packaging are raw material and energy costs, freight costs, mill outage costs, manufacturing efficiency and product mix.

Industrial Packaging			
In millions	**2018**	2017	2016
Net Sales	**$ 15,900**	$ 15,077	$ 14,226
Operating Profit (Loss)	**$ 2,093**	$ 1,547	$ 1,741
Brazil Packaging impairment	**122**	—	—
EMEA Packaging optimization	**47**	—	—
Litigation settlement recovery	**(5)**	—	—
Abandoned property removal	**20**	14	—
Kleen Products anti-trust settlement	**—**	354	—
Holmen mill bargain purchase gain	**—**	(6)	—
Brazil Packaging wood supply accelerated amortization	**—**	10	—
Turkey mill closure	**—**	—	7
Asia Packaging restructuring and impairment	**—**	—	70
Operating Profit Before Special Items	**$ 2,277**	$ 1,919	$ 1,818

Industrial Packaging net sales for 2018 increased 5% to $15.9 billion compared with $15.1 billion in 2017 , and 12% compared with $14.2 billion in 2016 . Operating profits before special items in 2018 were 19% higher than in 2017 and 25% higher than in 2016 . Comparing 2018 with 2017, benefits from higher average sales price realizations, net of mix ($712 million), higher sales volumes ($33 million) and lower input costs ($2 million) were partially offset by higher operating costs ($333 million) and higher maintenance outage costs ($56 million).

North American Industrial Packaging			
In millions	**2018**	2017	2016
Net Sales (a)	**$ 14,187**	$ 13,329	$ 12,450
Operating Profit (Loss)	**$ 2,292**	$ 1,504	$ 1,757
Litigation settlement recovery	**(5)**	—	—
Abandoned property removal	**20**	14	—
Kleen Products anti-trust settlement	**—**	354	—
Operating Profit Before Special Items	**$ 2,307**	$ 1,872	$ 1,757

(a) Includes intra-segment sales of $233 million for 2018, $172 million for 2017 and $143 million for 2016.

North American Industrial Packaging's sales volumes increased in 2018 compared with 2017 reflecting higher box shipments, partially offset by lower shipments of containerboard to both the domestic and export markets. In 2018, the business took about 518,000 tons of maintenance downtime compared with about 416,000 tons of total downtime in 2017, of which about 35,000 were non-maintenance downtime and 381,000 were maintenance downtime. Average sales prices were significantly higher for boxes and for containerboard in export markets. Substantially lower input costs for recycled fiber were partially offset by higher costs for wood, energy, chemicals and freight. Planned maintenance downtime costs were $50 million higher in 2018, than in 2017. Operating costs increased due to inflation, distribution costs and weather-related production constraints in early 2018.

Looking ahead to the first quarter of 2019, compared with the fourth quarter of 2018, sales volumes for boxes are expected to be seasonally lower despite two more shipping days. Shipments of containerboard to export markets are also expected to decline, reflecting slowing market demand in China and EMEA. Based on pricing to date in the current quarter, average sales prices for boxes are expected to be flat, while average sales prices for export containerboard are expected to be lower. Input costs, primarily for wood and energy, are expected to be higher. Planned maintenance downtime spending should be about $102 million higher. Manufacturing operating costs will be negatively impacted by lower volume and inflation, while distribution costs are also expected to increase.

EMEA Industrial Packaging			
In millions	**2018**	2017	2016
Net Sales	**$ 1,355**	$ 1,334	$ 1,227
Operating Profit (Loss)	**$ (120)**	$ 6	$ 15
EMEA Packaging optimization	**47**	—	—
Holmen mill net bargain purchase gain	**—**	(6)	—
Turkey mill closure	**—**	—	7
Operating Profit Before Special Items	**$ (73)**	$ —	$ 22

EMEA Industrial Packaging's sales volumes in 2018 were lower than in 2017, reflecting weaker market demand for fruit and vegetable boxes in the Euro-zone and slowing economic conditions in Turkey. Average sales margins decreased slightly, as higher containerboard costs were only partially offset by higher sales prices for boxes. Input costs for energy were flat. Operating costs rose due to inflation and higher costs associated with the new plant in Tangier, Morocco. Earnings were also negatively impacted by the conversion and ramp-up of the Madrid mill.

Entering the first quarter of 2019, compared with the fourth quarter of 2018, sales volumes are expected to be seasonally higher. Average sales margins are expected to reflect the full realization of box price increases and further board cost reductions. Operating costs will benefit from the continued integration of our Madrid mill. Earnings are expected to be favorably impacted by the increased production volumes of recycled containerboard at the Madrid mill.

Brazilian Industrial Packaging			
In millions	**2018**	2017	2016
Net Sales	**$ 232**	$ 251	$ 232
Operating Profit (Loss)	**$ (151)**	$ (35)	$ (43)
Brazil Packaging impairment	**122**	—	—
Brazil Packaging wood supply accelerated amortization	**—**	10	—
Operating Profit Before Special Items	**$ (29)**	$ (25)	$ (43)

Brazilian Industrial Packaging's sales volumes in 2018 increased, compared with 2017 for boxes, but this was offset by decreased containerboard shipments. Average sales margins improved reflecting higher sales prices, partially offset by an unfavorable mix. Input costs increased, primarily for recycled fiber, utilities and chemicals. Operating costs were negatively impacted by inflation, but benefited from lower overhead costs. Planned maintenance downtime costs were $1 million lower in 2018, compared with 2017. In addition, a nationwide truckers' strike during the second quarter negatively impacted operating profit by approximately $3 million.

Looking ahead to the first quarter of 2019, compared with the fourth quarter of 2018, sales volumes are expected to be higher, primarily for containerboard. Based on pricing to date in the current quarter, average sales margins are expected to improve. Input costs are expected to be lower for recycled fiber and freight, and operating costs will also be lower. In late 2018, the Company announced that it was exploring strategic options for its Brazil Packaging business.

European Coated Paperboard			
In millions	**2018**	2017	2016
Net Sales	**$ 359**	$ 335	$ 327
Operating Profit (Loss)	**$ 72**	$ 72	$ 93

European Coated Paperboard's sales volumes in 2018 compared with 2017, decreased in Europe, but were partially offset by an increase in Russia. Average sales margins were higher in both Russia and Europe, reflecting higher average sales prices and a more favorable mix. Input costs were higher mainly for wood and energy in both regions. Planned maintenance downtime costs were $6 million higher in 2018 than in 2017, primarily at the Kwidzyn mill.

Looking forward to the first quarter of 2019, compared with the fourth quarter of 2018, sales volumes are expected to be stable in both Europe and Russia.

Average sales margins are expected to be higher in Europe due to a more favorable mix. In Russia, average sales margins should be stable. Input costs are expected to be lower for purchased pulp, wood and energy. Maintenance outage costs should be flat due to no outages in the fourth quarter and no planned outages in the first quarter.

Asian Industrial Packaging			
In millions	**2018**	2017	2016
Net Sales	**$ —**	$ —	$ 133
Operating Profit (Loss)	**$ —**	$ —	$ (81)
Asia Packaging restructuring and impairment	**—**	—	70
Operating Profit Before Special Items	**$ —**	$ —	$ (11)

On June 30, 2016, the Company completed the sale of its corrugated packaging business in China and Southeast Asia to Xiamen Bridge Hexing Equity Investment Partnership Enterprise. See Note 8 Divestitures and Impairments on pages 54 and 55 of Item 8. Financial Statements and Supplementary Data for further discussion of the sale of this business.

Global Cellulose Fibers

Demand for Cellulose Fibers products is closely correlated with changes in demand for absorbent hygiene products and is further affected by changes in currency rates that can benefit or hurt producers in different geographic regions. Principal cost drivers include manufacturing efficiency, raw material and energy costs, mill outage costs, and freight costs.

Global Cellulose Fibers			
In millions	**2018**	2017	2016
Net Sales	**$ 2,819**	$ 2,551	$ 1,092
Operating Profit (Loss)	**$ 251**	$ 65	$ (179)
Acquisition and integration costs	**—**	33	31
Abandoned property removal	**11**	4	—
Inventory fair value step-up amortization	**—**	14	19
Operating Profit Before Special Items	**$ 262**	$ 116	$ (129)

Global Cellulose Fibers results include the net sales and operating profit associated with the pulp business acquired from Weyerhaeuser, from the date of acquisition on December 1, 2016. See Note 7 Acquisitions and Joint Ventures on pages 52 through 54 of Item 8. Financial Statements and Supplementary Data for additional information about the acquisition.

Net sales for 2018 increased to $2.8 billion , compared with $2.6 billion in 2017 and $1.1 billion in 2016 . Operating profits before special items in 2018 were significantly higher than in both 2017 and 2016 . Comparing 2018 with 2017, benefits from higher average sales price realizations and mix ($328 million) were partially offset by lower sales volumes ($3 million), higher input costs ($41 million), higher planned maintenance downtime costs ($41 million) and higher operating costs ($97 million).

Sales volumes in 2018 were about flat with 2017. Sales prices increased across all product lines. Average sales margins also benefited from a favorable product mix reflecting an increase in sales of absorbent pulp. Input costs were higher, primarily for wood and chemicals. Planned maintenance downtime costs were $31 million higher in 2018. Operating costs increased due to higher distribution and inventory valuation costs. Hurricane Florence negatively impacted earnings by $38 million, net of insurance proceeds. In Europe and Russia, average sales prices increased significantly. Input costs were higher for wood, energy and chemicals. Planned maintenance downtime costs were $10 million higher in 2018 than in 2017, primarily at the Saillat mill.

Entering the first quarter of 2019, sales volumes will be lower due to production constraints resulting from planned maintenance outages, softer market demand in developing markets and customer destocking, as well as a temporary setback in fluff pulp volume resulting from poor execution of a mix improvement plan. Based on pricing to date in the current quarter, average sales prices are expected to decrease particularly fo softwood pulp in China. Input costs are expected to decrease for chemicals. Planned maintenance downtime costs should be $20 million higher than in the fourth quarter of 2018. Manufacturing operating costs are expected to rise due to lower volume, seasonality and inflation. In Eu rope and Russia, sales volumes are expected to be lower, while sales margins should be stable.

Printing Papers

Demand for Printing Papers products is closely correlated with changes in commercial printing and advertising activity, direct mail volumes and, for uncoated cut-size products, with changes in white-collar employment levels that affect the usage of copy and laser printer paper. Principal cost drivers include manufacturing efficiency, raw material and energy costs, mill outage costs and freight costs.

Printing Papers			
In millions	**2018**	2017	2016
Net Sales	**$ 4,375**	$ 4,157	$ 4,058
Operating Profit (Loss)	**$ 533**	$ 457	$ 540
Riverdale mill conversion	**9**	—	—
Abandoned property removal	**1**	2	—
Operating Profit Before Special Items	**$ 543**	$ 459	$ 540

Printing Papers net sales for 2018 of $4.4 billion increased 5% , compared with $4.2 billion in 2017 , and 8% , compared with $4.1 billion in 2016 . Operating profits before special items in 2018 were 18% higher than in

2017 and 1% higher than in 2016 . Comparing 2018 with 2017, benefits from higher average sales price realizations, net of mix ($309 million), were partially offset by lower sales volumes ($17 million), higher input costs ($141 million), higher planned maintenance downtime costs ($25 million) and higher operating costs ($42 million).

North American Printing Papers						
In millions		**2018**		2017		2016
Net Sales	**$**	**1,956**	$	1,833	$	1,890
Operating Profit (Loss)	**$**	**160**	$	132	$	236
Riverdale mill conversion		**9**		—		—
Abandoned property removal		**1**		2		—
Operating Profit Before Special Items	**$**	**170**	$	134	$	236

North American Printing Papers' sales volumes for 2018 were lower than in 2017, primarily due to lower sales to export markets. Average sales margins improved due to sales price increases for both cutsize paper and rolls, net of an unfavorable mix. Input costs were higher for wood and chemicals. Planned maintenance downtime costs were $1 million higher in 2018. Operating costs were higher primarily due to inflation and distribution costs, and included $5 million, net of insurance recoveries, related to Hurricane Florence.

Entering the first quarter of 2019, sales volumes are expected to be lower due to capacity constraints resulting from planned maintenance outages. Average sales margins should be steady, reflecting the full-quarter impact of late-2018 sales price increases. Operating costs are expected to be higher due to seasonality and inflation. Input costs should be higher, primarily for wood and chemicals. Planned maintenance downtime costs will increase by about $3 million in the 2019 first quarter.

Brazilian Papers						
In millions		**2018**		2017		2016
Net Sales (a)	**$**	**978**	$	972	$	897
Operating Profit (Loss)	**$**	**227**	$	194	$	173

(a) Includes intra-segment sales of $13 million for 2018, $24 million for 2017 and $5 million for 2016.

Brazilian Papers' sales volumes for uncoated freesheet paper in 2018, were lower compared with 2017 in both the domestic and export markets. Average domestic and export sales prices were higher due to the realization of multiple price increases implemented in 2018. Raw material costs increased for pulp, chemicals and energy. Operating costs were negatively impacted by inflation and a nationwide truckers' strike in the second quarter. Planned maintenance downtime costs were $4 million higher in 2018.

Looking ahead to 2019, compared with the fourth quarter of 2018, sales volumes for uncoated freesheet paper in the first quarter are expected to be seasonally weaker in the domestic market. Average sales margins are expected to decrease as price pressures in the Latin American export markets and an unfavorable mix more than offset the partial realization of announced domestic sales price increases. Input costs are expected to be stable. Maintenance outage costs should be flat due to no outages in the fourth quarter and no planned outages in the first quarter.

European Papers						
In millions		**2018**		2017		2016
Net Sales	**$**	**1,252**	$	1,187	$	1,109
Operating Profit (Loss)	**$**	**129**	$	136	$	142

European Papers' sales volumes for uncoated freesheet paper in 2018 were higher in Russia, but lower in Europe compared with 2017. Average sales prices increased for uncoated freesheet paper in both regions following price increases implemented in late 2017, and throughout 2018. Input costs were higher for wood, energy, purchased pulp and chemicals. Planned maintenance downtime costs were $20 million higher in 2018, than in 2017, primarily at the Saillat mill.

Entering 2019, sales volumes for uncoated freesheet paper in the first quarter are expected to increase in Europe, but decrease in Russia. Average sales prices are expected to be higher in Europe due to the continued realization of a fourth-quarter 2018 price increase, and higher in Russia. Input costs should be lower in Europe, mainly for wood and energy, but higher in Russia, primarily for wood and chemicals. Maintenance outage costs should be flat due to no outages in the fourth quarter and no planned outages in the first quarter.

Indian Papers						
In millions		**2018**		2017		2016
Net Sales	**$**	**202**	$	189	$	167
Operating Profit (Loss)	**$**	**17**	$	(5)	$	(11)

Indian Papers' sales volumes in 2018 were higher than in 2017 due to improved paper machine productivity. Average sales prices also increased. Input costs were higher for chemicals and recycled fiber, but were partially offset by lower wood costs. Operating costs were lower in 2018, reflecting improved mill performance efficiencies, while planned maintenance downtime costs were flat compared with 2017.

Looking ahead to the first quarter of 2019, sales volumes are expected to be slightly higher than in the 2018 fourth quarter. Based on pricing to date in the current quarter, average sales prices are expected to be stable.

Equity Earnings, Net of Taxes – Ilim

International Paper accounts for its investment in Ilim , a separate reportable industry segment, using the equity method of accounting.

The Company recorded equity earnings, net of taxes, related to Ilim of $290 million in 2018, compared with earnings of $183 million in 2017, and $199 million in 2016. Operating results recorded in 2018 included an after-tax non-cash foreign exchange loss of $82 million, compared with an after-tax foreign exchange gain of $15 million in 2017 and an after-tax foreign exchange gain of $25 million in 2016, primarily on the remeasurement of Ilim's U.S. dollar denominated net debt.

Ilim delivered outstanding performance in 2018, driven largely by higher price realization and strong demand. Sales volumes for the joint venture increased year over year for shipments to China of softwood pulp and linerboard, but were offset by decreased sales of hardwood pulp to China. Sales volumes in the Russian market increased for softwood pulp and hardwood pulp, but decreased for linerboard. Average sales price realizations were significantly higher in 2018 for sales of softwood pulp, hardwood pulp and linerboard to China and other export markets. Average sales price realizations in Russian markets increased year over year for all products. Input costs were higher in 2018, primarily for wood, fuel and chemicals. Distribution costs were negatively impacted by tariffs and inflation. The Company received cash dividends from the joint venture of $128 million in 2018, $133 million in 2017 and $58 million in 2016.

Entering the first quarter of 2019, sales volumes are expected to be lower than in the fourth quarter of 2018, due to the seasonal slowdown in China and fewer trading days. Based on pricing to date in the current quarter, average sales prices are expected to decrease for hardwood pulp, softwood pulp and linerboard to China. Input costs are projected to be relatively flat, while distribution costs are expected to increase.

Equity Earnings - GPIP

International Paper recorded equity earnings of $46 million on its 20.5% ownership position in GPIP in 2018. The Company received cash dividends from the investment of $25 million in 2018.

LIQUIDITY AND CAPITAL RESOURCES

Overview

A major factor in International Paper’s liquidity and capital resource planning is its generation of operating cash flow, which is highly sensitive to changes in the pricing and demand for our major products. While changes in key cash operating costs, such as energy, raw material, mill outage and transportation costs, do have an effect on operating cash generation, we believe that our focus on pricing and cost controls has improved our cash flow generation over an operating cycle.

Cash uses during 2018 were primarily focused on working capital requirements, capital spending, debt reductions and returning cash to shareholders through dividends and share repurchases under the Company's share repurchase program.

Cash Provided by Operating Activities

Cash provided by operations, including discontinued operations, totaled $3.2 billion in 2018 , compared with $1.8 billion for 2017 , and $2.5 billion for 2016 . Cash used by working capital components (accounts receivable, contract assets and inventory less accounts payable and accrued liabilities, interest payable and other) totaled $439 million in 2018 , compared with cash used by working capital components of $402 million in 2017 , and cash provided by working capital components of $71 million in 2016 .

Investment Activities

Including discontinued operations, investment activities in 2018 increased from 2017 , as 2018 included higher capital spending. In 2016, investment activity included the purchase of Weyerhaeuser's pulp business for $2.2 billion in cash, the purchase of the Holmen business for $57 million in cash, net of cash acquired, and proceeds from the sale of the Asia Packaging business of $108 million, net of cash divested. The Company maintains an average capital spending target around depreciation and amortization levels, or modestly above, due to strategic plans over the course of an economic cycle. Capital spending was $1.6 billion in 2018 , or 118% of depreciation and amortization, compared with $1.4 billion in 2017 , or 98% of depreciation and amortization, and $1.3 billion , or 110% of depreciation and amortization in 2016 . Across our segments, capital spending as a percentage of depreciation and amortization ranged from 69.8% to 132.1% in 2018 .

The following table shows capital spending for operations by business segment for the years ended December 31, 2018 , 2017 and 2016 , excluding amounts related to discontinued operations of $111 million in 2017 and $107 million in 2016.

In millions	**2018**	2017	2016
Industrial Packaging	**$ 1,061**	$ 836	$ 832
Global Cellulose Fibers	**183**	188	174
Printing Papers	**303**	235	215
Subtotal	**1,547**	1,259	1,221
Corporate and other	**25**	21	20
Capital Spending	**$ 1,572**	$ 1,280	$ 1,241

Capital expenditures in 2019 are currently expected to be about $1.4 billion , or 104% of depreciation and amortization, including approximately $400 million of strategic investments.

Acquisitions and Joint Ventures

See Note 7 Acquisitions and Joint Ventures on pages 52 through 54 of Item 8. Financial Statements and Supplementary Data for a discussion of the Company's acquisitions.

Financing Activities

Amounts related to early debt extinguishment during the years ended December 31, 2018 , 2017 and 2016 were as follows:

In millions	**2018**	2017	2016
Debt reductions (a)	**$ 780**	$ 993	$ 266
Pre-tax early debt extinguishment costs (b)	**10**	83	29

(a) Reductions related to notes with interest rates ranging from 1.57% to 9.38% with original maturities from 2018 to 2032 for the years ended December 31, 2018 , 2017 and 2016 .

(b) Amounts are included in Restructuring and other charges in the accompanying consolidated statements of operations.

2018: Financing activities during 2018 included debt issuances of $490 million and retirements of $1.0 billion for a net decrease of $518 million .

International Paper utilizes interest rate swaps to change the mix of fixed and variable rate debt and manage interest expense. At December 31, 2018, International Paper had interest rate swaps with a notional amount of $700 million and maturities ranging from 2024 to 2026 (see Note 16 Derivatives and Hedging Activities on pages 67 through 70 of Item 8. Financial Statements and Supplementary Data). During 2018, the inclusion of the offsetting interest income from short-term investments reduced the effective interest rate from 4.8% to 4.6% .

In June 2018, the borrowing capacity of the commercial paper program was increased from $750 million to $1.0 billion . Under the terms of the program, individual maturities on borrowings may vary, but may not exceed one year from the date of issuance. Interest bearing notes may be issued either as fixed notes or floating rate notes. As of December 31, 2018 , 2017 and 2016, the Company had $465 million , $180 million and $165 million , respectively, outstanding under this program.

Other financing activities during 2018 included the net repurchase of approximately 12.3 million shares of treasury stock, including restricted stock tax withholding. Repurchases of common stock and payments of restricted stock withholding taxes totaled $732 million, including $700 million related to shares repurchased under the Company's share repurchase program. On October 9, 2018, the Company announced an authorization to repurchase $2 billion of the Company's common stock to supplement remaining amounts under prior share repurchase authorizations, bringing total share repurchase authorizations since 2013 to $5.0 billion. The Company will continue to repurchase such shares in open market repurchase transactions. Under the $5.0 billion share repurchase program, the Company has repurchased 58.0 million shares at an average price of $47.68, for a total of approximately $2.8 billion, as of December 31, 2018.

In October 2018, International Paper announced that the quarterly dividend would be increased from $0.4750 per share to $0.50 per share, effective for the 2018 fourth quarter.

2017: Financing activities during 2017 included debt issuances of $1.9 billion and retirements of $1.4 billion for a net increase of $483 million .

At December 31, 2017, International Paper had no interest rate swap contracts outstanding. During 2017, the inclusion of the offsetting interest income from short-term investments reduced the effective interest rate from 5.0% to 4.7% .

In 2017, International Paper issued $1.0 billion of 4.35% senior unsecured notes with a maturity date in 2048 . The proceeds from this offering, together with a combination of available cash and other borrowings, were used to make a $1.25 billion voluntary cash contribution to the Company's pension plan. In December 2017, International Paper received $660 million in cash proceeds from a new loan entered into by International Paper as part of the transfer of the North American Consumer Packaging business to a subsidiary of Graphic Packing Holding Company discussed in Note 8 Divestitures and Impairments on pages 54 and 55 of Item 8. Financial Statements and Supplementary Data). The Company used the cash proceeds, together with available cash, to pay down existing debt of approximately $900 million of notes with interest rates ranging from 1.92% to 9.38% and original maturities from 2018 to 2021 . Pre-tax early debt retirement costs of $83 million related to the debt repayments, including $82 million of cash premiums, are included in Restructuring and other charges in the accompanying consolidated statement of operations for the year ended December 31, 2017. The $660 million term loan was subsequently assumed by a subsidiary of GPIP from International Paper on January 1, 2018, and was classified as Liabilities held for sale at December 31, 2017 , in the accompanying consolidated balance sheet.

Other financing activities during 2017 included the net issuance of approximately 1.7 million shares of treasury stock, including restricted stock tax withholding. Payments of restricted stock withholding taxes and repurchases totaled $47 million.

In October 2017, International Paper announced that the quarterly dividend would be increased from $0.4625 per share to $0.4750 per share, effective for the 2017 fourth quarter.

2016: Financing activities during 2016 included debt issuances of $3.8 billion and retirements of $1.9 billion for a net increase of $1.9 billion .

At December 31, 2016, International Paper had no interest rate swap contracts outstanding. During 2016, the amortization of deferred gains on previously terminated swaps had no impact on the weighted average cost of long-term recourse debt. The inclusion of the offsetting interest income from short-term investments reduced the effective rate from 5.3% to 4.8% .

In 2016, International Paper issued $1.1 billion of 3.00% senior unsecured notes with a maturity date in 2027 , and $1.2 billion of 4.40% senior unsecured notes with a maturity date in 2047 , the proceeds from which were primarily used to fund the acquisition of Weyerhaeuser's pulp business. In addition, the Company repaid approximately $266 million of notes with an interest rate of 7.95% and an original maturity of 2018 . Pre-tax early debt retirement costs of $29 million related to the debt repayments, including the $31 million of cash premiums, are included in restructuring and other charges in the accompanying consolidated statement of operations for the twelve months ended December 31, 2016.

In December 2016, International Paper entered into a new $1.5 billion contractually committed credit facility that expires in December 2021, and has a facility fee of 0.15% payable annually.

Other financing activities during 2016 included the net repurchase of approximately 0.9 million shares of treasury stock, including restricted stock tax withholding. Repurchases of common stock and payments of restricted stock withholding taxes totaled $132 million, including $100 million related to shares repurchased under the Company's share repurchase program.

In October 2016, International Paper announced that the quarterly dividend would be increased from $0.44 per share to $0.46 per share, effective for the 2016 fourth quarter.

Variable Interest Entities

Information concerning variable interest entities is set forth in Note 14 Variable Interest Entities on pages 65 and 66 of Item 8. Financial Statements and Supplementary Data .

Liquidity and Capital Resources Outlook for 2019

Capital Expenditures and Long-Term Debt

International Paper expects to be able to meet projected capital expenditures, service existing debt and meet working capital and dividend requirements during 2019 with current cash balances and cash from operations. Additionally, the Company has existing credit facilities totaling $2.1 billion at December 31, 2018.

The Company will continue to rely upon debt and capital markets for the majority of any necessary long-term funding not provided by operating cash flows. Funding decisions will be guided by our capital structure planning objectives. The primary goals of the Company's capital structure planning are to maximize financial flexibility and preserve liquidity while reducing interest expense. The majority of International Paper's debt is accessed through global public capital markets where we have a wide base of investors. The Company was in compliance with all its debt covenants at December 31, 2018 , and was well below the thresholds stipulated under the covenants as defined in our credit agreements.

Maintaining an investment grade credit rating is an important element of International Paper's financing strategy. At December 31, 2018 , the Company held long-term credit ratings of BBB (stable outlook) and Baa2 (stable outlook) by S&P and Moody's, respectively.

Contractual obligations for future payments under existing debt and lease commitments and purchase obligations at December 31, 2018 , were as follows:

In millions	2019	2020	2021	2022	2023	Thereafter
Debt maturities	$ 639	$ 83	$ 441	$ 487	$ 348	$ 8,656
Lease obligations	160	125	77	49	28	118
Purchase obligations (a)	3,211	654	578	487	413	1,857
Total (b)	$ 4,010	$ 862	$ 1,096	$ 1,023	$ 789	$ 10,631

(a) Includes $1.4 billion relating to fiber supply agreements entered into at the time of the 2006 Transformation Plan forestland sales and in conjunction with the 2008 acquisition of Weyerhaeuser Company's Containerboard, Packaging and Recycling business. Also includes $1.1 billion relating to fiber supply agreements assumed in conjunction with the 2016 acquisition of Weyerhaeuser's pulp business.

(b) Not included in the above table due to the uncertainty of the amount and timing of the payment are unrecognized tax benefits of approximately $193 million. Also not included in the above table is $206 million of Deemed Repatriation Transition Tax associated with the 2017 Tax Cuts and Jobs Act which will be settled from 2019 - 2026.

We consider the undistributed earnings of our foreign subsidiaries as of December 31, 2018 , to be permanently reinvested and, accordingly, no U.S. income taxes have been provided thereon (see Note 12 Income Taxes on pages 58 through 62 of I tem 8. Financial Statements and Supplementary Data). We do not anticipate the need to repatriate funds to the United States to satisfy domestic liquidity needs arising in the ordinary course of business, including liquidity needs associated with our domestic debt service requirements.

Pension Obligations and Funding

At December 31, 2018 , the projected benefit obligation for the Company’s U.S. defined benefit plans determined under U.S. GAAP was approximately $1.7 billion higher than the fair value of plan assets, excluding non-U.S. plans. Approximately $1.5 billion of this amount relates to plans that are subject to minimum funding requirements. Under current IRS funding rules, the calculation of minimum funding requirements differs from the calculation of the present value of plan benefits (the projected benefit obligation) for accounting purposes. In December 2008, the Worker, Retiree and Employer Recovery Act of 2008 (WERA) was passed by the U.S. Congress which provided for pension funding relief and technical corrections. Funding contributions depend on the funding method selected by the Company, and the timing of its implementation, as well as on actual demographic data and the targeted funding level. The Company continually reassesses the amount and timing of any discretionary contributions and elected to make contributions totaling $1.25 billion for the year ended December 31, 2017 and $750 million for the year ended December 31, 2016. No voluntary contributions were made in 2018. At this time, we do not expect to have any required contributions to our plans in 2019 , although the Company may elect to make future voluntary contributions. The timing and amount of future contributions, which could be material, will depend on a number of factors, including the actual earnings and changes in values of plan assets and changes in interest rates.

During the fourth quarter of 2018, the Company entered into an agreement with The Prudential Insurance Company of America to purchase a group annuity contract and transfer approximately $1.6 billion of International Paper's U.S. qualified pension plan projected benefit obligations, subject to customary closing conditions. The transaction closed on October 2, 2018 and was funded with pension plan assets. Under the transaction, at the end of 2018, Prudential assumed responsibility for pension benefits and annuity administration for approximately 23,000 retirees or their beneficiaries receiving less than $1,000 in monthly benefit payments from the plan. Settlement accounting rules required a remeasurement of the qualified plan as of October 2, 2018 and the Company recognized a non-cash pension settlement charge of $424 million before tax in the fourth quarter of 2018.

During the fourth quarter of 2017, the Company entered into an agreement with The Prudential Insurance Company of America to purchase a group annuity contract and transfer approximately $1.3 billion of International Paper's U.S. qualified pension plan projected benefit obligations. The transaction closed on October 3, 2017 and was funded with pension plan assets. Under the transaction, at the end of 2017, Prudential assumed responsibility for pension benefits and annuity administration for approximately 45,000 retirees or their beneficiaries receiving less than $450 in monthly benefit payments from the plan. Settlement accounting rules required a remeasurement of the qualified plan as of October 3, 2017 and the Company recognized a non-cash pension settlement charge of $376 million before tax in the fourth quarter of 2017. In addition, large payments from the non-qualified pension plan also required a remeasurement as of October 2, 2017 and a non-cash settlement charge of $7 million was also recognized in the fourth quarter of 2017.

During the first quarter of 2016, International Paper announced a voluntary, limited-time opportunity for former employees who are participants in the Retirement Plan of International Paper Company (the Pension Plan) to request early payment of their entire Pension Plan benefit in the form of a single lump sum payment. The amount of total payments under this program was approximately $1.2 billion, and were made from Plan trust assets on June 30, 2016. Based on the level of payments made, settlement accounting rules applied and resulted in a plan remeasurement as of the June 30, 2016 payment date. As a result of settlement accounting, the Company recognized a pro-rata portion of the unamortized net actuarial loss, after remeasurement, resulting in a $439 million non-cash charge to the Company's earnings in the second quarter of 2016. Additional payments of $8 million and $9 million were made during the third and fourth quarters, respectively, due to mandatory cash payouts and a small lump sum payout, and the Pension Plan was subsequently remeasured at September 30, 2016 and December 31, 2016. As a result of settlement accounting, the Company recognized non-cash settlement charges of $3 million in both the third and fourth quarters of 2016.

Ilim Shareholder’s Agreement

In October 2007, in connection with the formation of the Ilim joint venture, International Paper entered into a shareholder’s agreement that includes provisions relating to the reconciliation of disputes among the partners. This agreement provides that at any time, either the Company or its partners may commence procedures specified under the deadlock agreement. If these or any other deadlock procedures under the shareholder's agreement are commenced, although it is not obligated to do so, the Company may in certain situations choose to purchase its partners' 50% interest in Ilim. Any such transaction would be subject to review and approval by Russian and other relevant anti-trust authorities. Based on the provisions of the agreement, the Company estimates that the current purchase price for its partners' 50% interests would be approximately $2.4 billion, which could be satisfied by payment of cash or International Paper common stock, or some combination of the two, at the Company's option. The purchase by the Company of its partners' 50% interest in Ilim would result in the consolidation of Ilim's financial position and results of operations in all subsequent periods. The parties have informed each other that they have no current intention to commence procedures specified under the deadlock provisions of the shareholder's agreement.

CRITICAL ACCOUNTING POLICIES AND SIGNIFICANT ACCOUNTING ESTIMATES

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires International Paper to establish accounting policies and to make estimates that affect both the amounts and timing of the recording of assets, liabilities, revenues and expenses. Some of these estimates require judgments about matters that are inherently uncertain.

Accounting policies whose application may have a significant effect on the reported results of operations and financial position of International Paper, and that can require judgments by management that affect their application, include the accounting for contingencies, impairment or disposal of long-lived assets and goodwill, pensions and income taxes. The Company has discussed the selection of critical accounting policies and the effect of significant estimates with the Audit and Finance Committee of the Company's Board of Directors.

Contingent Liabilities

Accruals for contingent liabilities, including legal, and environmental matters, are recorded when it is probable that a liability has been incurred or an asset impaired and the amount of the loss can be reasonably estimated. Liabilities accrued for legal matters require judgments regarding projected outcomes and range of loss based on historical experience and recommendations of legal counsel. Liabilities for environmental matters require evaluations of relevant environmental regulations and estimates of future remediation alternatives and costs. The Company utilizes its in-house legal and environmental experts to develop estimates of its legal and environmental obligations, supplemented as needed by third-party specialists to analyze its most complex contingent liabilities.

We calculate our workers' compensation reserves based on estimated actuarially calculated development factors. The workers' compensation reserves are reviewed at least quarterly to determine the adequacy of the accruals and related financial statement disclosure. While we believe that our assumptions are appropriate, the ultimate settlement of workers' compensation reserves may differ significantly from amounts we have accrued in our consolidated financial statements.

Impairment of Long-Lived Assets and Goodwill

An impairment of a long-lived asset exists when the asset's carrying amount exceeds its fair value, and is recorded when the carrying amount is not recoverable through cash flows from future operations or disposals. A goodwill impairment exists when the carrying amount of goodwill exceeds its fair value. Assessments of possible impairments of long-lived assets and goodwill are made when events or changes in circumstances indicate that the carrying value of the asset may not be recoverable through future operations. Additionally, evaluation for possible impairment of goodwill and intangible asset balances is required annually. The amount and timing of any impairment charges based on these assessments may require the estimation of future cash flows or the fair market value of the related assets based on management's best estimates of certain key factors, including future selling prices and volumes, operating, raw material, energy and freight costs, and various other projected operating economic factors and other intended uses of the assets. As these key factors change in future periods, the Company will update its impairment analysis to reflect its latest estimates and projections.

ASU 2011-08, "Intangibles - Goodwill and Other," allows entities testing goodwill for impairment the option of performing a qualitative (Step 0) assessment before calculating the fair value of a reporting unit for the goodwill impairment test. If a Step 0 assessment is performed, an entity is no longer required to calculate the fair value of a reporting unit unless the entity determines that, based on that Step 0 assessment, it is more likely than not that its fair value is less than its carrying value.

During 2018, a determination was made that the current carrying value of the long-lived assets of the Brazil Packaging business exceeded their estimated fair value due to a change in the outlook for the business. Management engaged a third party to assist with determining the fair value of the business and the fixed assets. The fair value of the business was calculated using a probability-weighted approach based on discounted future cash flows, market multiples, and transaction multiples and the fair value of the fixed assets was determined using a market approach. As a result, a pre-tax charge of $122 million ($81 million , net of tax) was recorded related to the impairment of an intangible asset and fixed assets.

The Company performed its annual testing of its reporting units for possible goodwill impairments by applying the qualitative Step 0 analysis to its reporting units as of October 1, 2018. For the current year evaluation, the Company assessed various assumptions, events and circumstances that would have affected the estimated fair value of the reporting units. The results of this assessment indicated that it is not more likely than not that the fair values of the Company's reporting units were less than the carrying values of the reporting units.

In addition, the Company considered whether there were any events or circumstances outside of the annual evaluation that would reduce the fair value of its reporting units below their carrying amounts and necessitate a goodwill impairment evaluation. In consideration of all relevant factors, there were no indicators that would require goodwill impairment subsequent to October 1, 2018.

No goodwill impairment charges were recorded in 2018, 2017 or 2016.

Pension Benefit Obligations

The charges recorded for pension benefit obligations are determined annually in conjunction with International Paper’s consulting actuary, and are dependent upon various assumptions including the expected long-term rate of return on plan assets, discount rates, projected future compensation increases and mortality rates.

The calculations of pension obligations and expenses require decisions about a number of key assumptions that can significantly affect liability and expense amounts, including the expected long-term rate of return on plan assets and the discount rate used to calculate plan liabilities.

Benefit obligations and fair values of plan assets as of December 31, 2018 , for International Paper’s pension plan were as follows:

In millions	Benefit Obligation	Fair Value of Plan Assets
U.S. qualified pension	**$ 10,124**	**$ 8,735**
U.S. nonqualified pension	**343**	**—**
Non-U.S. pension	**215**	**161**

The table below shows assumptions used by International Paper to calculate U.S. pension obligations for the years shown:

	2018	2017	2016
Discount rate	**4.30%**	3.60%	4.10%
Rate of compensation increase	**2.25%**	3.75%	3.75%

International Paper determines these actuarial assumptions, after consultation with our actuaries, on December 31 of each year or more frequently if required, to calculate liability information as of that date and pension expense for the following year. The expected long-term rate of return on plan assets is based on projected rates of return for current and planned asset classes in the plan’s investment portfolio. The discount rate assumption was determined based on a hypothetical settlement portfolio selected from a universe of high quality corporate bonds.

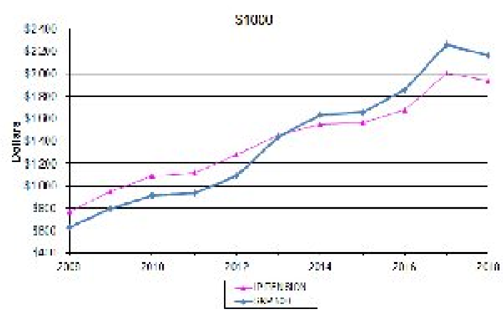
The expected long-term rate of return on U.S. pension plan assets used to determine net periodic cost for the year ended December 31, 2018 was 7.50% .

Increasing (decreasing) the expected long-term rate of return on U.S. plan assets by an additional 0.25 % would decrease (increase) 2019 pension expense by approximately $22 million , while a (decrease) increase of 0.25 % in the discount rate would (increase) decrease pension expense by approximately $27 million .

Actual rates of return earned on U.S. pension plan assets for each of the last 10 years were:

Year	Return	Year	Return
2018	**(3.0)%**	2013	14.1%
2017	19.3 %	2012	14.1%
2016	7.1 %	2011	2.5%
2015	1.3 %	2010	15.1%
2014	6.4 %	2009	23.8%

The 2012, 2013 and 2014 returns above represent weighted averages of International Paper and Temple-Inland asset returns. International Paper and Temple-Inland assets were combined in October 2014. The annualized time-weighted rate of return earned on U.S. pension plan assets was 6.0% and 9.8% for the past five and ten years, respectively. The following graph shows the growth of a $1,000 investment in International Paper’s U.S. Pension Plan Master Trust. The graph portrays the time-weighted rate of return from 2008 – 2018.



ASC 715, “Compensation – Retirement Benefits,” provides for delayed recognition of actuarial gains and losses, including amounts arising from changes in the estimated projected plan benefit obligation due to changes in the assumed discount rate, differences between the actual and expected return on plan assets, and other assumption changes. These net gains and losses are recognized in pension expense prospectively over a period that approximates the average remaining service period of active employees expected to receive benefits under the plans to the extent that they are not offset by gains and losses in subsequent years.

Net periodic pension plan expenses, calculated for all of International Paper's plans, were as follows:

In millions	**2018**	2017	2016	2015	2014
Pension expense					
U.S. plans	**$ 632**	$ 717	$ 809	$ 461	$ 387
Non-U.S. plans	**4**	5	4	6	—
Net expense	**$ 636**	$ 722	$ 813	$ 467	$ 387

The decrease in 2018 pension expense primarily reflects lower interest cost on a lower 2018 projected benefit obligation along with the current year absence of a curtailment loss and special termination benefits associated with the North American Consumer Packaging transaction, partially offset by a higher settlement loss in the current year associated with the October 2018 annuity purchase transaction.

Assuming that discount rates, expected long-term returns on plan assets and rates of future compensation increases remain the same as of December 31, 2018 , projected future net periodic pension plan expenses would be as follows:

In millions	2020	2019
Pension expense		
U.S. plans	$ 88	$ 103
Non-U.S. plans	4	4
Net expense	$ 92	$ 107

The Company estimates that it will record net pension expense of approximately $103 million for its U.S. defined benefit plans in 2019 , compared to expense of $632 million in 2018 . The 2018 expense includes $424 million of settlement accounting charges. Excluding these settlement charges, the estimated decrease in net pension expense in 2019 is primarily due to lower amortization of actuarial losses and lower service cost partially offset by lower asset returns due to the annuity purchase and a decrease in the expected long-term return on asset assumption from 7.50% in 2018 to 7.25% in 2019.

The market value of plan assets for International Paper's U.S. qualified pension plan at December 31, 2018 totaled approximately $8.7 billion , consisting of approximately 32% equity securities, 51% debt securities, 11% real estate funds and 6% other assets.

The Company's funding policy for its qualified pension plans is to contribute amounts sufficient to meet legal funding requirements, plus any additional amounts that the Company may determine to be appropriate considering the funded status of the plan, tax deductibility, the cash flows generated by the Company, and other factors. The Company continually reassesses the amount and timing of any discretionary contributions and could elect to make voluntary contributions in the future. There are no required contributions to the U.S. qualified plan in 2019. The nonqualified defined benefit plans are funded to the extent of benefit payments, which totaled $29 million for the year ended December 31, 2018 .

Income Taxes

International Paper records its global tax provision based on the respective tax rules and regulations for the jurisdictions in which it operates. Where the Company believes that a tax position is supportable for income tax purposes, the item is included in its income tax returns. Where treatment of a position is uncertain, liabilities are recorded based upon the Company's evaluation of the "more likely than not" outcome considering technical merits of the position based on specific tax regulations and facts of each matter. Changes to recorded liabilities are only made when an identifiable event occurs that changes the likely outcome, such as settlement with the relevant tax authority, the expiration of statutes of limitation for the subject tax year, change in tax laws, or recent court cases that are relevant to the matter.

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. Significant judgment is required in evaluating the need for and magnitude of appropriate valuation allowances against deferred tax assets. The realization of these assets is dependent on generating future taxable income, as well as successful implementation of various tax planning strategies.

While International Paper believes that these judgments and estimates are appropriate and reasonable under the circumstances, actual resolution of these matters may differ from recorded estimated amounts.

RECENT ACCOUNTING DEVELOPMENTS

See Note 2 Recent Accounting Developments on pages 47 and 48 of Item 8. Financial Statements and Supplementary Data for a discussion of new accounting pronouncements.

LEGAL PROCEEDINGS

Information concerning the Company's environmental and legal proceedings is set forth in Note 13 Commitments and Contingent Liabilities on pages 62 through 65 of Item 8. Financial Statements and Supplementary Data .

EFFECT OF INFLATION

While inflationary increases in certain input costs, such as energy, wood fiber and chemical costs, have an impact on the Company's operating results, changes in general inflation have had minimal impact on our operating results in each of the last three years. Sales prices and volumes are more strongly influenced by economic supply and demand factors in specific markets and by exchange rate fluctuations than by inflationary factors.

FOREIGN CURRENCY EFFECTS

International Paper has operations in a number of countries. Its operations in those countries also export to, and compete with, imports from other regions. As such, currency movements can have a number of direct and indirect impacts on the Company's financial statements. Direct impacts include the translation of international operations' local currency financial statements into U.S. dollars and the remeasurement impact associated with non-functional currency financial assets and liabilities. Indirect impacts include the change in competitiveness of imports into, and exports out of, the United States (and the impact on local currency pricing of products that are traded internationally). In general, a weaker U.S. dollar and stronger local currency is beneficial to International Paper. The currencies that have the most impact are the Euro, the Brazilian real, the Polish zloty and the Russian ruble.

MARKET RISK

We use financial instruments, including fixed and variable rate debt, to finance operations, for capital spending programs and for general corporate purposes. Additionally, financial instruments, including various derivative contracts, are used to hedge exposures to interest rate, commodity and foreign currency risks. We do not use financial instruments for trading purposes. Information related to International Paper's debt obligations is included in Note 15 Debt and Lines of Credit on pages 66 and 67 of Item 8. Financial Statements and Supplementary Data . A discussion of derivatives and hedging activities is included in Note 16 Derivatives and Hedging Activities on pages 67 through 70 of Item 8. Financial Statements and Supplementary Data .

The fair value of our debt and financial instruments varies due to changes in market interest and foreign currency rates and commodity prices since the inception of the related instruments. We assess this market risk utilizing a sensitivity analysis. The sensitivity analysis measures the potential loss in earnings, fair values and cash flows based on a hypothetical 10% change (increase and decrease) in interest and currency rates and commodity prices.

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to short- and long-term debt obligations and investments in marketable securities. We invest in investment-grade securities of financial institutions and money market mutual funds with a minimum rating of AAA and limit exposure to any one issuer or fund. Our investments in marketable securities at December 31, 2018 and 2017 are stated at cost, which approximates market due to their short-term nature. Our interest rate risk exposure related to these investments was not material.

We issue fixed and floating rate debt in a proportion that management deems appropriate based on current and projected market conditions. Derivative instruments, such as, interest rate swaps, may be used to execute this strategy. At December 31, 2018 and 2017 , the fair value of the net liability of financial instruments with exposure to interest rate risk was approximately $9.2 billion and $11.1 billion , respectively. The potential decline in fair value resulting from a 10% adverse shift in quoted interest rates would have been approximately $538 million and $679 million at December 31, 2018 and 2017 , respectively.

Commodity Price Risk

The objective of our commodity exposure management is to minimize volatility in earnings due to large fluctuations in the price of commodities. Commodity swap or forward purchase contracts may be used to manage risks associated with market fluctuations in energy prices.

Foreign Currency Risk

International Paper transacts business in many currencies and is also subject to currency exchange rate risk through investments and businesses owned and operated in foreign countries. Our objective in managing the associated foreign currency risks is to minimize the effect of adverse exchange rate fluctuations on our after-tax cash flows. We address these risks on a limited basis by entering into cross-currency and interest rate swaps, or foreign exchange contracts. At December 31, 2018 and 2017 , the net fair value of financial instruments with exposure to foreign currency risk was approximately a $8 million liability and a $10 million asset, respectively. The potential loss in fair value for such financial instruments from a 10% adverse change in quoted foreign currency exchange rates would have been approximately $29 million at both December 31, 2018 and 2017 .

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

See the preceding discussion and Note 16 Derivatives and Hedging Activities on pages 67 through 70 of Item 8. Financial Statements and Supplementary Data .

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

REPORT OF MANAGEMENT ON:

Financial Statements

The management of International Paper Company is responsible for the preparation of the consolidated financial statements in this annual report and for establishing and maintaining adequate internal controls over financial reporting. The consolidated financial statements have been prepared using accounting principles generally accepted in the United States of America considered appropriate in the circumstances to present fairly the Company's consolidated financial position, results of operations and cash flows on a consistent basis. Management has also prepared the other information in this annual report and is responsible for its accuracy and consistency with the consolidated financial statements.

As can be expected in a complex and dynamic business environment, some financial statement amounts are based on estimates and judgments. Even though estimates and judgments are used, measures have been taken to provide reasonable assurance of the integrity and reliability of the financial information contained in this annual report. We have formed a Disclosure Committee to oversee this process.

The accompanying consolidated financial statements have been audited by the independent registered public accounting firm Deloitte & Touche LLP. During its audits, Deloitte & Touche LLP was given unrestricted access to all financial records and related data, including minutes of all meetings of stockholders and the board of directors and all committees of the board. Management believes that all representations made to the independent auditors during their audits were valid and appropriate.

Internal Control Over Financial Reporting

The management of International Paper Company is also responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is the process designed by, or under the supervision of, our principal executive officer and principal financial officer, and effected by our Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes. All internal control systems have inherent limitations, including the possibility of circumvention and overriding of controls, and therefore can provide only reasonable assurance of achieving the designed control objectives. The Company's internal control system is supported by written policies and procedures, contains self-monitoring mechanisms, and is audited by the internal audit function. Appropriate actions are taken by management to correct deficiencies as they are identified.

The Company has assessed the effectiveness of its internal control over financial reporting as of December 31, 2018 . In making this assessment, it used the criteria described in "Internal Control – Integrated Framework (2013)" issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, management believes that, as of December 31, 2018 , the Company's internal control over financial reporting was effective.

The Company's independent registered public accounting firm, Deloitte & Touche LLP, has issued its report on the effectiveness of the Company's internal control over financial reporting. The report appears on pages 38 and 39 .

Internal Control Environment And Board Of Directors Oversight

Our internal control environment includes an enterprise-wide attitude of integrity and control consciousness that establishes a positive "tone at the top." This is exemplified by our ethics program that includes long-standing principles and policies on ethical business conduct that require employees to maintain the highest ethical and legal standards in the conduct of International Paper business, which have been distributed to all employees; a toll-free telephone helpline whereby any employee may anonymously report suspected violations of law or International Paper's policy; and an office of ethics and business practice. The internal control system further includes careful selection and training of supervisory and management personnel, appropriate delegation of authority and division of responsibility, dissemination of accounting and business policies throughout International Paper, and an extensive program of internal audits with management follow-up.

The Board of Directors, assisted by the Audit and Finance Committee (Committee), monitors the integrity of the Company's financial statements and financial reporting procedures, the performance of the Company's internal audit function and independent auditors, and other matters set forth in its charter. The Committee, which consists of independent directors, meets regularly with representatives of management, and with the independent auditors and the Internal Auditor, with and without management representatives in attendance, to review their activities. The Committee's Charter takes into account the New York Stock Exchange rules relating to Audit Committees and the SEC rules and regulations promulgated as a result of the Sarbanes-Oxley Act of 2002. The Committee has reviewed and discussed the consolidated financial statements for the year ended December 31, 2018 , including critical accounting policies and significant management judgments, with management and the independent auditors. The Committee’s report recommending the inclusion of such financial statements in this Annual Report on Form 10-K will be set forth in our Proxy Statement.

MARK S. SUTTON
CHAIRMAN AND CHIEF EXECUTIVE OFFICER

TIMOTHY S. NICHOLLS
SENIOR VICE PRESIDENT AND CHIEF FINANCIAL OFFICER

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors of International Paper Company:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of International Paper Company and subsidiaries (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2018, 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, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, 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, 2018, 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 20, 2019, 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

Memphis, Tennessee
February 20, 2019

We have served as the Company's auditor since 2002.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM, ON INTERNAL CONTROL OVER FINANCIAL REPORTING

To the Shareholders and Board of Directors of International Paper Company:

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of International Paper Company and subsidiaries (the “Company”) as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2018, of the Company, and our report dated February 20, 2019 expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Report of Management on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company’s internal control over financial reporting based on our audit. 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte & Touche LLP

Memphis, Tennessee
February 20, 2019

CONSOLIDATED STATEMENT OF OPERATIONS

In millions, except per share amounts, for the years ended December 31	**2018**	2017	2016
NET SALES	**$ 23,306**	$ 21,743	$ 19,495
COSTS AND EXPENSES			
Cost of products sold	**15,555**	14,802	13,419
Selling and administrative expenses	**1,723**	1,621	1,458
Depreciation, amortization and cost of timber harvested	**1,328**	1,343	1,124
Distribution expenses	**1,567**	1,434	1,237
Taxes other than payroll and income taxes	**171**	169	154
Restructuring and other charges, net	**29**	67	54
Net (gains) losses on sales and impairments of businesses	**122**	9	70
Litigation settlement	**—**	354	—
Net bargain purchase gain on acquisition of business	**—**	(6)	—
Interest expense, net	**536**	572	520
Non-operating pension expense	**494**	530	664
EARNINGS (LOSS) FROM CONTINUING OPERATIONS BEFORE INCOME TAXES AND EQUITY EARNINGS (LOSSES)	**1,781**	848	795
Income tax provision (benefit)	**445**	(1,085)	193
Equity earnings (loss), net of taxes	**336**	177	198
EARNINGS (LOSS) FROM CONTINUING OPERATIONS	**1,672**	2,110	800
Discontinued operations, net of taxes	**345**	34	102
NET EARNINGS (LOSS)	**2,017**	2,144	902
Less: Net earnings (loss) attributable to noncontrolling interests	**5**	—	(2)
NET EARNINGS (LOSS) ATTRIBUTABLE TO INTERNATIONAL PAPER COMPANY	**$ 2,012**	$ 2,144	$ 904
BASIC EARNINGS (LOSS) PER SHARE ATTRIBUTABLE TO INTERNATIONAL PAPER COMPANY COMMON SHAREHOLDERS			
Earnings (loss) from continuing operations	**$ 4.07**	$ 5.11	$ 1.95
Discontinued operations, net of taxes	**0.84**	0.08	0.25
Net earnings (loss)	**$ 4.91**	$ 5.19	$ 2.20
DILUTED EARNINGS (LOSS) PER SHARE ATTRIBUTABLE TO INTERNATIONAL PAPER COMPANY COMMON SHAREHOLDERS			
Earnings (loss) from continuing operations	**$ 4.02**	$ 5.05	$ 1.93
Discontinued operations, net of taxes	**0.83**	0.08	0.25
Net earnings (loss)	**$ 4.85**	$ 5.13	$ 2.18
AMOUNTS ATTRIBUTABLE TO INTERNATIONAL PAPER COMPANY COMMON SHAREHOLDERS			
Earnings (loss) from continuing operations	**$ 1,667**	$ 2,110	$ 802
Discontinued operations, net of taxes	**345**	34	102
Net earnings (loss)	**$ 2,012**	$ 2,144	$ 904

The accompanying notes are an integral part of these financial statements.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME (LOSS)

In millions for the years ended December 31	**2018**	2017	2016
NET EARNINGS (LOSS)	**$ 2,017**	$ 2,144	$ 902
OTHER COMPREHENSIVE INCOME (LOSS), NET OF TAX			
Amortization of pension and postretirement prior service costs and net loss:			
U.S. plans (less tax of $196, $280 and $343)	**588**	486	545
Non-U.S. plans (less tax of $0, $0 and $0)	**1**	—	—
Pension and postretirement liability adjustments:			
U.S. plans (less tax of $6, $69 and $283)	**18**	56	(451)
Non-U.S. plans (less tax of $1, $1 and $4)	**4**	3	3
Change in cumulative foreign currency translation adjustment (less tax of $1, $0 and $0)	**(473)**	177	260
Net gains/losses on cash flow hedging derivatives:			
Net gains (losses) arising during the period (less tax of $5, $4 and $3)	**(10)**	15	(6)
Reclassification adjustment for (gains) losses included in net earnings (less tax of $1, $2 and $3)	**2**	(7)	(7)
TOTAL OTHER COMPREHENSIVE INCOME (LOSS), NET OF TAX	**130**	730	344
Comprehensive Income (Loss)	**2,147**	2,874	1,246
Net (Earnings) Loss Attributable to Noncontrolling Interests	**(5)**	—	2
Other Comprehensive (Income) Loss Attributable to Noncontrolling Interests	**3**	(1)	2
COMPREHENSIVE INCOME (LOSS) ATTRIBUTABLE TO INTERNATIONAL PAPER COMPANY	**$ 2,145**	$ 2,873	$ 1,250

The accompanying notes are an integral part of these financial statements.

CONSOLIDATED BALANCE SHEET

In millions, except per share amounts, at December 31	2018	2017
ASSETS		
Current Assets		
Cash and temporary investments	**$ 589**	$ 1,018
Accounts and notes receivable (less allowances of $81 in 2018 and $73 in 2017)	**3,521**	3,287
Contract assets	**395**	—
Inventories	**2,241**	2,313
Assets held for sale	**—**	1,377
Other current assets	**250**	282
Total Current Assets	**6,996**	8,277
Plants, Properties and Equipment, net	**13,067**	13,265
Forestlands	**402**	448
Investments	**1,648**	390
Financial Assets of Special Purpose Entities (Note 14)	**7,070**	7,051
Goodwill	**3,374**	3,411
Deferred Charges and Other Assets	**1,019**	1,061
TOTAL ASSETS	**$ 33,576**	$ 33,903
LIABILITIES AND EQUITY		
Current Liabilities		
Notes payable and current maturities of long-term debt	**$ 639**	$ 311
Accounts payable	**2,413**	2,458
Accrued payroll and benefits	**535**	485
Liabilities held for sale	**—**	805
Other accrued liabilities	**1,107**	1,043
Total Current Liabilities	**4,694**	5,102
Long-Term Debt	**10,015**	10,846
Nonrecourse Financial Liabilities of Special Purpose Entities (Note 14)	**6,298**	6,291
Deferred Income Taxes	**2,600**	2,291
Pension Benefit Obligation	**1,762**	1,939
Postretirement and Postemployment Benefit Obligation	**264**	326
Other Liabilities	**560**	567
Commitments and Contingent Liabilities (Note 13)		
Equity		
Common stock $1 par value, 2018 - 448.9 shares & 2017 - 448.9 shares	**449**	449
Paid-in capital	**6,280**	6,206
Retained earnings	**7,465**	6,180
Accumulated other comprehensive loss	**(4,500)**	(4,633)
	9,694	8,202
Less: Common stock held in treasury, at cost, 2018 – 48.310 shares and 2017 – 35.975 shares	**2,332**	1,680
Total International Paper Shareholders' Equity	**7,362**	6,522
Noncontrolling interests	**21**	19
Total Equity	**7,383**	6,541
TOTAL LIABILITIES AND EQUITY	**$ 33,576**	$ 33,903

The accompanying notes are an integral part of these financial statements.

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CONSOLIDATED STATEMENT OF CASH FLOWS

In millions for the years ended December 31	**2018**	2017	2016
OPERATING ACTIVITIES			
Net earnings (loss)	**$ 2,017**	$ 2,144	$ 902
Depreciation, amortization, and cost of timber harvested	**1,328**	1,423	1,227
Deferred income tax provision (benefit), net	**133**	(1,113)	136
Restructuring and other charges, net	**29**	67	54
Pension plan contributions	**—**	(1,250)	(750)
Periodic pension expense, net	**632**	717	809
Net gain on transfer of North American Consumer Packaging business	**(488)**	—	—
Net bargain purchase gain on acquisition of business	**—**	(6)	—
Net (gains) losses on sales and impairments of businesses	**122**	9	70
Equity method dividends received	**153**	133	58
Equity (earnings) losses, net	**(336)**	(177)	(198)
Other, net	**75**	212	99
Changes in current assets and liabilities			
Accounts and notes receivable	**(342)**	(370)	(94)
Contract assets	**(32)**	—	—
Inventories	**(236)**	(87)	11
Accounts payable and accrued liabilities	**151**	114	98
Interest payable	**(8)**	1	41
Other	**28**	(60)	15
CASH PROVIDED BY (USED FOR) OPERATING ACTIVITIES	**3,226**	1,757	2,478
INVESTMENT ACTIVITIES			
Invested in capital projects	**(1,572)**	(1,391)	(1,348)
Acquisitions, net of cash acquired	**(8)**	(45)	(2,228)
Net settlement on transfer of North American Consumer Packaging business	**(40)**	—	—
Proceeds from divestitures, net of cash divested	**—**	4	108
Proceeds from sale of fixed assets	**23**	26	19
Other	**28**	15	(49)
CASH PROVIDED BY (USED FOR) INVESTMENT ACTIVITIES	**(1,569)**	(1,391)	(3,498)
FINANCING ACTIVITIES			
Repurchases of common stock and payments of restricted stock tax withholding	**(732)**	(47)	(132)
Issuance of debt	**490**	1,907	3,830
Reduction of debt	**(1,008)**	(1,424)	(1,938)
Change in book overdrafts	**(1)**	26	—
Dividends paid	**(789)**	(769)	(733)
Net debt tender premiums paid	**(6)**	(84)	(31)
Other	**—**	(8)	(14)
CASH PROVIDED BY (USED FOR) FINANCING ACTIVITIES	**(2,046)**	(399)	982
Effect of Exchange Rate Changes on Cash	**(40)**	18	21
Change in Cash and Temporary Investments	**(429)**	(15)	(17)
Cash and Temporary Investments			
Beginning of the period	**1,018**	1,033	1,050
End of the period	**$ 589**	$ 1,018	$ 1,033

The accompanying notes are an integral part of these financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

In millions	Common Stock Issued	Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total International Paper Shareholders' Equity	Noncontrolling Interests	Total Equity
BALANCE, JANUARY 1, 2016	$ 449	$ 6,243	$ 4,649	$ (5,708)	$ 1,749	$ 3,884	$ 25	$ 3,909
Issuance of stock for various plans, net	—	(6)	—	—	(128)	122	—	122
Repurchase of stock	—	—	—	—	132	(132)	—	(132)
Dividends	—	—	(743)	—	—	(743)	—	(743)
Transactions of equity method investees	—	(48)	—	—	—	(48)	—	(48)
Divestiture of noncontrolling interests	—	—	—	—	—	—	(3)	(3)
Other	—	—	8	—	—	8	—	8
Comprehensive income (loss)	—	—	904	346	—	1,250	(4)	1,246
BALANCE, DECEMBER 31, 2016	449	6,189	4,818	(5,362)	1,753	4,341	18	4,359
Issuance of stock for various plans, net	—	42	—	—	(120)	162	—	162
Repurchase of stock	—	—	—	—	47	(47)	—	(47)
Dividends	—	—	(782)	—	—	(782)	—	(782)
Transactions of equity method investees	—	(25)	—	—	—	(25)	—	(25)
Comprehensive income (loss)	—	—	2,144	729	—	2,873	1	2,874
BALANCE, DECEMBER 31, 2017	449	6,206	6,180	(4,633)	1,680	6,522	19	6,541
Adoption of ASC 606 revenue from contracts with customers	**—**	**—**	**73**	**—**	**—**	**73**	**—**	**73**
Issuance of stock for various plans, net	**—**	**62**	**—**	**—**	**(80)**	**142**	**—**	**142**
Repurchase of stock	**—**	**—**	**—**	**—**	**732**	**(732)**	**—**	**(732)**
Dividends	**—**	**—**	**(800)**	**—**	**—**	**(800)**	**—**	**(800)**
Transactions of equity method investees	**—**	**12**	**—**	**—**	**—**	**12**	**—**	**12**
Comprehensive income (loss)	**—**	**—**	**2,012**	**133**	**—**	**2,145**	**2**	**2,147**
BALANCE, DECEMBER 31, 2018	**$ 449**	**$ 6,280**	**$ 7,465**	**$ (4,500)**	**$ 2,332**	**$ 7,362**	**$ 21**	**$ 7,383**

The accompanying notes are an integral part of these financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 SUMMARY OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES

NATURE OF BUSINESS

International Paper (the Company) is a global paper and packaging company with primary markets and manufacturing operations in North America, Europe, Latin America, North Africa, India and Russia. Substantially all of our businesses have experienced, and are likely to continue to experience, cycles relating to available industry capacity and general economic conditions.

FINANCIAL STATEMENTS

These consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States that require the use of management's estimates. Actual results could differ from management's estimates.

On January 1, 2018, the Company completed the previously announced transfer of its North American Consumer Packaging business, which includes its North American Coated Paperboard and Foodservice businesses, to a subsidiary of Graphic Packaging Holding Company. The Company received a 20.5% ownership interest in a subsidiary of Graphic Packaging Holding Company that holds the assets of the combined business. See Note 8 for further discussion.

CONSOLIDATION

The consolidated financial statements include the accounts of International Paper and its wholly-owned, controlled majority-owned and financially controlled subsidiaries. All significant intercompany balances and transactions are eliminated.

EQUITY METHOD INVESTMENTS

The equity method of accounting is applied for investments in affiliated companies when the Company has significant influence over the investee's operations, or when the investee is structured with separate capital accounts and our investment is considered more than minor, which is the case for our 20.5% investment in Graphic Packaging International Partners, LLC (GPIP). Our material equity method investments are described in Note 10 .

DISCONTINUED OPERATIONS

A discontinued operation may include a component or a group of components of the Company's operations. A disposal of a component or a group of components is reported in discontinued operations if the disposal represents a strategic shift that has or will have a major effect on the Company's operations and financial results when the following occurs: (1) a component (or group of components) meets the criteria to be classified as held for sale; (2) the component or group of components is disposed of by sale; or (3) the component or group of components is disposed of other than by sale (for example, by abandonment or in a distribution to owners in a spinoff). For any component classified as held for sale or disposed of by sale or other than by sale, qualifying for presentation as a discontinued operation, the Company reports the results of operations of the discontinued operations (including any gain or loss recognized on the disposal or loss recognized on classification as held for sale of a discontinued operation), less applicable income taxes (benefit), as a separate component in the consolidated statement of operations for current and all prior periods presented.

REVENUE RECOGNITION

Generally, the Company recognizes revenue on a point-in-time basis when the customer takes title to the goods and assumes the risks and rewards for the goods. For customized goods where the Company has a legally enforceable right to payment for the goods, the Company recognizes revenue over time, which generally is, as the goods are produced.

The Company's revenue is primarily derived from fixed consideration; however, we do have contract terms that give rise to variable consideration, primarily cash discounts and volume rebates. International Paper offers early payment discounts to customers across the Company's businesses. The Company estimates the expected cash discounts and other customer refunds based on the historical experience across the Company's portfolio of customers to record reductions in revenue which is consistent with the most likely amount method outlined in ASC 606. Management has concluded that this method is the best estimate of the consideration the Company will be entitled to from its customers.

The Company has elected to present all sales taxes on a net basis, account for shipping and handling activities as fulfillment activities, recognize the incremental costs of obtaining a contract as expense when incurred if the amortization period of the asset the Company would recognize is one year or less, and not record interest income or interest expense when the difference in timing of control or transfer and customer payment is one year or less.

TEMPORARY INVESTMENTS

Temporary investments with an original maturity of three months or less are treated as cash equivalents and are stated at cost, which approximates market value.

INVENTORIES

Inventories are valued at the lower of cost or market value and include all costs directly associated with manufacturing products: materials, labor and manufacturing overhead. In the United States, costs of raw materials and finished pulp and paper products, are generally determined using the last-in, first-out method. Other inventories are valued using the first-in, first-out or average cost methods.

PLANTS, PROPERTIES AND EQUIPMENT

Plants, properties and equipment are stated at cost, less accumulated depreciation. Expenditures for betterments are capitalized, whereas normal repairs and maintenance are expensed as incurred. The units-of-production method of depreciation is used for pulp and paper mills, and the straight-line method is used for other plants and equipment.

GOODWILL

Annual evaluation for possible goodwill impairment is performed as of the beginning of the fourth quarter of each year, with additional interim evaluation performed when management believes that it is more likely than not, that events or circumstances have occurred that would result in the impairment of a reporting unit's goodwill.

The Company has the option to evaluate goodwill for impairment by first performing a qualitative (Step 0) assessment of events and circumstances to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If, after assessing the totality of events or circumstances, the Company determines that it is not more likely than not that the fair value of a reporting unit is less than its carrying amounts, then the two-step goodwill impairment evaluation is not required to be performed. If the Company determines that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, or if the Company does not elect the option to perform an initial qualitative assessment, the Company is required to perform the traditional two-step goodwill impairment evaluation. In performing this evaluation, the Company estimates the fair value of its reporting units using the expected discounted future cash flows for each reporting unit. Key assumptions in the impairment analysis considered by management include the discount rate, long-term growth rate, tax rate, inflation rate and foreign exchange rates. These estimated fair values are then analyzed for reasonableness by comparing them to historic market transactions for businesses in the industry, and by comparing the sum of the reporting unit fair values and other corporate assets and liabilities divided by diluted common shares outstanding to the Company's traded stock price on the evaluation date. For reporting units whose recorded value of net assets plus goodwill is in excess of their estimated fair values, the fair values of the individual assets and liabilities of the respective reporting units are then determined to calculate the amount of any goodwill impairment charge required, if any. See Note 11 for further discussion.

IMPAIRMENT OF LONG-LIVED ASSETS

Long-lived assets are reviewed for impairment upon the occurrence of events or changes in circumstances that indicate that the carrying value of the assets may not be recoverable. A recoverability test is performed based on undiscounted cash flows, requiring judgments as to whether assets are held and used or held for sale, the weighting of operational alternatives being considered by management and estimates of the amount and timing of expected future cash flows from the use of the long-lived assets generated by their use. Impaired assets are recorded at their estimated fair value. See Note 8 for further discussion.

INCOME TAXES

International Paper uses the asset and liability method of accounting for income taxes whereby deferred income taxes are recorded for the future tax consequences attributable to differences between the financial statement and tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. Deferred tax assets and liabilities are remeasured to reflect new tax rates in the periods rate changes are enacted.

International Paper records its worldwide tax provision based on the respective tax rules and regulations for the jurisdictions in which it operates. Where the Company believes that a tax position is supportable for income tax purposes, the item is included in its income tax returns. Where treatment of a position is uncertain, liabilities are recorded based upon the Company's evaluation of the "more likely than not" outcome considering the technical merits of the position based on specific tax regulations and the facts of each matter. Changes to recorded liabilities are made only when an identifiable event occurs that changes the likely outcome, such as settlement with the relevant tax authority, the expiration of statutes of limitation for the subject tax year, a change in tax laws, or a recent court case that addresses the matter.

While the judgments and estimates made by the Company are based on management's evaluation of the technical merits of a matter, assisted as necessary by consultation with outside consultants, historical experience and other assumptions that management believes are appropriate and reasonable under current circumstances, actual resolution of these matters may differ from recorded estimated amounts, resulting in adjustments that could materially affect future financial statements.

ENVIRONMENTAL REMEDIATION COSTS

Costs associated with environmental remediation obligations are accrued when such costs are probable and reasonably estimable. Such accruals are adjusted as further information develops or circumstances change. Costs of future expenditures for environmental remediation obligations are discounted to their present value when the amount and timing of expected cash payments are reliably estimable.

TRANSLATION OF FINANCIAL STATEMENTS

Balance sheets of international operations are translated into U.S. dollars at year-end exchange rates, while statements of operations are translated at average rates. Adjustments resulting from financial statement translations are included as cumulative translation adjustments in Accumulated other comprehensive loss.

NOTE 2 RECENT ACCOUNTING DEVELOPMENTS

Other than as described below, no new accounting pronouncement issued or effective during the fiscal year has had or is expected to have a material impact on the consolidated financial statements.

FAIR VALUE MEASUREMENT

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement." The new guidance modifies disclosure requirements related to fair value measurement. This guidance is effective for annual reporting periods beginning after December 15, 2019, and interim periods within those years. Implementation on a prospective or retrospective basis varies by specific disclosure requirement. Early adoption is permitted. The Company early adopted the provisions of this guidance in 2018 with no material impact on the financial statements.

COMPREHENSIVE INCOME

In February 2018, the FASB issued ASU 2018-02, "Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income." This guidance gives entities the option to reclassify stranded tax effects caused by the newly-enacted U.S. Tax Cuts and Jobs Act from accumulated other comprehensive income to retained earnings. This guidance is effective for annual reporting periods beginning after December 15, 2018, and interim periods within those years. The Company is finalizing its evaluation of the provisions of this guidance.

RETIREMENT BENEFITS

In August 2018, the FASB issued ASU 2018-14, "Compensation - Retirement Benefits - Defined Benefit Plans - General (Topic 715-20): Disclosure Framework — Changes to the Disclosure Requirements for Defined Benefit Plans." This guidance adds, removes, and clarifies disclosure requirements related to defined benefit pension and other postretirement plans. This guidance is effective for annual reporting periods beginning after December 15, 2020. Early adoption is permitted. This guidance should be applied on a retrospective basis to all periods presented. The Company early adopted the provisions of this guidance in 2018 with no material impact on the financial statements.

The Company adopted the provision of ASU 2017-07, "Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost," on January 1, 2018. Under this new guidance, employers present the service costs component of the net periodic benefit cost in the same income statement line items as other employee compensation costs arising from services rendered during the period. In addition, only the service cost component is eligible for capitalization in assets. Employers present the other components separately from the line items that includes the service cost and outside of any subtotal of operating income. In addition, disclosure of the lines used to present the other components of net periodic benefit cost are required if the components are not presented separately in the income statement. The retrospective adoption had no impact on Net earnings (loss).

INTANGIBLES

In August 2018, the FASB issued ASU 2018-15, "Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract." The guidance aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by the amendments in this guidance. This guidance is effective for annual reporting periods beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted. The Company is currently evaluating the provisions of this guidance.

In January 2017, the FASB issued ASU 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment." This guidance eliminates the requirement to calculate the implied fair value of goodwill under Step 2 of today's goodwill impairment test to measure a goodwill impairment charge. Instead, entities will record an impairment charge based on the excess of a reporting unit's carrying amount over its fair value. This guidance should be applied prospectively and is effective for annual reporting periods beginning after December 15, 2019, for any impairment test performed in 2020. Early adoption is permitted for annual and interim goodwill impairment testing dates after January 1, 2017. The Company is currently evaluating the provisions of this guidance; however, we do not anticipate adoption having a material impact on the financial statements.

LEASES

In February 2016, the FASB issued ASU 2016-02, (Leases Topic 842): "Leases." This ASU will require most leases to be recognized on the balance sheet which will increase reported assets and liabilities. Lessor accounting will remain substantially similar to current U.S. GAAP. This ASU is effective for annual reporting periods beginning after December 15, 2018, and interim periods within those years, and mandates a modified retrospective transition method for all entities. The Company will adopt this guidance using the newly approved transition method. We will recognize a liability and corresponding asset associated with in-scope operating and finance leases and are in the final stages of determining those amounts and the processes required to account for leasing activity on an ongoing basis. On adoption, we expect to recognize additional assets and liabilities of approximately $500 million based on the present value of the remaining minimum rental payments.

REVENUE RECOGNITION

On January 1, 2018, the Company adopted the new revenue recognition standard ASC 606, "Revenue from Contracts With Customers," (new revenue standard) and all related amendments, using the modified retrospective method. We recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the operating balance of Retained earnings. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods.

The Company recorded a net increase to opening Retained earnings of $73 million as of January 1, 2018, due to the cumulative impact of adopting the new revenue standard, with the impact primarily related to our customized products. The impacts of the adoption of the new revenue standard on the Company's consolidated financial statements were as follows:

Consolidated Statement of Operations

	2018		
In millions, except per share amounts	**Balances As Reported Under ASC 606**	**Balances Without Adoption of ASC 606**	**Impact of Adoption Increase/(Decrease)**
Net sales	$ 23,306	$ 23,274	$ 32
Cost of products sold	15,555	15,535	20
Distribution expenses	1,567	1,563	4
Income tax provision (benefit), net	445	443	2
Earnings (loss) from continuing operations	1,672	1,666	6
Net earnings (loss)	2,017	2,011	6
Earnings per share attributable to International Paper Company Shareholders			
Basic	$ 4.91	$ 4.90	$ 0.01
Diluted	4.85	4.84	0.01

Consolidated Balance Sheet

	2018		
In millions, except per share amounts	**Balances As Reported Under ASC 606**	**Balances Without Adoption of ASC 606**	**Impact of Adoption Increase/(Decrease)**
Contract assets	$ 395	$ —	$ 395
Inventories	2,241	2,511	(270)
Other current assets	250	278	(28)
Other accrued liabilities	1,107	1,088	19
Deferred income taxes	2,600	2,601	(1)
Retained earnings	7,465	7,386	79

Consolidated Statement of Cash Flows

	2018		
In millions, except per share amounts	**Balances As Reported Under ASC 606**	**Balances Without Adoption of ASC 606**	**Impact of Adoption Increase/(Decrease)**
Net earnings (loss)	$ 2,017	$ 2,011	$ 6
Deferred income tax provision (benefit), net	133	159	(26)
Contract assets	(32)	—	(32)
Inventories	(236)	(256)	20
Accounts payable and accrued liabilities	151	147	4
Other	28	—	28

NOTE 3 - REVENUE RECOGNITION

Disaggregated Revenue

A geographic disaggregation of revenues across our company segmentation in the following tables provide information to assist in evaluating the nature, timing and uncertainty of revenue and cash flows and how they may be impacted by economic factors.

	2018				
Reportable Segments	**Industrial Packaging**	**Global Cellulose Fibers**	**Printing Papers**	**Corporate & Intersegment**	**Total**
Primary Geographical Markets (a)					
United States	$ 13,167	$ 2,336	$ 1,903	$ 203	$ 17,609
EMEA	1,704	304	1,330	(17)	3,321
Pacific Rim and Asia	142	179	245	39	605
Americas, other than U.S.	887	—	897	(13)	1,771
Total	$ 15,900	$ 2,819	$ 4,375	$ 212	$ 23,306
Operating Segments					
North American Industrial Packaging	$ 14,187	$ —	$ —	$ —	$ 14,187
EMEA Industrial Packaging	1,355	—	—	—	1,355
Brazilian Industrial Packaging	232	—	—	—	232
European Coated Paperboard	359	—	—	—	359
Global Cellulose Fibers	—	2,819	—	—	2,819
North American Printing Papers	—	—	1,956	—	1,956
Brazilian Papers	—	—	978	—	978
European Papers	—	—	1,252	—	1,252
Indian Papers	—	—	202	—	202
Intra-segment Eliminations	(233)	—	(13)	—	(246)
Corporate & Inter-segment Sales	—	—	—	212	212
Total	$ 15,900	$ 2,819	$ 4,375	$ 212	$ 23,306

(a) Net sales are attributed to countries based on the location of the seller.

The nature of the Company's contracts can vary based on the business, customer type and region; however, in all instances it is International Paper's customary business practice to receive a valid order from the customer, in which each parties' rights and related payment terms are clearly identifiable.

Revenue Contract Balances

The opening and closing balances of the Company's contract assets and current contract liabilities are as follows:

In millions	**Contract Assets (Short-Term)**	**Contract Liabilities (Short-Term)**
Beginning Balance - January 1, 2018	$ 366	$ 53
Ending Balance - December 31, 2018	395	56
Increase / (Decrease)	$ 29	$ 3

A contract asset is created when the Company recognizes revenue on its customized products prior to having an unconditional right to payment from the customer, which generally does not occur until title and risk of loss passes to the customer.

A contract liability is created when customers prepay for goods prior to the Company transferring those goods to the customer. The contract liability is reduced once control of the goods is transferred to the customer. The majority of our customer prepayments are received during the fourth quarter each year for goods that will be transferred to customers over the following twelve months.

The difference between the opening and closing balances of the Company's contract assets and contract liabilities primarily results from the difference between the price and quantity at comparable points in time for goods which we have an unconditional right to payment or receive pre-payment from the customer, respectively.

Performance Obligations and Significant Judgments

International Paper's principal business is to manufacture and sell fiber-based packaging, pulp and paper goods. As a general rule, none of our businesses provide equipment installation or other ancillary services outside producing and shipping packaging, pulp and paper goods to customers.

Contracts or purchase orders with customers could include a single type of product or it could include multiple types/grades of products. Regardless, the contracted price with the customer is agreed to at the individual product level outlined in the customer contracts or purchase orders. The Company does not
bundle prices; however, we do negotiate with customers on pricing and rebates for the same products based on a variety of factors (e.g. level of contractual volume, geographical location, etc.). Management has concluded that the prices negotiated with each individual customer are representative of the stand-alone selling price of the product.

NOTE 4 EARNINGS PER SHARE ATTRIBUTABLE TO INTERNATIONAL PAPER COMPANY COMMON SHAREHOLDERS

Basic earnings per share is computed by dividing earnings by the weighted average number of common shares outstanding. Diluted earnings per share is computed assuming that all potentially dilutive securities were converted into common shares.

There are no adjustments required to be made to net income for purposes of computing basic and diluted EPS.
A reconciliation of the amounts included in the computation of basic earnings (loss) per share from continuing operations, and diluted earnings (loss) per share from continuing operations is as follows:

In millions, except per share amounts	**2018**	2017	2016
Earnings (loss) from continuing operations attributable to International Paper common shareholders	**$ 1,667**	$ 2,110	$ 802
Weighted average common shares outstanding	**409.1**	412.7	411.1
Effect of dilutive securities:			
Restricted performance share plan	**5.1**	5.0	4.5
Weighted average common shares outstanding – assuming dilution	**414.2**	417.7	415.6
Basic earnings (loss) per share from continuing operations	**$ 4.07**	$ 5.11	$ 1.95
Diluted earnings (loss) per share from continuing operations	**$ 4.02**	$ 5.05	$ 1.93

NOTE 5 OTHER COMPREHENSIVE INCOME

The following table presents changes in AOCI, net of tax, reported in the consolidated financial statements for the years ended December 31:

In millions	**2018**	2017	2016
Defined Benefit Pension and Postretirement Adjustments			
Balance at beginning of period	**$ (2,527)**	$ (3,072)	$ (3,169)
Other comprehensive income (loss) before reclassifications	**22**	59	(448)
Amounts reclassified from accumulated other comprehensive income	**589**	486	545
Balance at end of period	**(1,916)**	(2,527)	(3,072)
Change in Cumulative Foreign Currency Translation Adjustments			
Balance at beginning of period	**(2,111)**	(2,287)	(2,549)
Other comprehensive income (loss) before reclassifications	**(475)**	178	263
Amounts reclassified from accumulated other comprehensive income	**2**	(1)	(3)
Other Comprehensive Income (Loss) Attributable to Noncontrolling Interest	**3**	(1)	2
Balance at end of period	**(2,581)**	(2,111)	(2,287)
Net Gains and Losses on Cash Flow Hedging Derivatives			
Balance at beginning of period	**5**	(3)	10
Other comprehensive income (loss) before reclassifications	**(10)**	15	(6)
Amounts reclassified from accumulated other comprehensive income	**2**	(7)	(7)
Balance at end of period	**(3)**	5	(3)
Total Accumulated Other Comprehensive Income (Loss) at End of Period	**$ (4,500)**	$ (4,633)	$ (5,362)

Reclassifications out of AOCI for the three years ended December 31 were as follows:

	Amount Reclassified from Accumulated Other Comprehensive Income				**Location of Amount Reclassified from AOCI**
	2018	2017	2016		
In millions					
Defined benefit pension and postretirement items:					
Prior-service costs	**$ (11)**	$ (33)	$ (37)	(a)	Non-operating pension expense
Actuarial gains/(losses)	**(774)**	(733)	(851)	(a)	Non-operating pension expense
Total pre-tax amount	**(785)**	(766)	(888)		
Tax (expense)/benefit	**196**	280	343		
Net of tax	**(589)**	(486)	(545)		
Change in cumulative foreign currency translation adjustments:					
Business acquisitions/divestiture	**(2)**	1	3	(b)	Discontinued operations, net of taxes
Tax (expense)/benefit	**—**	—	—		
Net of tax	**(2)**	1	3		
Net gains and losses on cash flow hedging derivatives:					
Foreign exchange contracts	**(3)**	9	10	(c)	Cost of products sold
Total pre-tax amount	**(3)**	9	10		
Tax (expense)/benefit	**1**	(2)	(3)		
Net of tax	**(2)**	7	7		
Total reclassifications for the period, net of tax	**$ (593)**	$ (478)	$ (535)		

(a) These accumulated other comprehensive income components are included in the computation of net periodic pension cost (see Note 18 for additional details).
(b) Amounts for 2016 and 2017 were reclassed to Net (gains) losses on sales and impairment of businesses.
(c) This accumulated other comprehensive income component is included in our derivatives and hedging activities (see Note 16 for additional details).

NOTE 6 RESTRUCTURING CHARGES AND OTHER ITEMS

2018: During 2018, restructuring and other charges, net, totaling $29 million before taxes were recorded. These charges included:

In millions		2018
EMEA packaging restructuring (a)	$	47
Gain on sale of investment in Liaison Technologies Inc.		(31)
Early debt extinguishment costs (see Note 15)		10
Riverdale mill conversion severance (b)		3
Total	$	29

(a) Includes $33 million of severance, $6 million in accelerated depreciation, $2 million in accelerated amortization and $6 million in other charges in conjunction with the optimization of our EMEA Packaging business. The majority of the severance charges recorded were paid throughout the year.
(b) Includes severance related to 51 employees.

2017: During 2017, restructuring and other charges, net, totaling $67 million before taxes were recorded. These charges included:

In millions		2017
Early debt extinguishment costs (see Note 15)	$	83
Gain on sale of investment in ArborGen		(14)
Other		(2)
Total	$	67

2016: During 2016, total restructuring and other charges, net, of $54 million before taxes were recorded. These charges included:

In millions		2016
Early debt extinguishment costs (see Note 15)	$	29
India packaging evaluation write-off		17
Gain on sale of investment in Arizona Chemical		(8)
Riegelwood mill conversion costs (a)		9
Turkey mill closure (b)		7
Total	$	54

(a) Includes $3 million of accelerated depreciation, $3 million of inventory write-off charges and $3 million of other charges.
(b) Includes $4 million of accelerated depreciation and $3 million of severance charges which is related to 85 employees.

NOTE 7 ACQUISITIONS AND JOINT VENTURES

TANGIER, MOROCCO FACILITY

2017: On June 30, 2017, the Company completed the acquisition of Europac's Tangier, Morocco facility, a corrugated packaging facility, for €40 million (approximately $46 million using the June 30, 2017 exchange rate). After working capital and other post-close adjustments, final consideration exchanged was €33 million (approximately $38 million using the June 30, 2017 exchange rate).

The following table summarizes the final fair value assigned to assets and liabilities acquired as of June 30, 2017:

In millions		June 30, 2017
Cash and temporary investments	$	1
Accounts and notes receivable		7
Inventory		3
Plants, properties and equipment		31
Goodwill		4
Other intangible assets		5
Deferred charges and other assets		4
Total assets acquired		55
Accounts payable and accrued liabilities		4
Long-term debt		11
Other long-term liabilities		2
Total liabilities assumed		17
Net assets acquired	$	38

Since the date of acquisition, Net sales of $6 million and Earnings (loss) from continuing operations before income taxes and equity earnings of $(1) million from the acquired business have been included in the Company's consolidated statement of operations for the year ended December 31, 2017. Pro forma information related to the acquisition of the Europac business has not been included as it is impractical to obtain the information due to the lack of availability of U.S. GAAP financial data and does not have a material effect on the Company's consolidated results of operations.

The Company has accounted for the above acquisition under ASC 805, "Business Combinations" and the results of operations have been included in International Paper's financial statements beginning with the date of acquisition.

WEYERHAEUSER PULP BUSINESS

2016: On December 1, 2016, the Company finalized the purchase of Weyerhaeuser's pulp business for approximately $2.2 billion in cash, subject to post-closing adjustments. Under the terms of the agreement, International Paper acquired four fluff pulp mills, one northern bleached softwood kraft mill and two converting facilities of modified fiber, located in the United States, Canada and Poland.

The following table summarizes the final fair values assigned to assets and liabilities acquired as of December 1, 2016:

In millions		December 1, 2016
Cash and temporary investments	$	12
Accounts and notes receivable		195
Inventory		238
Other current assets		11
Plants, properties and equipment		1,711
Goodwill		52
Other intangible assets		212
Deferred charges and other assets		6
Total assets acquired		2,437
Accounts payable and accrued liabilities		114
Long-term debt		104
Other long-term liabilities		28
Total liabilities assumed		246
Net assets acquired	$	2,191

In connection with the allocation of fair value, inventories were written up by $33 million to their estimated fair value. During 2017 and 2016, $14 million before taxes ($8 million after taxes) and $19 million before taxes ($12 million after taxes), respectively, were expensed to Cost of products sold as the related inventory was sold.

Since the date of acquisition, Net sales of $111 million and Earnings (loss) from continuing operations before income taxes and equity earnings of $(21) million from the acquired business are included in the Company's consolidated statement of operations for the year ended December 31, 2016. Additionally, Selling and administrative expenses for 2016 include $28 million in charges before taxes ($18 million after taxes) for integration costs associated with the acquisition.

The identifiable intangible assets acquired in connection with the acquisition of the Weyerhaeuser pulp business included the following:

In millions		**Estimated Fair Value**	**Average Remaining Useful Life**
Asset Class:			(at acquisition date)
Customer relationships and lists	$	95	24 years
Trade names, patents, trademarks and developed technology		113	8 years
Other		4	10 years
Total	$	212	

On an unaudited pro forma basis, assuming the acquisition of the newly acquired pulp business had closed January 1, 2016, the consolidated results would have reflected Net sales of $20.8 billion and Earnings (loss) from continuing operations before income taxes and equity earnings of $942 million for the year ended December 31, 2016.

The 2016 pro forma information includes adjustments for additional amortization expense on identifiable intangible assets of $18 million and eliminating the write-off of the estimated fair value of inventory of $(19) million and non-recurring integration costs associated with the acquisition of $30 million , including $12 million of deal costs.

The unaudited pro forma consolidated financial information was prepared for comparative purposes only and includes certain adjustments, as noted above. They do not reflect the effect of costs or synergies that would have been expected to result from the integration of the acquisition. The pro forma information does not purport to represent International Paper's actual results of operations as if the transaction described above would have occurred as of January 1, 2016, nor is it necessarily an indicator of future results.

HOLMEN PAPER NEWSPRINT MILL

2016: On June 30, 2016, the Company completed the acquisition of Holmen Paper's newsprint mill in Madrid, Spain. Under the terms of the acquisition agreement, International Paper purchased the Madrid newsprint mill, as well as, associated recycling operations and a 50% ownership interest in a cogeneration facility. The Company completed the conversion of the mill to produce recycled containerboard with an expected capacity of 440,000 tons, supporting the Company's corrugated packaging business in EMEA.

The Company's aggregate purchase price for the mill, recycling operations and 50% ownership of the cogeneration facility was €53 million (approximately $59 million using June 30, 2016 exchange rate). The assignment of fair value to assets acquired and liabilities assumed was completed in the first quarter of 2017 and is presented in the table below.

In millions		June 30, 2016
Current assets	$	14
Equity method investments		14
Plants, properties and equipment		60
Other long-term assets		5
Total assets acquired		93
Short-term liabilities		9
Long-term liabilities		16
Total liabilities assumed		25
Net assets acquired	$	68

The final fair values assigned indicated that the sum of the cash consideration paid was less than the fair value of the underlying net assets, after adjustments, by $6 million , resulting in a bargain purchase gain being recorded on this transaction. The amount of revenue and earnings recognized since the acquisition date are $90 million and a net loss of $2 million , respectively, for the year ended December 31, 2016. Pro forma information related to the acquisition of the Holmen businesses has not been included as it is impractical to obtain the information due to the lack of availability of financial data and does not have a material effect on the Company's consolidated results of operations.

The Company has accounted for the above acquisitions under ASC 805, "Business Combinations" and the results of operations have been included in International Paper's financial statements beginning with the dates of acquisition.

NOTE 8 DIVESTITURES AND IMPAIRMENTS

DISCONTINUED OPERATIONS

2017: On January 1, 2018, the Company completed the transfer of its North American Consumer Packaging business, which included its North American Coated Paperboard and Foodservice businesses, to Graphic Packaging International Partners, LLC (GPIP), a subsidiary of Graphic Packaging Holding Company, in exchange for a 20.5% ownership interest in GPIP. GPIP subsequently transferred the North American Consumer Packaging business to Graphic Packaging International, LLC (GPI), a wholly-owned subsidiary of GPIP. Prior to the transaction, International Paper also received $660 million in cash proceeds from a new loan entered into by International Paper on December 8, 2017, which the Company used to pay down existing debt. The loan was subsequently assumed by GPI from International Paper on the transaction closing date and was classified as Liabilities held for sale in the accompanying consolidated balance sheet. International Paper is accounting for its ownership interest in the combined business under the equity method. The Company determined the fair value of its investment in the combined business to be $1.1 billion and recorded a pre-tax gain of $488 million ($364 million , net of tax) in 2018. The fair value was calculated using a market approach using inputs classified as Level 2 and Level 3 within the fair value hierarchy, which is further defined in Note 16 .

All current and historical operating results for North American Consumer Packaging are included in Discontinued operations, net of tax, in the accompanying consolidated statement of operations. The following summarizes the major classes of line items comprising Earnings (Loss) Before Income Taxes and Equity Earnings reconciled to Discontinued Operations, net of tax, related to the transfer of the North American Consumer Packaging business for all prior periods presented in the consolidated statement of operations:

In millions	**2018**	2017	2016
Net Sales	**$ —**	$ 1,559	$ 1,584
Costs and Expenses			
Cost of products sold	**—**	1,179	1,095
Selling and administrative expenses	**25**	110	91
Depreciation, amortization and cost of timber harvested	**—**	80	103
Distribution expenses	**—**	126	124
Taxes other than payroll and income taxes	**—**	11	10
(Gain) loss on transfer of business	**(488)**	—	—
Interest expense, net	**—**	1	—
Earnings (Loss) Before Income Taxes and Equity Earnings	**463**	52	161
Income tax provision (benefit)	**118**	18	54
Discontinued Operations, Net of Taxes	**$ 345**	$ 34	$ 107

At December 31, 2017, all assets and liabilities of North American Consumer Packaging are classified as current assets held for sale and current liabilities held for sale in the accompanying consolidated balance sheet. The following summarizes the major classes of assets and liabilities of North American Consumer Packaging reconciled to total Assets held for sale and total Liabilities held for sale in the accompanying consolidated balance sheet:

In millions	2017
Accounts and notes receivable	$ 143
Inventories	185
Other current assets	3
Plants, properties and equipment	1,021
Deferred charges and other assets	25
Total Assets Held for Sale	$ 1,377
Accounts payable	$ 104
Accrued payroll and benefits	25
Other accrued liabilities	17
Long-term debt	651
Other liabilities	8
Total Liabilities Held for Sale	$ 805

Total cash provided by (used for) operations related to the North American Consumer Packaging business of $(25) million , $207 million and $268 million for 2018, 2017 and 2016, respectively, is included in Cash Provided By (Used For) Operations in the consolidated statement of cash flows. Total cash used for investing activities related to the North American Consumer Packaging business of $40 million , $111 million and $114 million for 2018, 2017 and 2016, respectively, is included in Cash Provided By (Used For) Investing Activities in the consolidated statement of cash flows.

OTHER DIVESTITURES AND IMPAIRMENTS

2018: During 2018, a determination was made that the current carrying value of the long-lived assets of the Brazil Packaging business exceeded their estimated fair value due to a change in the outlook for the business. Management engaged a third party to assist with determining the fair value of the business and the fixed assets. The fair value of the business was calculated using a probability-weighted approach based on discounted future cash flows, market multiples, and transaction multiples and the fair value of the fixed assets was determined using a market approach. As a result, a pre-tax charge of $122 million ($81 million , net of tax) was recorded related to the impairment of an intangible asset and fixed assets. This charge is included in Net (gains) losses on sales and impairments of businesses in the accompanying consolidated statement of operations and is included in the results for the Industrial Packaging segment. In the fourth quarter of 2018, the Company announced that it was exploring strategic options for its Brazil Packaging business.

2017: On September 7, 2017, the Company completed the sale of its foodservice business in China to Huhtamaki Hong Kong Limited. Proceeds received totaled approximately RMB 129 million ($18 million using the September 30, 2017 exchange rate). Under the terms of the transaction, and after post-closing adjustments, International Paper received approximately RMB 49 million in exchange for its ownership interest in two China foodservice entities and RMB 80 million for the sale of notes receivable from the acquired entities.

Subsequent to the announced agreement in June 2017, a determination was made that the current book value of the asset group exceeded its estimated fair value of $7 million , which was the agreed upon selling price. As a result, a pre-tax charge of $9 million was recorded during the second quarter of 2017, to write down the long-lived assets of this business to their estimated fair value. Amounts related to this business included in the Company's statement of operations were immaterial for all periods presented.

2016: On June 30, 2016, the Company completed the sale of its corrugated packaging business in China and Southeast Asia to Xiamen Bridge Hexing Equity Investment Partnership Enterprise. Under the terms of the transaction and after post-closing adjustments, International Paper received a total of approximately RMB 957 million (approximately $144 million at the June 30, 2016 exchange rate), which included the buyer's assumption of a liability for outstanding loans of approximately $55 million which are payable up to three years from the closing of the sale. There was no remaining balance on the outstanding loans payable to International Paper as of December 31, 2018.

Based on the final sales price, a determination was made that the current book value of the asset group was not recoverable. As a result, a pre-tax charge of $46 million was recorded during 2016 in the Company's Industrial Packaging segment to write down the long-lived assets of this business to their estimated fair value. In addition, the Company recorded a pre-tax charge of $24 million for severance that was contingent upon the sale of this business. The 2016 net loss totaling $70 million related to the impairment and severance of IP Asia Packaging is included in Net (gains) losses on sales and impairments of businesses in the accompanying consolidated statement of operations.

The amount of pre-tax losses related to the IP Asia Packaging business included in the Company's consolidated statement of operations was $83 million for year ended December 31, 2016.

NOTE 9 SUPPLEMENTARY FINANCIAL STATEMENT INFORMATION

TEMPORARY INVESTMENTS

Temporary investments with an original maturity of three months or less are treated as cash equivalents and are stated at cost. Temporary investments totaled $402 million and $661 million at December 31, 2018 and 2017 , respectively.

ACCOUNTS AND NOTES RECEIVABLE

Accounts and notes receivable, net, by classification were:

In millions at December 31	**2018**	2017
Accounts and notes receivable:		
Trade	**$ 3,249**	$ 3,017
Other	**272**	270
Total	**$ 3,521**	$ 3,287

INVENTORIES

In millions at December 31	**2018**	2017
Raw materials	**$ 260**	$ 274
Finished pulp, paper and packaging products	**1,241**	1,337
Operating supplies	**641**	615
Other	**99**	87
Inventories	**$ 2,241**	$ 2,313

The last-in, first-out inventory method is used to value most of International Paper’s U.S. inventories. Approximately 70% of total raw materials and finished products inventories were valued using this method. The last-in, first-out inventory reserve was $329 million and $293 million at December 31, 2018 and 2017 , respectively.

PLANTS, PROPERTIES AND EQUIPMENT

In millions at December 31	2018	2017
Pulp, paper and packaging facilities	$ 32,329	$ 32,523
Other properties and equipment	1,232	1,291
Gross cost	33,561	33,814
Less: Accumulated depreciation	20,494	20,549
Plants, properties and equipment, net	**$ 13,067**	$ 13,265

Non-cash additions to plants, property and equipment included within accounts payable were $ 135 million , $275 million and $172 million at December 31, 2018 , 2017 and 2016 , respectively.

Annual straight-line depreciable lives generally are, for buildings - 20 to 40 years, and for machinery and equipment - 3 to 20 years. Depreciation expense was $1.2 billion , $1.2 billion and $1.0 billion for the years ended December 31, 2018 , 2017 and 2016 , respectively. Cost of products sold excludes depreciation and amortization expense.

INTEREST

Interest payments of $772 million , $782 million and $682 million were made during the years ended December 31, 2018 , 2017 and 2016 , respectively.

Amounts related to interest were as follows:

In millions	2018	2017	2016
Interest expense	$ 734	$ 758	$ 695
Interest income	198	186	175
Capitalized interest costs	30	25	28

ASSET RETIREMENT OBLIGATIONS

At both December 31, 2018 and December 31, 2017, we had recorded liabilities of $86 million related to asset retirement obligations.

NOTE 10 - EQUITY METHOD INVESTMENTS

The Company accounts for the following investments in affiliated companies under the equity method of accounting.

GRAPHIC PACKAGING INTERNATIONAL PARTNERS, LLC

On January 1, 2018, the Company completed the transfer of its North American Consumer Packaging business, which includes its North American Coated Paperboard and Foodservice businesses, to Graphic Packaging International Partners, LLC (GPIP), a subsidiary of Graphic Packaging Holding Company, in exchange for a 20.5% ownership interest in GPIP. GPIP subsequently transferred the North American Consumer Packaging business to Graphic Packaging International, LLC (GPI), a wholly-owned subsidiary of GPIP that holds the assets of the combined business. The Company recorded equity earnings of $46 million for the year ended December 31, 2018 . The Company received cash dividends from GPIP of $25 million during 2018. At December 31, 2018 , the Company's investment in GPIP was $1.1 billion , which was $562 million more than the Company's proportionate share of the entity's underlying net assets. The difference primarily relates to the basis difference between the fair value of our investment and the underlying net assets and is generally amortized in equity earnings over a period consistent with the underlying long-lived assets. Management engaged a third party to assist with determining the fair value of the intangible assets and the fixed assets. The fair value of the intangible assets were calculated using income and market approaches and the fair value of the fixed assets was calculated using a cost approach. The fair values were determined using inputs classified as Level 2 and Level 3 within the fair value hierarchy, which is further defined in Note 16 . The Company is party to various agreements with GPI under which it sells fiber and other products to GPI. Sales under these agreements were $240 million for the year ended December 31, 2018 .

Summarized financial information for GPIP is presented in the following tables:

Balance Sheet

In millions	2018
Current assets	$ 1,757
Noncurrent assets	5,292
Current liabilities	1,148
Noncurrent liabilities	3,156

Income Statement

In millions	2018
Net sales	$ 6,023
Gross profit	946
Income from continuing operations	336
Net income	337

ILIM S.A. (Ilim)

The Company also holds a 50% equity interest in Ilim, which has subsidiaries whose primary operations are in Russia. The Company recorded equity earnings (losses), net of taxes, of $290 million , $183 million , and $199 million in 2018 , 2017 , and 2016 , respectively, for Ilim. Equity earnings (losses) includes an after-tax foreign exchange (loss) gain of $(82) million , $15 million , and $25 million in 2018 , 2017 and 2016 , respectively, primarily on the remeasurement of U.S. dollar-denominated net debt. The Company received cash dividends from the joint venture of $128 million and $133 million in 2018 and 2017, respectively. At

December 31, 2018 and 2017 , the Company's investment in Ilim, which is recorded in Investments in the consolidated balance sheet, was $478 million and $338 million , respectively, which was $145 million and $154 million , respectively, more than the Company's proportionate share of the joint venture's underlying net assets. The differences primarily relate to currency translation adjustments and the basis difference between the fair value of our investment at acquisition and the underlying net assets. The Company is party to a joint marketing agreement with JSC Ilim Group, a subsidiary of Ilim, under which the Company purchases, markets and sells paper produced by JSC Ilim Group. Purchases under this agreement were $214 million , $205 million and $170 million for the years ended December 31, 2018 , 2017 and 2016 , respectively.

Summarized financial information for Ilim is presented in the following tables:

Balance Sheet

In millions	**2018**	2017
Current assets	**$ 981**	$ 689
Noncurrent assets	**1,710**	1,696
Current liabilities	**545**	1,039
Noncurrent liabilities	**1,470**	972
Noncontrolling interests	**11**	6

Income Statement

In millions	**2018**	2017	2016
Net sales	**$ 2,713**	$ 2,150	$ 1,927
Gross profit	**1,549**	1,047	957
Income from continuing operations	**592**	379	419
Net income	**571**	362	391

The audited U.S. GAAP financial statements for Ilim are included in Exhibit 99.1 to this Form 10-K.

NOTE 11 GOODWILL AND OTHER INTANGIBLES

GOODWILL

The following table presents changes in the goodwill balances as allocated to each business segment for the years ended December 31, 2018 and 2017 :

In millions	Industrial Packaging	Global Cellulose Fibers	Printing Papers	Total
Balance as of December 31, 2016				
Goodwill	$ 3,375	$ 19	$ 2,143	$ 5,537
Accumulated impairment losses	(296)	—	(1,877)	(2,173)
	3,079	19	266	3,364
Currency translation and other (a)	3	—	8	11
Additions/reductions	4 (b)	33 (c)	(1)	36
Balance as of December 31, 2017				
Goodwill	3,382	52	2,150	5,584
Accumulated impairment losses	(296)	—	(1,877)	(2,173)
	3,086	52	273	3,411
Currency translation and other (a)	**(1)**	**—**	**(34)**	**(35)**
Additions/reductions	**(2) (d)**	**—**	**—**	**(2)**
Balance as of December 31, 2018				
Goodwill	**3,379**	**52**	**2,116**	**5,547**
Accumulated impairment losses	**(296)**	**—**	**(1,877)**	**(2,173)**
Total	**$ 3,083**	**$ 52**	**$ 239**	**$ 3,374**

(a) Represents the effects of foreign currency translations and reclassifications.
(b) Reflects the acquisition of the Moroccan box plant.
(c) Reflects the acquisition and purchase price adjustments of the Weyerhaeuser pulp business.
(d) Reflects a reduction from tax benefits generated by the deduction of goodwill amortization for tax purposes in the U.S.

The Company performed its annual evaluation of its reporting units for possible goodwill impairments by applying the qualitative Step 0 analysis to its reporting units as of October 1, 2018. For the current year evaluation, the Company assessed various assumptions, events and circumstances that would have affected the estimated fair value of the reporting units. The results of this assessment indicated that it is not more likely than not that the fair values of the Company's reporting units were less than the carrying values of the reporting units.

In addition, the Company considered whether there were any events or circumstances subsequent to the annual evaluation that would reduce the fair value of its reporting units below their carrying amounts and necessitate another goodwill impairment evaluation. In consideration of all relevant factors, there were no indicators that would require goodwill impairment subsequent to October 1, 2018.

OTHER INTANGIBLES

Identifiable intangible assets comprised the following:

	2018			2017		
In millions at December 31	**Gross Carrying Amount**	**Accumulated Amortization**	**Net Intangible Assets**	Gross Carrying Amount	Accumulated Amortization	Net Intangible Assets
Customer relationships and lists	**$ 542**	**$ 247**	**$ 295**	$ 610	$ 247	$ 363
Non-compete agreements	**67**	**67**	**—**	72	72	—
Tradenames, patents and trademarks, and developed technology	**174**	**90**	**84**	172	72	100
Land and water rights	**8**	**2**	**6**	8	2	6
Software	**26**	**25**	**1**	24	23	1
Other	**30**	**23**	**7**	38	26	12
Total	**$ 847**	**$ 454**	**$ 393**	$ 924	$ 442	$ 482

The Company recognized the following amounts as amortization expense related to intangible assets:

In millions	**2018**	2017	2016
Amortization expense related to intangible assets	**$ 59**	$ 77	$ 54

Based on current intangibles subject to amortization, estimated amortization expense for each of the succeeding years is as follows: 2019 – $48 million , 2020 – $46 million , 2021 – $46 million , 2022 – $44 million , 2023 – $40 million , and cumulatively thereafter – $163 million .

NOTE 12 INCOME TAXES

The components of International Paper's earnings from continuing operations before income taxes and equity earnings by taxing jurisdiction were as follows:

In millions	**2018**	2017	2016
Earnings (loss)			
U.S.	**$ 1,450**	$ 297	$ 411
Non-U.S.	**331**	551	384
Earnings (loss) from continuing operations before income taxes and equity earnings	**$ 1,781**	$ 848	$ 795

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the Tax Act). The Tax Act makes broad and complex changes to the U.S. tax code, including, but not limited to, (1) reducing the U.S. federal corporate tax rate from 35% to 21% ; (2) requiring companies to pay a one-time deemed repatriation transition tax (the Transition Tax) on certain earnings of foreign subsidiaries; (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; (4) requiring a current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations; (5) eliminating the corporate alternative minimum tax (AMT) and changing how AMT credits can be realized; (6) capital expensing; (7) eliminating the deduction on U.S. manufacturing activities; and (8) creating new limitations on deductible interest expense and executive compensation.

The Securities Exchange Commission staff issued Staff Accounting Bulletin (SAB) 118 which provided guidance on accounting for the tax effects of the Tax Act. SAB 118 provided a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the accounting under ASC 740. In accordance with SAB 118, a company had to reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 is complete. To the extent that a company's accounting for certain income tax effects of the Tax Act was incomplete but it was able to determine a reasonable estimate, it was required to record a provisional estimate in the financial statements. The Company has completed its analysis of the one-time impacts of the Tax Act within the one year measurement period.

In connection with our initial analysis of the impact of the Tax Act, we recorded a provisional net tax benefit of $1.22 billion in the period ending December 31, 2017. The net tax benefit primarily consisted of a net tax benefit for the re-measurement of U.S. deferred taxes of $1.454 billion and an expense for the Transition Tax of $231 million . During the SAB 118 measurement period in the year ended December 31, 2018, we recorded an additional net tax benefit of $36 million associated with the one-time effects of the Tax Act.

Reduction of U.S. federal corporate tax rate: The Tax Act reduced the corporate tax rate to 21% , effective January 1, 2018. For certain of our deferred tax assets and liabilities, we recorded a provisional net decrease of $1.451 billion with a corresponding adjustment to deferred income tax benefit in the same amount for the year ended December 31, 2017. After the completion of the federal income tax return during the third quarter and state tax returns in the fourth quarter, we recognized an adjustment of $11 million from the remeasurement of certain temporary differences. The tax benefit of the measurement-period adjustment on the 2018 effective tax rate was approximately 0.6% . A total decrease of the deferred tax liabilities by $1.462 billion has been recorded to date with a corresponding adjustment of $1.462 billion to income tax benefit.

Deemed Repatriation Transition Tax: This is a tax on previously untaxed accumulated and current earnings and profits (E&P) of foreign subsidiaries. To determine the amount of the transition tax, we must determine, in addition to other factors, the amount of post-1986 E&P of the relevant subsidiaries, as well as the amount of non-U.S. income taxes paid on such earnings. We were able to make a reasonable estimate of the Transition Tax and recorded a provisional Transition Tax obligation of $231 million in the period ended December 31, 2017. On the basis of revised E&P computations that were calculated during the SAB 118 measurement period, as well as the impacts of guidance received from the IRS pertaining to the Transition Tax computation, we recognized an adjustment of $25 million related to the Transition Tax obligation. The tax benefit of the measurement-period adjustment on the 2018 effective tax rate was approximately 1.4% . A total Transition Tax obligation of $206 million has been recorded.

Valuation Allowances: The Company has assessed whether its U.S. state and local income tax valuation allowance analysis is affected by various aspects of the

Tax Act (e.g. deemed repatriation of foreign income, acceleration of cost recovery). For certain of our state deferred tax assets, we recorded a net $3 million provisional decrease in the recorded valuation allowance with a corresponding adjustment to deferred income tax benefit in the same amount for the year ended December 31, 2017. The Company has determined at the conclusion of the SAB 118 measurement period that the Tax Act had no additional direct impact on the state and local income tax valuation allowance. Therefore the accounting for this item is complete and no change was recorded in the year ended December 31, 2018.

Global Intangible Low-Taxed Income (GILTI): The Tax Act subjects a U.S. shareholder to current tax on GILTI earned by certain foreign subsidiaries. The FASB Staff Q&A, Topic 740 No. 5, "Accounting for Global Intangible Low-Taxed Income," states that an entity can make an accounting policy election to either recognize deferred taxes for temporary differences expected to reverse as GILTI in future years, or provide for the tax expense related to GILTI in the year the tax is incurred. We have elected to recognize the tax on GILTI as a period expense in the period the tax is incurred.

Undistributed Earnings of Subsidiaries: The Company provides for foreign withholding taxes and any applicable U.S. state income taxes on earnings intended to be repatriated from non-U.S. subsidiaries, which we believe will be limited in the future to each year's current earnings. No provision for these taxes on approximately $1.7 billion of undistributed earnings of non-U.S. subsidiaries as of December 31, 2018 has been made, as these earnings are considered indefinitely invested. Determination of the amount of taxes that might be paid on these undistributed earnings if eventually remitted in a taxable manner is not practicable.

If management decided to monetize the Company’s foreign investments, we would recognize the tax cost related to the excess of the book value over the tax basis of those investments. This would include foreign withholding taxes and any applicable U.S. Federal and state income taxes. Determination of the tax cost that that would be incurred upon monetization of the Company’s foreign investments is not practicable; however, we do not believe it would be material.

The provision (benefit) for income taxes from continuing operations (excluding noncontrolling interests) by taxing jurisdiction was as follows:

In millions	2018	2017	2016
Current tax provision (benefit)			
U.S. federal	$ 227	$ (73)	$ (7)
U.S. state and local	37	(23)	(12)
Non-U.S.	165	112	76
	$ 429	$ 16	$ 57
Deferred tax provision (benefit)			
U.S. federal	$ 12	$ (1,150)	$ 134
U.S. state and local	50	9	27
Non-U.S.	(46)	40	(25)
	$ 16	$ (1,101)	$ 136
Income tax provision (benefit)	$ 445	$ (1,085)	$ 193

The Company's deferred income tax provision (benefit) includes a $13 million benefit, a $1.459 billion benefit and a $18 million provision for 2018 , 2017 and 2016 , respectively, for the effect of various changes in non-U.S. and U.S. federal and state tax rates.

International Paper made income tax payments, net of refunds, of $388 million , $7 million and $90 million in 2018 , 2017 and 2016 , respectively.

A reconciliation of income tax expense using the statutory U.S. income tax rate compared with the actual income tax provision follows:

In millions	2018	2017	2016
Earnings (loss) from continuing operations before income taxes and equity earnings	$ 1,781	$ 848	$ 795
Statutory U.S. income tax rate	21%	35 %	35%
Tax expense (benefit) using statutory U.S. income tax rate	374	297	278
State and local income taxes	72	(7)	8
Impact of rate differential on non-U.S. permanent differences and earnings	35	(36)	(26)
Tax expense (benefit) on manufacturing activities	(1)	23	(10)
Non-deductible business expenses	27	7	9
Sale of non-strategic assets	—	—	12
Tax audits	28	—	(14)
Subsidiary liquidation	—	—	(63)
Deemed repatriation, net of foreign tax credits	(25)	231	—
U.S. federal tax rate change	(13)	(1,451)	—
Foreign derived intangible income deduction	(25)	—	—
US tax on non-U.S. earnings (GILTI and Subpart F)	19	44	21
Foreign tax credits	(15)	(96)	(11)
General business and other tax credits	(26)	(86)	(15)
Other, net	(5)	(11)	4
Income tax provision (benefit)	$ 445	$ (1,085)	$ 193
Effective income tax rate	25%	(128)%	24%

The tax effects of significant temporary differences, representing deferred income tax assets and liabilities at December 31, 2018 and 2017 , were as follows:

In millions	2018	2017
Deferred income tax assets:		
Postretirement benefit accruals	$ 89	$ 102
Pension obligations	465	516
Alternative minimum and other tax credits	291	416
Net operating and capital loss carryforwards	594	665
Compensation reserves	191	174
Other	164	139
Gross deferred income tax assets	1,794	2,012
Less: valuation allowance (a)	(441)	(429)
Net deferred income tax asset	$ 1,353	$ 1,583
Deferred income tax liabilities:		
Intangibles	$ (152)	$ (139)
Investments	(255)	—
Plants, properties and equipment	(1,826)	(2,000)
Forestlands, related installment sales, and investment in subsidiary	(1,453)	(1,454)
Gross deferred income tax liabilities	$ (3,686)	$ (3,593)
Net deferred income tax liability	$ (2,333)	$ (2,010)

(a) The net change in the total valuation allowance for the years ended December 31, 2018 and 2017 was an increase of $12 million and an increase of $26 million , respectively.

Deferred income tax assets and liabilities are recorded in the accompanying consolidated balance sheet under the captions Deferred charges and other assets and Deferred income taxes. There was a decrease in deferred income tax assets principally relating to the utilization of U.S. Federal alternative minimum tax credits as permitted under Tax Reform. Deferred tax liabilities increased primarily due to the tax deferral of the book gain recognized on the transfer of the North American Consumer Packaging business to a subsidiary of Graphic Packaging Holding Company. Of the $1.5 billion of deferred tax liabilities for forestlands, related installment sales, and investment in subsidiary, $884 million is attributable to an investment in subsidiary and relates to a 2006 International Paper installment sale of forestlands and $538 million is attributable to a 2007 Temple-Inland installment sale of forestlands (see Note 14).

A reconciliation of the beginning and ending amount of unrecognized tax benefits for the years ended December 31, 2018 , 2017 and 2016 is as follows:

In millions		**2018**	2017	2016
Balance at January 1	**$**	**(188)**	$ (98)	$ (150)
(Additions) reductions based on tax positions related to current year		**(7)**	(54)	(4)
(Additions) for tax positions of prior years		**(37)**	(40)	(3)
Reductions for tax positions of prior years		**5**	4	33
Settlements		**2**	6	19
Expiration of statutes of limitations		**2**	1	5
Currency translation adjustment		**3**	(7)	2
Balance at December 31	**$**	**(220)**	$ (188)	$ (98)

If the Company were to prevail on the unrecognized tax benefits recorded, substantially all of the balances at December 31, 2018 , 2017 and 2016 would benefit the effective tax rate.

The Company accrues interest on unrecognized tax benefits as a component of interest expense. Penalties, if incurred, are recognized as a component of income tax expense. The Company had approximately $21 million and $17 million accrued for the payment of estimated interest and penalties associated with unrecognized tax benefits at December 31, 2018 and 2017 , respectively.

The major jurisdictions where the Company files income tax returns are the United States, Brazil, France, Poland and Russia. Generally, tax years 2006 through 2017 remain open and subject to examination by the relevant tax authorities. The Company frequently faces challenges regarding the amount of taxes due. These challenges include positions taken by the Company related to the timing, nature, and amount of deductions and the allocation of income among various tax jurisdictions. Pending audit settlements and the expiration of statute of limitations could reduce the uncertain tax positions by $30 million during the next twelve months.

The Brazilian Federal Revenue Service has challenged the deductibility of goodwill amortization generated in a 2007 acquisition by International Paper do Brasil Ltda., a wholly-owned subsidiary of the Company. The Company received assessments for the tax years 2007-2015 totaling approximately $150 million in tax, and $380 million in interest and penalties as of December 31, 2018 (adjusted for variation in currency exchange rates). After a previous favorable ruling challenging the basis for these assessments, we received an unfavorable decision in October 2018 from the Brazilian Administrative Council of Tax Appeals. The Company intends to further appeal the matter in the Brazilian federal courts in 2019; however, this tax litigation matter may take many years to resolve. The Company believes that it has appropriately evaluated the transaction underlying these assessments, and has concluded based on Brazilian tax law, that its tax position would be sustained. The Company intends to vigorously defend its position against the current assessments and any similar assessments that may be issued for tax years subsequent to 2015.

International Paper uses the flow-through method to account for investment tax credits earned on eligible open-loop biomass facilities and combined heat and power system expenditures. Under this method, the investment tax credits are recognized as a reduction to income tax expense in the year they are earned rather than a reduction in the asset basis. The Company recorded a tax benefit of $6 million during 2018 and recorded a tax benefit of $68 million during 2017 related to Investment Tax Credits earned in tax years 2013-2017.

The following details the scheduled expiration dates of the Company's net operating loss and income tax credit carryforwards:

In millions		2019 Through 2028		2029 Through 2038		Indefinite		Total
U.S. federal and non-U.S. NOLs	$	53	$	—	$	417	$	470
State taxing jurisdiction NOLs (a)		80		42		—		122
U.S. federal, non-U.S. and state tax credit carryforwards (a)		162		11		118		291
U.S. federal and state capital loss carryforwards (a)		2		—		—		2
Total	**$**	**297**	**$**	**53**	**$**	**535**	**$**	**885**
Less: valuation allowance (a)		(192)		(8)		(198)		(398)
Total, net	**$**	**105**	**$**	**45**	**$**	**337**	**$**	**487**

(a) State amounts are presented net of federal benefit.

NOTE 13 COMMITMENTS AND CONTINGENT LIABILITIES

OPERATING LEASES

Certain property, machinery and equipment are leased under cancelable and non-cancelable agreements.

At December 31, 2018 , total future minimum commitments under existing non-cancelable operating leases were as follows:

In millions		2019		2020		2021		2022		2023		Thereafter
Lease obligations	$	160	$	125	$	77	$	49	$	28	$	118

Rent expense was $196 million , $157 million and $150 million for 2018 , 2017 and 2016 , respectively.

GUARANTEES

In connection with sales of businesses, property, equipment, forestlands and other assets, International Paper commonly makes representations and warranties relating to such businesses or assets, and may agree to indemnify buyers with respect to tax and environmental liabilities, breaches of representations and warranties, and other matters. Where liabilities for such matters are determined to be probable and subject to reasonable estimation, accrued liabilities are recorded at the time of sale as a cost of the transaction.

ENVIRONMENTAL AND LEGAL PROCEEDINGS

Environmental

International Paper has been named as a potentially responsible party (PRP) in environmental remediation actions under various federal and state laws, including the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Many of these proceedings involve the cleanup of hazardous substances at large commercial landfills that received waste from many different sources. While joint and several liability is authorized under CERCLA and equivalent state laws, as a practical matter, liability for CERCLA cleanups is typically allocated among the many PRPs. There are other remediation costs typically associated with the cleanup of hazardous substances at the Company's current, closed or formerly-owned facilities, and recorded as liabilities in the balance sheet.

Remediation costs are recorded in the consolidated financial statements when they become probable and reasonably estimable. International Paper has estimated the probable liability associated with these matters to be approximately $128 million ($138 million undiscounted) in the aggregate as of December 31, 2018 . Other than as described below, completion of required remedial actions is not expected to have a material effect on our consolidated financial statements.

Cass Lake: One of the matters included above arises out of a closed wood-treating facility located in Cass Lake, Minnesota. In June 2011, the United States Environmental Protection Agency (EPA) selected and published a proposed soil remedy at the site with an estimated cost of $46 million . The overall remediation reserve for the site is currently $49 million to address the selection of an alternative for the soil remediation component of the overall site remedy, which includes the ongoing groundwater remedy. In October 2011, the EPA released a public statement indicating that the final soil remedy decision would be delayed. In March 2016, the EPA issued a proposed plan concerning clean-up standards at a portion of the site, the estimated cost of which is included within the reserve referenced above. In October 2012, the Natural Resource Trustees for this site provided notice to International Paper and other PRPs of their intent to perform a Natural Resource Damage Assessment. It is premature to predict the outcome of the assessment or to estimate a loss or range of loss, if any, which may be incurred.

Kalamazoo River: The Company is a PRP with respect to the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site in Michigan. The EPA asserts that the site is contaminated by polychlorinated biphenyls (PCBs) primarily as a result of discharges from various paper mills located along the Kalamazoo River, including a paper mill (the Allied Paper Mill) formerly owned by St. Regis Paper Company (St. Regis). The Company is a successor in interest to St. Regis.

- In March 2016, the Company and other PRPs received a special notice letter from the EPA (i) inviting participation in implementing a remedy for a portion of the site known as Operable Unit 5, Area 1, and (ii) demanding reimbursement of EPA past costs totaling $37 million , including $19 million in past costs previously demanded by the EPA. The Company responded to the special notice letter. In December 2016, the EPA issued a unilateral administrative order to the Company and other PRPs to perform the remedy. The Company responded to the unilateral administrative order, agreeing to comply with the order subject to its sufficient cause defenses.

- In April 2016, the EPA issued a separate unilateral administrative order to the Company and certain other PRPs for a time-critical removal action (TCRA) of PCB-contaminated sediments from a different portion of the site. The Company responded to the unilateral administrative order and agreed along with two other parties to comply with the order subject to its sufficient cause defenses.
- In October 2016, the Company and another PRP received a special notice letter from the EPA inviting participation in the remedial design component of the landfill remedy for the Allied Paper Mill. The record of decision establishing the final landfill remedy for the Allied Paper Mill was issued by the EPA in September 2016. The Company responded to the Allied Paper Mill special notice letter in late December 2016. In February 2017, the EPA informed the Company that it would make other arrangements for the performance of the remedial design.

The Company's CERCLA liability has not been finally determined with respect to these or any other portions of the site, and except as noted above, the Company has declined to perform any work or reimburse the EPA at this time. As noted below, the Company is involved in allocation/apportionment litigation with regard to the site. Accordingly, it is premature to predict the outcome or estimate our maximum reasonably possible loss with respect to this site. However, we do not believe that any material loss is probable.

The Company was named as a defendant by Georgia-Pacific Consumer Products LP, Fort James Corporation and Georgia Pacific LLC in a contribution and cost recovery action for alleged pollution at the site. The suit seeks contribution under CERCLA for costs purportedly expended by plaintiffs ($79 million as of the filing of the complaint) and for future remediation costs. The suit alleges that a mill, during the time it was allegedly owned and operated by St. Regis, discharged PCB contaminated solids and paper residuals resulting from paper de-inking and recycling. NCR Corporation and Weyerhaeuser Company are also named as defendants in the suit. In mid-2011, the suit was transferred from the District Court for the Eastern District of Wisconsin to the District Court for the Western District of Michigan.

The trial of the initial liability phase took place in February 2013. Weyerhaeuser conceded prior to trial that it was a liable party with respect to the site. In September 2013, an opinion and order was issued in the suit. The order concluded that the Company (as the successor to St. Regis) was not an "operator," but was an "owner," of the mill at issue during a portion of the relevant period and is therefore liable under CERCLA. The order also determined that NCR is a liable party as an "arranger for disposal" of PCBs in waste paper that was de-inked and recycled by mills along the Kalamazoo River. The order did not address the Company's responsibility, if any, for past or future costs. The parties' responsibility, including that of the Company, was the subject of a second trial, which was concluded in late 2015. In June 2018, the Court issued its Final Judgment and Order, which fixed the past cost amount at approximately $50 million (plus interest to be determined) and allocated to the Company a 15% share of responsibility for those past costs. The Court did not address responsibility for future costs in its decision. In July 2018, the Company and each of the other parties filed notices appealing the Final Judgment and prior orders incorporated into that Judgment. As to future remediation costs, we remain unable to estimate our maximum reasonably possible loss with respect to this site. However, we do not believe that any material loss is probable.

Harris County: International Paper and McGinnis Industrial Maintenance Corporation (MIMC), a subsidiary of Waste Management, Inc. (WMI), are PRPs at the San Jacinto River Waste Pits Superfund Site in Harris County, Texas. The PRPs have been actively participating in the activities at the site and share the costs of these activities. In September 2016, the EPA issued a proposed remedial action plan (PRAP) for the site, which identified the preferred remedy as the removal of the contaminated material currently protected by an armored cap. In addition, the EPA selected a preferred remedy for the separate southern impoundment that requires offsite disposal. In January 2017, the PRPs submitted comments on the PRAP.

On October 11, 2017, the EPA issued a Record of Decision (ROD) selecting the final remedy for the site: removal and relocation of the waste material from both the northern and southern impoundments. The EPA did not specify the methods or practices needed to perform this work. While the EPA's selected remedy was accompanied by a cost estimate of approximately $115 million , we do not believe that estimate provides a reasonable basis for accrual under GAAP because the estimate was based on a technological method for performing the work that we believe is not feasible. Subsequent to the issuance of the ROD, there have been numerous meetings between the EPA and the PRPs, and the Company continues to work with the EPA and MIMC/WMI to develop the remedial design.

To this end, in April 2018, the PRPs entered into an Administrative Order on Consent (AOC) with the EPA, agreeing to work together to develop the remedial design over the subsequent 29 months. The AOC does not include any agreement to perform waste removal or other construction activity at the site. Rather, it involves adaptive management techniques and a pre-design investigation, the objectives of which include filling data gaps (including but not limited to post-Hurricane Harvey technical data generated prior to the ROD and not incorporated into the selected remedy), refining areas and volumes of materials to be addressed, determining if an excavation remedy is able to be implemented in a manner protective of human health and the environment, and investigating potential impacts of remediation activities to infrastructure in the vicinity.

The Company has identified a number of concerns and uncertainties regarding the remedy described in the ROD and regarding the EPA's estimates for the costs and time required to implement the selected remedy. The Company has determined, however, that even if the ROD cannot be implemented, a sheet pile "engineered barrier" can be constructed, which would enhance the existing remedy and could also be used should the ROD be determined to be feasible and implementable. We have increased our recorded liability accordingly to reflect the estimated cost of constructing this barrier. Because of ongoing questions regarding cost effectiveness, technical feasibility, timing and other technical data, however, it is uncertain how the ROD will be implemented. Consequently, while additional losses are probable as a result of the selected remedy, we are currently unable to determine any further adjustment to our immaterial recorded liability. It remains reasonably possible that additional losses could be material as the remedial design process with the EPA continues over the coming quarters.

International Paper and MIMC/WMI are also defending an additional lawsuit related to the site brought by approximately 600 individuals who allege property damage and personal injury. Because this case is still in the discovery phase, it is premature to predict the outcome or to estimate a loss or range of loss, if any, which may be incurred.

Antitrust

Containerboard: In June 2016, a lawsuit captioned *Ashley Furniture Indus., Inc. v. Packaging Corporation of America (W.D. Wis.)* , was filed in federal court in Wisconsin against ten defendants, including the Company, Temple-Inland and Weyerhaeuser Company. The *Ashley Furniture* lawsuit alleged a civil violation of Section 1 of the Sherman Act (in particular, that defendants conspired to limit the supply and thereby increase prices of containerboard products), and also asserted Wisconsin state antitrust claims. In January 2019, the parties filed a stipulation to dismiss the *Ashley Furniture* lawsuit with prejudice, and the case is now closed. The Company made no payment in consideration for the dismissal.

In January 2011, International Paper was named as a defendant in a lawsuit filed in state court in Cocke County, Tennessee alleging that International Paper violated Tennessee law by conspiring to limit the supply and fix the prices of containerboard from mid-2005 to the present. Plaintiffs in the state court action seek certification of a class of Tennessee indirect purchasers of containerboard products, damages and costs, including attorneys' fees. No class certification materials have been filed to date in the Tennessee action. The Company disputes the allegations made in the Tennessee lawsuit and is vigorously defending it. At this time, however, because the action is in a preliminary stage, we are unable to predict an outcome or estimate a range of reasonably possible loss.

Contract

Signature: In August 2014, a lawsuit captioned *Signature Industrial Services LLC et al. v. International Paper Company* was filed in state court in Texas. The *Signature* lawsuit arises out of approximately $1 million in disputed invoices related to the installation of new equipment at the Company's Orange, Texas mill. In addition to the invoices in dispute, *Signature* and its president allege consequential damages arising from the Company's nonpayment of those invoices. The lawsuit was tried before a jury in Beaumont, Texas, in May 2017. On June 1, 2017, the jury returned a verdict awarding approximately $125 million in damages to the plaintiffs. The Court issued a judgment on December 14, 2017, awarding the plaintiffs a total of approximately $137 million in actual and consequential damages, fees, costs and pre-judgment interest, and awarding post-judgment interest. The Company has appealed this judgment. The Company has presented in its briefing numerous and strong bases for appeal, and we believe we will prevail on appeal. Because the appellate proceedings are ongoing, we are unable to estimate a range of reasonably possible loss, but we expect the amount of any loss to be immaterial.

General

The Company is involved in various other inquiries, administrative proceedings and litigation relating to environmental and safety matters, personal injury, labor and employment, contracts, sales of property, intellectual property, tax and other matters, some of which allege substantial monetary damages. While any proceeding or litigation has the element of uncertainty, the Company believes that the outcome of any of these other lawsuits or claims that are pending or threatened or all of them combined (other than those that cannot be assessed due to their preliminary nature) will not have a material effect on its consolidated financial statements. See Note 12 for details regarding a tax matter.

NOTE 14 VARIABLE INTEREST ENTITIES

In connection with the 2006 sale of approximately 5.6 million acres of forestlands, International Paper received installment notes (the Timber Notes) totaling approximately $4.8 billion .

The Timber Notes were used as collateral for borrowings from third party lenders, which effectively monetized the Timber Notes through the creation of newly formed special purposes entities (the Entities). The monetization structure preserved the tax deferral that resulted from the 2006 forestlands sales. As of December 31, 2018, this deferred tax liability was $884 million .

During 2015, International Paper initiated a series of actions in order to extend the 2006 monetization structure and maintain the long-term nature of the deferred tax liability. The Entities, with assets and liabilities primarily consisting of the Timber Notes and third-party bank loans (the Extension Loans), were restructured which resulted in the formation of wholly-owned, bankruptcy-remote special purpose entities (the 2015 Financing Entities).

The Timber Notes are shown in Financial assets of special purpose entities on the accompanying consolidated balance sheet and mature in August 2021 unless extended for an additional five years. These notes, which do not require principal payments prior to their maturity, are supported by approximately $4.8 billion of irrevocable letters of credit.

The Extension Loans are shown in Nonrecourse financial liabilities of special purpose entities on the accompanying consolidated balance sheet and mature in the fourth quarter of 2020. These bank loans, totaling approximately $4.2 billion , are nonrecourse to the Company, and are secured by approximately $4.8 billion of Timber Notes, the irrevocable letters of credit supporting the Timber Notes and approximately $150 million of International Paper debt obligations. The $150 million of International Paper debt obligations are eliminated in the consolidation of the 2015 Financing Entities and are not reflected in the Company's consolidated balance sheet. Provisions of loan agreements related to approximately $1.1 billion of the Extension Loans require the bank issuing letters of credit supporting the Timber Notes pledged as collateral to maintain a credit rating at or above a specified threshold. In the event the credit rating of the letter of credit bank is downgraded below the specified threshold, the letters of credit must be replaced within 60 days with letters of credit from a qualifying financial institution.

As of December 31, 2018 and 2017, the fair value of the Timber Notes was $4.7 billion and $4.8 billion , respectively, and the fair value of the Extension Loans was $4.2 billion and $4.3 billion for the years ended 2018 and 2017. The Timber Notes and Extension Loans are classified as Level 2 within the fair value hierarchy, which is further defined in Note 16 .

Activity between the Company and the 2015 Financing Entities was as follows:

In millions	**2018**	2017	2016
Revenue (a)	**$ 95**	$ 95	$ 95
Expense (a)	**128**	128	128
Cash receipts (b)	**95**	95	77
Cash payments (c)	**128**	128	98

(a) The revenue and expense are included in Interest expense, net in the accompanying consolidated statement of operations.
(b) The cash receipts are interest received on the Financial assets of special purpose entities.
(c) The cash payments represent interest paid on Nonrecourse financial liabilities of special purpose entities.

In connection with the acquisition of Temple-Inland in February 2012, two special purpose entities became wholly-owned subsidiaries of International Paper.

The use of the two wholly-owned special purpose entities discussed below preserved the tax deferral that resulted from the 2007 Temple-Inland timberlands sales. As of December 31, 2018, this deferred tax liability was $538 million , which will be settled with the maturity of the notes in 2027 .

In October 2007, Temple-Inland sold 1.55 million acres of timberland for $2.4 billion . The total consideration consisted almost entirely of notes due in 2027 issued by the buyer of the timberland, which Temple-Inland contributed to two wholly-owned, bankruptcy-remote special purpose entities. The notes are shown in Financial assets of special purpose entities in the accompanying consolidated balance sheet and are supported by $2.4 billion of irrevocable letters of credit issued by three banks, which are required to maintain minimum credit ratings on their long-term debt. As of December 31, 2018 and 2017, the fair value of the notes was $2.2 billion and $2.3 billion , respectively. These notes are classified as Level 2 within the fair value hierarchy, which is further defined in Note 16 .

In December 2007, Temple-Inland's two wholly-owned special purpose entities borrowed $2.1 billion which is shown in Nonrecourse financial liabilities of special purpose entities. The loans are repayable in 2027 and are secured by the $2.4 billion of notes and the irrevocable letters of credit securing the notes, and are nonrecourse to us. The loan agreements provide that if a credit rating of any of the banks issuing the letters of credit is downgraded below the specified threshold, the letters of credit issued by that bank must be replaced within 30 days with letters of credit from another qualifying financial institution. As of December 31, 2018 and 2017, the fair value of this debt was $2.0 billion and $2.1 billion for the years ended 2018 and 2017, respectively. This debt is classified as Level 2 within the fair value hierarchy, which is further defined in Note 16 .

Activity between the Company and the 2007 financing entities was as follows:

In millions	**2018**	2017	2016
Revenue (a)	**$ 72**	$ 49	$ 37
Expense (b)	**67**	48	37
Cash receipts (c)	**48**	28	15
Cash payments (d)	**57**	39	27

(a) The revenue is included in Interest expense, net, in the accompanying consolidated statement of operations and includes approximately $19 million for the years ended December 31, 2018, 2017 and 2016, respectively, of accretion income for the amortization of the purchase accounting adjustment on the Financial assets of special purpose entities.

(b) The expense is included in Interest expense, net, in the accompanying consolidated statement of operations and includes approximately $7 million for the years ended December 31, 2018, 2017 and 2016, respectively, of accretion expense for the amortization of the purchase accounting adjustment on the Nonrecourse financial liabilities of special purpose entities.

(c) The cash receipts are interest received on the Financial assets of special purpose entities.

(d) The cash payments are interest paid on Nonrecourse financial liabilities of special purpose entities.

NOTE 15 DEBT AND LINES OF CREDIT

Amounts related to early debt extinguishment during the years ended December 31, 2018 , 2017 and 2016 were as follows:

In millions	**2018**	2017	2016
Debt reductions (a)	**$ 780**	$ 993	$ 266
Pre-tax early debt extinguishment costs (b)	**10**	83	29

(a) Reductions related to notes with interest rates ranging from 1.57% to 9.38% with original maturities from 2018 to 2032 for the years ended December 31, 2018 , 2017 and 2016 .

(b) Amounts are included in Restructuring and other charges in the accompanying consolidated statements of operations.

In June 2018, the borrowing capacity of the commercial paper program was increased from $750 million to $1.0 billion . Under the terms of the program, individual maturities on borrowings may vary, but not exceed one year from the date of issue. Interest bearing notes may be issued either as fixed notes or floating rate notes. As of December 31, 2018 , the Company had $465 million outstanding under this program.

A summary of long-term debt follows:

In millions at December 31	**2018**	2017
8.7% note – due 2038	**$ 264**	$ 264
7.5% note – due 2021	**406**	409
7.3% note – due 2039	**721**	721
6 7/8% notes – due 2023 – 2029	**131**	131
6.65% note – due 2037	**4**	4
6.4% to 7.75% debentures due 2025 – 2027	**144**	143
6.0% note – due 2041	**585**	585
5.00% to 5.15% notes – due 2035 – 2046	**1,288**	1,281
4.8% note – due 2044	**799**	796
4.75% note – due 2022	**355**	817
3.00% to 4.40% notes – due 2024 – 2048	**4,481**	4,775
Floating rate notes – due 2018 – 2023 (a)	**908**	650
Environmental and industrial development bonds – due 2018 – 2035 (b)	**566**	585
Other (c)	**2**	(4)
Total (d)	**10,654**	11,157
Less: current maturities	**639**	311
Long-term debt	**$ 10,015**	$ 10,846

(a) The weighted average interest rate on these notes was 3.5% in 2018 and 2.6% in 2017 .

(b) The weighted average interest rate on these bonds was 5.5% in 2018 and 6.0% in 2017 .

(c) Includes $60 million and $70 million of debt issuance costs as of December 31, 2018 and 2017, respectively.

(d) The fair market value was approximately $10.6 billion at December 31, 2018 and $12.3 billion at December 31, 2017 .

Total maturities of long-term debt over the next five years are 2019 – $639 million ; 2020 – $83 million ; 2021 – $441 million ; 2022 – $487 million ; and 2023 – $348 million .

At December 31, 2018 , International Paper's credit facilities (the Agreements) totaled $2.1 billion . The Agreements generally provide for interest rates at a floating rate index plus a pre-determined margin dependent upon International Paper's credit rating. The Agreements include a $1.5 billion contractually committed bank facility that expires in December 2021 , and has a facility fee of 0.15% payable annually. The liquidity facilities also include up to $600 million of uncommitted financings based on eligible receivables balances under a receivables securitization program that expires in December 2019 . At December 31, 2018 , there were no borrowings under either the bank facility or receivables securitization program.

The Company's financial covenants require the maintenance of a minimum net worth, as defined in our debt agreements, of $9 billion and a total debt-to-capital ratio of less than 60% . Net worth is defined as the sum of common stock, paid-in capital and retained earnings, less treasury stock plus any cumulative goodwill impairment charges. The calculation also excludes accumulated other comprehensive income/loss and Nonrecourse Financial Liabilities of Special Purpose Entities. The total debt-to-capital ratio is defined as total debt divided by the sum of total debt plus net worth. As of December 31, 2018 , we were in compliance with our debt covenants.

NOTE 16 DERIVATIVES AND HEDGING ACTIVITIES

International Paper periodically uses derivatives and other financial instruments to hedge exposures to interest rate, commodity and currency risks. International Paper does not hold or issue financial instruments for trading purposes. For hedges that meet the hedge accounting criteria, International Paper, at inception, formally designates and documents the instrument as a fair value hedge, a cash flow hedge or a net investment hedge of a specific underlying exposure.

INTEREST RATE RISK MANAGEMENT

Our policy is to manage interest cost using a mixture of fixed-rate and variable-rate debt. To manage this risk in a cost-efficient manner, we enter into interest rate swaps whereby we agree to exchange with the counterparty, at specified intervals, the difference between fixed and variable interest amounts calculated by reference to a notional amount.

Interest rate swaps that meet specific accounting criteria are accounted for as fair value or cash flow hedges. For fair value hedges, the changes in the fair value of both the hedging instruments and the underlying debt obligations are immediately recognized in interest expense. For cash flow hedges, the effective portion of the changes in the fair value of the hedging instrument is reported in Accumulated other comprehensive income (AOCI) and reclassified into interest expense over the life of the underlying debt. The ineffective portion for both cash flow and fair value hedges, which is not material for any year presented, is immediately recognized in earnings.

FOREIGN CURRENCY RISK MANAGEMENT

We manufacture and sell our products and finance operations in a number of countries throughout the world and, as a result, are exposed to movements in foreign currency exchange rates. The purpose of our foreign currency hedging program is to manage the volatility associated with the changes in exchange rates.

To manage this exchange rate risk, we have historically utilized a combination of forward contracts, options and currency swaps. Contracts that qualify are designated as cash flow hedges of certain forecasted transactions denominated in foreign currencies. The effective portion of the changes in fair value of these instruments is reported in AOCI and reclassified into earnings in the same financial statement line item and in the same period or periods during which the related hedged transactions affect earnings. The ineffective portion, which is not material for any year presented, is immediately recognized in earnings.

The change in value of certain non-qualifying instruments used to manage foreign exchange exposure of intercompany financing transactions and certain balance sheet items subject to revaluation is immediately recognized in earnings, substantially offsetting the foreign currency mark-to-market impact of the related exposure.

COMMODITY RISK MANAGEMENT

Certain raw materials used in our production processes are subject to price volatility caused by weather, supply conditions, political and economic variables and other unpredictable factors. To manage the volatility in earnings due to price fluctuations, we may utilize swap contracts or forward purchase contracts.

Derivative instruments are reported in the consolidated balance sheets at their fair values, unless the derivative instruments qualify for the normal purchase normal sale (NPNS) exception under GAAP and such exception has been elected. If the NPNS exception is elected, the fair values of such contracts are not recognized on the balance sheet.

Contracts that qualify are designated as cash flow hedges of forecasted commodity purchases. The effective portion of the changes in fair value for these instruments is reported in AOCI and reclassified into earnings in the same financial statement line item and in the same period or periods during which the hedged transactions affect earnings. The ineffective and non-qualifying portions, which are not material for any year presented, are immediately recognized in earnings. The change in the fair value of certain non-qualifying instruments used to reduce commodity price volatility is immediately recognized in earnings.

The notional amounts of qualifying and non-qualifying instruments used in hedging transactions were as follows:

In millions	**December 31, 2018**	December 31, 2017
Derivatives in Cash Flow Hedging Relationships:		
Foreign exchange contracts (a)	**407**	329
Derivatives in Fair Value Hedging Relationships:		
Interest rate contracts	**700**	—
Derivatives Not Designated as Hedging Instruments:		
Electricity contract	**8**	13
Foreign exchange contracts	**19**	10

(a) These contracts had maturities of two years or less as of December 31, 2018 .

The following table shows gains or losses recognized in AOCI, net of tax, related to derivative instruments:

	Gain (Loss) Recognized in AOCI on Derivatives (Effective Portion)		
In millions	**2018**	2017	2016
Foreign exchange contracts	**$ (10)**	$ 15	$ 4
Interest rate contracts	**—**	—	(10)
Total	**$ (10)**	$ 15	$ (6)

During the next 12 months , the amount of the December 31, 2018 AOCI balance, after tax, that is expected to be reclassified to earnings is a loss of $4 million .

The amounts of gains and losses recognized in the consolidated statement of operations on qualifying and non-qualifying financial instruments used in hedging transactions were as follows:

	Gain (Loss) Reclassified from AOCI into Income (Effective Portion)			**Location of Gain (Loss) Reclassified from AOCI into Income (Effective Portion)**
In millions	**2018**	2017	2016	
Derivatives in Cash Flow Hedging Relationships:				
Foreign exchange contracts	**$ (1)**	$ 8	$ 7	Cost of products sold
Interest rate contracts	**(1)**	(1)	—	Interest expense, net
Total	**$ (2)**	$ 7	$ 7	

	Gain (Loss) Recognized in Income			Location of Gain (Loss) in Consolidated Statement of Operations
In millions	**2018**	2017	2016	
Derivatives in Fair Value Hedging Relationships:				
Interest rate contracts	**$ 16**	$ —	$ —	Interest expense, net
Debt	**(16)**	—	—	Interest expense, net
Total	**$ —**	$ —	$ —	
Derivatives Not Designated as Hedging Instruments:				
Electricity Contracts	**$ 2**	$ (10)	$ —	Cost of products sold
Foreign exchange contracts	**1**	—	—	Cost of products sold
Interest rate contracts	**—**	1 (a)	5 (b)	Interest expense, net
Total	**$ 3**	$ (9)	$ 5	

(a) Excluding gain of $1 million related to debt reduction recorded to Restructuring and other charges.
(b) Excluding gain of $2 million related to debt reduction recorded to Restructuring and other charges.

Fair Value Measurements

International Paper’s financial assets and liabilities that are recorded at fair value consist of derivative contracts, including interest rate swaps, foreign currency forward contracts, options and other financial instruments that are used to hedge exposures to interest rate, commodity and currency risks. For these financial instruments, fair value is determined at each balance sheet date using an income approach.

The guidance for fair value measurements and disclosures sets out a fair value hierarchy that groups fair value measurement inputs into the following three classifications:

Level 1: Quoted market prices in active markets for identical assets or liabilities.

Level 2: Observable market-based inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.

Level 3: Unobservable inputs for the asset or liability reflecting the reporting entity's own assumptions or external inputs from inactive markets.

Transfers between levels are recognized at the end of the reporting period. All of International Paper's derivative fair value measurements use Level 2 inputs.

Below is a description of the valuation calculation and the inputs used for each class of contract:

Interest Rate Contracts

Interest rate contracts are valued using swap curves obtained from an independent market data provider. The market value of each contract is the sum of the fair value of all future interest payments between the contract counterparties, discounted to present value. The fair value of the future interest payments is determined by comparing the contract rate to the derived forward interest rate and present valued using the appropriate derived interest rate curve.

Foreign Exchange Contracts

Foreign currency forward and option contracts are valued using standard valuation models. Significant inputs used in these standard valuation models are foreign currency forward and interest rate curves and a volatility measurement. The fair value of each contract is present valued using the applicable interest rate. All significant inputs are readily available in public markets, or can be derived from observable market transactions.

Electricity Contract

The Company is party to an electricity contract used to manage market fluctuations in energy pricing. The Company's electricity contract is valued using the Mid-C index forward curve obtained from the Intercontinental Exchange. The market value of the contract is the sum of the fair value of all future purchase payments between the contract counterparties, discounted to present value. The fair value of the future purchase payments is determined by comparing the contract price to the forward price and present valued using International Paper's cost of capital.

Since the volume and level of activity of the markets that each of the above contracts are traded in has been normal, the fair value calculations have not been adjusted for inactive markets or disorderly transactions.

The following table provides a summary of the impact of our derivative instruments in the consolidated balance sheet:

Fair Value Measurements
Level 2 – Significant Other Observable Inputs

	Assets		Liabilities	
In millions	**December 31, 2018**	December 31, 2017	**December 31, 2018**	December 31, 2017
Derivatives designated as hedging instruments				
Foreign exchange contracts – cash flow	**$ 3**	$ 11	**$ 10**	$ 1
Interest rate contracts – fair value	**16**	—	**—**	—
Total derivatives designated as hedging instruments	**19 (a)**	11 (b)	**10 (c)**	1 (c)
Derivatives not designated as hedging instruments				
Electricity contract	**—**	—	**4**	8
Foreign exchange contracts	**—**	—	**1**	—
Total derivatives not designated as hedging instruments	**—**	—	**5 (c)**	8 (d)
Total derivatives	**$ 19**	$ 11	**$ 15**	$ 9

(a) Includes $2 million recorded in Other current assets and $17 million recorded in Deferred charges and other assets in the accompanying consolidated balance sheet.
(b) Included in Other current assets in the accompanying consolidated balance sheet.
(c) Included in Other accrued liabilities in the accompanying consolidated balance sheet.
(d) Includes $5 million recorded in Other accrued liabilities and $3 million recorded in Other liabilities in the accompanying consolidated balance sheet.

The above contracts are subject to enforceable master netting arrangements that provide rights of offset with each counterparty when amounts are payable on the same date in the same currency or in the case of certain specified defaults. Management has made an accounting policy election to not offset the fair value of recognized derivative assets and derivative liabilities in the consolidated balance sheet. The amounts owed to the counterparties and owed to the Company are considered immaterial with respect to each counterparty and in the aggregate with all counterparties.

Credit-Risk-Related Contingent Features

International Paper evaluates credit risk by monitoring its exposure with each counterparty to ensure that exposure stays within acceptable policy limits. Credit risk is also mitigated by contractual provisions with the majority of our banks. Certain of the contracts include a credit support annex that requires the posting of collateral by the counterparty or International Paper based on each party's rating and level of exposure. Based on the Company's current credit rating, the collateral threshold is generally $15 million .

If the lower of the Company's credit rating by Moody's or S&P were to drop below investment grade, the Company would be required to post collateral for all of its derivatives in a net liability position, although no derivatives would terminate. As of December 31, 2018 and 2017 , there were no derivative instruments containing credit-risk-related contingent features in a net liability position. The Company was not required to post any collateral as of December 31, 2018 or 2017 .

NOTE 17 CAPITAL STOCK

The authorized capital stock at both December 31, 2018 and 2017 , consisted of 990,850,000 shares of common stock, $1 par value; 400,000 shares of cumulative $4 preferred stock, without par value (stated value $100 per share); and 8,750,000 shares of serial preferred stock, $1 par value. The serial preferred stock is issuable in one or more series by the Board of Directors without further shareholder action.

The following is a rollforward of shares of common stock for the three years ended December 31, 2018 , 2017 and 2016 :

	Common Stock	
In thousands	**Issued**	**Treasury**
Balance at January 1, 2016	448,916	36,776
Issuance of stock for various plans, net	—	(2,745)
Repurchase of stock	—	3,640
Balance at December 31, 2016	448,916	37,671
Issuance of stock for various plans, net	—	(2,577)
Repurchase of stock	—	881
Balance at December 31, 2017	448,916	35,975
Issuance of stock for various plans, net	**—**	**(1,721)**
Repurchase of stock	**—**	**14,056**
Balance at December 31, 2018	**448,916**	**48,310**

NOTE 18 RETIREMENT PLANS

International Paper sponsors and maintains the Retirement Plan of International Paper Company (the Pension Plan), a tax-qualified defined benefit pension plan that provides retirement benefits to substantially all U.S. salaried employees and hourly employees (receiving salaried benefits) hired prior to July 1, 2004, and substantially all other U.S. hourly and union employees who work at a participating business unit regardless of hire date. These employees generally are eligible to participate in the Pension Plan upon attaining 21 years of age and completing one year of eligibility service. U.S. salaried employees and hourly employees (receiving salaried benefits) hired after June 30, 2004 are not eligible to participate in the Pension Plan, but receive a company contribution to their individual savings plan accounts (see Other U.S. Plans); however, salaried employees hired by Temple Inland prior to March 1, 2007 or Weyerhaeuser Company's Cellulose Fibers division prior to December 1, 2011 also participate in the Pension Plan. The Pension Plan provides defined pension benefits based on years of credited service and either final average earnings (salaried employees and hourly employees receiving salaried benefits), hourly job rates or specified benefit rates (hourly and union employees).

The Company also has three unfunded nonqualified defined benefit pension plans: a Pension Restoration Plan available to employees hired prior to July 1, 2004 that provides retirement benefits based on eligible compensation in excess of limits set by the Internal Revenue Service, and two supplemental retirement plans for senior managers (SERP), which is an alternative retirement plan for salaried employees who are senior vice presidents and above or who are designated by the chief executive officer as participants. These nonqualified plans are only funded to the extent of benefits paid, which totaled $29 million , $40 million and $21 million in 2018 , 2017 and 2016 , respectively, and which are expected to be $27 million in 2019 .

Notwithstanding the foregoing, the Company has frozen participation, including credited service and compensation, for salaried employees under the Pension Plan, the Pension Restoration Plan and the two SERP plans for all service on or after January 1, 2019. This change does not affect benefits accrued through December 31, 2018. For service after this date, employees affected by the freeze will receive Retirement Savings Account contributions as described later in this Note 18 .

Many non-U.S. employees are covered by various retirement benefit arrangements, some of which are considered to be defined benefit pension plans for accounting purposes.

OBLIGATIONS AND FUNDED STATUS

The following table shows the changes in the benefit obligation and plan assets for 2018 and 2017 , and the plans' funded status.

	2018		2017	
In millions	**U.S. Plans**	**Non-U.S. Plans**	U.S. Plans	Non-U.S. Plans
Change in projected benefit obligation:				
Benefit obligation, January 1	**$ 13,264**	**$ 247**	$ 13,683	$ 219
Service cost	**153**	**5**	160	4
Interest cost	**467**	**8**	536	9
Settlements	**(1,653)**	**(2)**	(1,295)	(4)
Actuarial loss (gain)	**(1,089)**	**(17)**	913	2
Acquisitions	**—**	**—**	—	5
Divestitures	**—**	**—**	33	—
Plan amendments	**2**	**—**	3	—
Benefits paid	**(677)**	**(9)**	(769)	(8)
Effect of foreign currency exchange rate movements	**—**	**(17)**	—	20
Benefit obligation, December 31	**$ 10,467**	**$ 215**	$ 13,264	$ 247
Change in plan assets:				
Fair value of plan assets, January 1	**$ 11,368**	**$ 176**	$ 10,312	$ 153
Actual return on plan assets	**(332)**	**(2)**	1,830	10
Company contributions	**29**	**10**	1,290	10
Benefits paid	**(677)**	**(9)**	(769)	(8)
Settlements	**(1,653)**	**(2)**	(1,295)	(4)
Other	**—**	**—**	—	3
Effect of foreign currency exchange rate movements	**—**	**(12)**	—	12
Fair value of plan assets, December 31	**$ 8,735**	**$ 161**	$ 11,368	$ 176
Funded status, December 31	**$ (1,732)**	**$ (54)**	$ (1,896)	$ (71)
Amounts recognized in the consolidated balance sheet:				
Non-current asset	**$ —**	**$ 5**	$ —	$ 5
Current liability	**(27)**	**(2)**	(30)	(3)
Non-current liability	**(1,705)**	**(57)**	(1,866)	(73)
	$ (1,732)	**$ (54)**	$ (1,896)	$ (71)
Amounts recognized in accumulated other comprehensive income under ASC 715 (pre-tax):				
Prior service cost (credit)	**$ 74**	**$ (1)**	$ 88	$ (1)
Net actuarial loss	**3,140**	**57**	3,893	67
	$ 3,214	**$ 56**	$ 3,981	$ 66

The largest contributor to the actuarial gain affecting the benefit obligation was the increase in the discount rate from 3.60% at December 31, 2017 to 4.30% at December 31, 2018 which improved the funded position. Mortality rates, retirement rates for hourly employees, termination rates, disability incidence and the salary increase assumption were updated to reflect an experience study completed in 2018 which also improved the funded position.

The components of the $(767) million and $(10) million related to U.S. plans and non-U.S. plans, respectively, in the amounts recognized in OCI during 2018 consisted of:

In millions	U.S. Plans	Non-U.S. Plans
Current year actuarial (gain) loss	$ 8	$ (4)
Amortization of actuarial loss	(337)	(2)
Current year prior service cost	2	—
Amortization of prior service cost	(16)	—
Settlements	(424)	—
Effect of foreign currency exchange rate movements	—	(4)
	$ (767)	$ (10)

The portion of the change in the funded status that was recognized in either net periodic benefit cost or OCI for the U.S. plans was $(134) million , $(184) million and $626 million in 2018 , 2017 and 2016 , respectively. The portion of the change in funded status for the non-U.S. plans was $(6) million , $10 million , and $23 million in 2018 , 2017 and 2016 , respectively.

The accumulated benefit obligation at December 31, 2018 and 2017 was $10.4 billion and $13.2 billion , respectively, for our U.S. defined benefit plans and $200 million and $230 million , respectively, at December 31, 2018 and 2017 for our non-U.S. defined benefit plans.

The following table summarizes information for pension plans with an accumulated benefit obligation in excess of plan assets at December 31, 2018 and 2017 :

	2018		2017	
In millions	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Projected benefit obligation	$ 10,467	$ 187	$ 13,264	$ 215
Accumulated benefit obligation	10,440	175	13,161	200
Fair value of plan assets	8,735	128	11,368	139

ASC 715, “Compensation – Retirement Benefits” provides for delayed recognition of actuarial gains and losses, including amounts arising from changes in the estimated projected plan benefit obligation due to changes in the assumed discount rate, differences between the actual and expected return on plan assets and other assumption changes. These net gains and losses are recognized prospectively over a period that approximates the average remaining service period of active employees expected to receive benefits under the plans to the extent that they are not offset by gains in subsequent years.

NET PERIODIC PENSION EXPENSE

Service cost is the actuarial present value of benefits attributed by the plans’ benefit formula to services rendered by employees during the year. Interest cost represents the increase in the projected benefit obligation, which is a discounted amount, due to the passage of time. The expected return on plan assets reflects the computed amount of current-year earnings from the investment of plan assets using an estimated long-term rate of return.

Net periodic pension expense for qualified and nonqualified U.S. and non-U.S. defined benefit plans comprised the following:

	2018		2017		2016	
In millions	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Service cost	$ 153	$ 5	$ 160	$ 4	$ 158	$ 4
Interest cost	467	8	536	9	580	9
Expected return on plan assets	(765)	(11)	(774)	(11)	(815)	(10)
Actuarial loss / (gain)	337	2	339	2	400	1
Amortization of prior service cost	16	—	28	—	41	—
Curtailment loss / (gain) (a)	—	—	23	—	—	—
Settlement loss	424	—	383	1	445	—
Special termination benefits (a)	—	—	22	—	—	—
Net periodic pension expense	$ 632	$ 4	$ 717	$ 5	$ 809	$ 4

(a) Recorded in Discontinued operations in the consolidated statement of operations.

The components of net periodic pension expense other than the Service cost component are included in Non-operating pension expense in the Consolidated Statement of Operations.

The decrease in 2018 pension expense primarily reflects lower interest cost on a lower 2018 projected benefit obligation along with the current year absence of a curtailment loss and special termination benefits associated with North American Consumer Packaging transaction, partially offset by a higher settlement loss in the current year associated with the October 2018 annuity purchase transaction.

On September 25, 2018, the Company entered into an agreement with The Prudential Insurance Company of America to purchase a group annuity contract and transfer approximately $1.6 billion of International Paper's U.S. qualified pension plan projected benefit obligations, subject to customary closing conditions. The transaction closed on October 2, 2018 and was funded with pension plan assets. Under the transaction, at the end of 2018, Prudential assumed responsibility for pension benefits and annuity administration for approximately 23,000 retirees or their beneficiaries receiving less than $1,000 in monthly benefit payments from the plan. Settlement accounting rules required a remeasurement of the qualified plan as of October 2, 2018 and the Company recognized a non-cash pension settlement charge of $424 million before tax in the fourth quarter of 2018.

On September 26, 2017, the Company entered into an agreement with The Prudential Insurance Company of America to purchase a group annuity contract and transfer approximately $1.3 billion of International Paper's U.S. qualified pension plan projected benefit obligations, subject to customary closing conditions. The transaction closed on October 3, 2017 and was funded with pension plan assets. Under the transaction, at the end of 2017, Prudential assumed responsibility for pension benefits and annuity administration for approximately 45,000 retirees or their beneficiaries receiving less than $450 in monthly benefit payments from the plan. Settlement accounting rules required a remeasurement of the qualified plan as of October 3, 2017 and the Company recognized a non-cash pension settlement charge of $376 million before tax in the fourth quarter of 2017. In addition, large payments from the non-qualified pension plan also required a remeasurement as of October 2, 2017 and a non-cash settlement charge of $7 million was also recognized in the fourth quarter of 2017.

In the first quarter of 2016 International Paper announced a voluntary, limited-time opportunity for former employees who are participants in the Retirement Plan of International Paper Company (the Pension Plan) to request early payment of their entire Pension Plan benefit in the form of a single lump sum payment. The amount of total payments under this program was approximately $1.2 billion , and were made from Plan trust assets on June 30, 2016. Based on the level of payments made, settlement accounting rules applied and resulted in a plan remeasurement as of the June 30, 2016 payment date. As a result of settlement accounting, the Company recognized a pro-rata portion of the unamortized net actuarial loss, after remeasurement, resulting in a $439 million non-cash charge to the Company's earnings in the second quarter of 2016. Additional payments of $8 million and $9 million were made during the third and fourth quarters, respectively, due to mandatory cash payouts and a small lump sum payout, and the Pension Plan was subsequently remeasured at September 30, 2016 and December 31, 2016. As a result of settlement accounting, the Company recognized non-cash settlement charges of $3 million in both the third and fourth quarters of 2016.

ASSUMPTIONS

International Paper evaluates its actuarial assumptions annually as of December 31 (the measurement date) and considers changes in these long-term factors based upon market conditions and the requirements for employers' accounting for pensions. These assumptions are used to calculate benefit obligations as of December 31 of the current year and pension expense to be recorded in the following year (i.e., the discount rate used to determine the benefit obligation as of December 31, 2018 is also the discount rate used to determine net pension expense for the 2019 year).

Major actuarial assumptions used in determining the benefit obligations and net periodic pension cost for our defined benefit plans are presented in the following table:

	2018		2017		2016	
	U.S. Plans	**Non-U.S. Plans**	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Actuarial assumptions used to determine benefit obligations as of December 31:						
Discount rate	**4.30%**	**3.97%**	3.60%	3.59%	4.10%	3.88%
Rate of compensation increase	**2.25%**	**4.05%**	3.75%	4.06%	3.75%	4.20%
Actuarial assumptions used to determine net periodic pension cost for years ended December 31:						
Discount rate (a)	**3.80%**	**3.59%**	4.03%	3.88%	4.05%	4.72%
Expected long-term rate of return on plan assets	**7.50%**	**6.52%**	7.50%	6.73%	7.75%	6.55%
Rate of compensation increase	**3.38%**	**4.06%**	3.75%	4.20%	3.75%	4.03%

(a) Represents the weighted average rate for the U.S. qualified plans in 2018, 2017 and 2016 due to the remeasurements.

The expected long-term rate of return on plan assets is based on projected rates of return for current and planned asset classes in the plan's investment portfolio. Projected rates of return are developed through an asset/liability study in which projected returns for each of the plan's asset classes are determined after analyzing historical experience and future expectations of returns and volatility of the various asset classes.

Based on the target asset allocation for each asset class, the overall expected rate of return for the portfolio is developed considering the effects of active portfolio management and expenses paid from plan assets. The discount rate assumption was determined from a universe of high quality corporate bonds. A settlement portfolio is selected and matched to the present value of the plan's projected benefit payments. To calculate pension expense for 2019 , the Company will use an expected long-term rate of return on plan assets of 7.25% for the Retirement Plan of International Paper, a discount rate of 4.30% and an assumed rate of compensation increase of 2.25% . The Company estimates that it will record net pension expense of approximately $103 million for its U.S. defined benefit plans in 2019 , compared to expense of $632 million in 2018 . The 2018 expense includes $424 million of settlement accounting charges. Excluding these settlement charges, the estimated decrease in net pension expense in 2019 is primarily due to lower amortization of actuarial losses and lower service cost partially offset by lower asset returns due to the annuity purchase and a decrease in the expected long-term return on asset assumption from 7.50% in 2018 to 7.25% in 2019.

For non-U.S. pension plans, assumptions reflect economic assumptions applicable to each country.

The following illustrates the effect on pension expense for 2019 of a 25 basis point decrease in the above assumptions:

In millions		2019
Expense/(Income):		
Discount rate	$	27
Expected long-term rate of return on plan assets		22

PLAN ASSETS

International Paper's Board of Directors has appointed a Fiduciary Review Committee that is responsible for fiduciary oversight of the U.S. Pension Plan, approving investment policy and reviewing the management and control of plan assets. Pension Plan assets are invested to maximize returns within prudent levels of risk.

The Pension Plan maintains a strategic asset allocation policy that designates target allocations by asset class. Investments are diversified across classes and within each class to minimize the risk of large losses. Derivatives, including swaps, forward and futures contracts, may be used as asset class substitutes or for hedging or other risk management purposes. Periodic reviews are made of investment policy objectives and investment manager performance. For non-U.S. plans, assets consist principally of common stock and fixed income securities.

International Paper's U.S. pension allocations by type of fund at December 31, 2018 and 2017 and target allocations were as follows:

Asset Class	**2018**	2017	Target Allocations
Equity accounts	**32%**	49%	**32% - 43%**
Fixed income accounts	**51%**	36%	**44% - 56%**
Real estate accounts	**11%**	10%	**5% - 11%**
Other	**6%**	5%	**3% - 8%**
Total	**100%**	100%	

The fair values of International Paper's pension plan assets at December 31, 2018 and 2017 by asset class are shown below. Hedge funds disclosed in the following table are allocated equally between equity and fixed income accounts for target allocation purposes.

	Fair Value Measurement at December 31, 2018			
Asset Class	**Total**	**Quoted Prices in Active Markets For Identical Assets (Level 1)**	**Significant Observable Inputs (Level 2)**	**Significant Unobservable Inputs (Level 3)**
In millions				
Equities – domestic	$ 685	$ 685	$ —	$ —
Equities – international	1,150	1,141	9	—
Corporate bonds	1,434	—	1,434	—
Government securities	2,262	—	2,262	—
Mortgage backed securities	—	—	—	—
Other fixed income	(723)	—	(736)	13
Derivatives	98	—	—	98
Cash and cash equivalents	294	294	—	—
Other investments:				
Equities - domestic	515			
Equities - international	433			
Corporate bonds	59			
Other fixed income	180			
Hedge funds	886			
Private equity	518			
Real estate funds	944			
Total Investments	$ 8,735	$ 2,120	$ 2,969	$ 111

Fair Value Measurement at December 31, 2017				
Asset Class	Total	Quoted Prices in Active Markets For Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
In millions				
Equities – domestic	$ 1,291	$ 1,291	$ —	$ —
Equities – international	2,132	2,119	13	—
Corporate bonds	1,177	—	1,177	—
Government securities	2,778	—	2,778	—
Mortgage backed securities	1	—	—	1
Other fixed income	(802)	—	(814)	12
Derivatives	8	—	(8)	16
Cash and cash equivalents	397	397	—	—
Other investments:				
Equities - domestic	708			
Equities - international	866			
Corporate bonds	66			
Other fixed income	232			
Hedge funds	927			
Private equity	481			
Real estate funds	1,106			
Total Investments	$ 11,368	$ 3,807	$ 3,146	$ 29

In accordance with accounting standards, the following investments are measured at NAV and are not classified in the fair value hierarchy. Some of the investments have redemption limitations, restrictions, and notice requirements which are further explained below.

Other Investments at December 31, 2018				
Investment	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Remediation Notice Period**
In millions				
Equities – domestic	**$ 515**	**$ —**	**Daily to monthly**	**1-5 days**
Equities – international	**433**	**—**	**Daily to monthly**	**1-5 days**
Corporate bonds	**59**	**—**	**Daily to monthly**	**1-5 days**
Other fixed income	**180**	**—**	**Daily to monthly**	**1-5 days**
Hedge funds	**886**	**—**	**Daily to annually**	**1 - 100 days**
Private equity	**518**	**310**	**(a)**	**None**
Real estate funds	**944**	**109**	**Quarterly**	**45 - 60 days**
Total	**$ 3,535**	**$ 419**		

(a) A private equity fund investment ("partnership interest") is contractually locked up for the life of the private equity fund by the partnership agreement. Limited partners do not have the option to redeem partnership interests.

Other Investments at December 31, 2017				
Investment	Fair Value	Unfunded Commitments	Redemption Frequency	Remediation Notice Period
In millions				
Equities - domestic	$ 708	$ —	Daily to monthly	1-5 days
Equities - international	866	—	Daily to monthly	1-5 days
Corporate bonds	66	—	Daily to monthly	1-5 days
Other fixed income	232	—	Daily to monthly	1-5 days
Hedge funds	927	—	Daily to annually	1 - 100 days
Private equity	481	262	(a)	None
Real estate funds	1,106	121	Quarterly	45 - 60 days
Total	$ 4,386	$ 383		

(a) A private equity fund investment ("partnership interest") is contractually locked up for the life of the private equity fund by the partnership agreement. Limited partners do not have the option to redeem partnership interests.

Equity securities consist primarily of publicly traded U.S. companies and international companies. Publicly traded equities are valued at the closing prices reported in the active market in which the individual securities are traded.

Fixed income consists of government securities, mortgage-backed securities, corporate bonds, common collective funds and other fixed income investments. Government securities are valued by third-party pricing sources. Mortgage-backed security holdings consist primarily of agency-rated holdings. The fair value estimates for mortgage securities are calculated by third-party pricing sources chosen by the custodian’s price matrix. Corporate bonds are valued using either the yields currently available on comparable securities of issuers with similar credit ratings or using a discounted cash flows approach that utilizes observable inputs, such as current yields of similar instruments, but includes adjustments for certain risks that may not be observable, such as credit and liquidity risks. Common collective funds are valued at the net asset value per share multiplied by the number of shares held as of the measurement date. Other fixed income investments of $(723) million and $(802) million at December 31, 2018 and 2017, respectively, primarily include reverse repurchase agreement obligations in which we have sold a security and have an agreement to repurchase the same or substantially the same security at a later date for a price specified in the agreement.

Derivative investments such as futures, forward contracts, options and swaps are used to help manage risks. Derivatives are generally employed as an asset class substitutes (such as when employed in a portable alpha strategy), for managing asset/liability mismatches, or bona fide hedging or other appropriate risk management purposes. Derivative instruments are generally valued by the investment managers or in certain instances by third-party pricing sources.

Hedge funds are investment structures for managing private, loosely-regulated investment pools that can pursue a diverse array of investment strategies with a wide range of different securities and derivative instruments. These investments are made through funds-of-funds (commingled, multi-manager fund structures) and through direct investments in individual hedge funds. Hedge funds are primarily valued by each fund's third-party administrator based upon the valuation of the underlying securities and instruments and primarily by applying a market or income valuation methodology as appropriate depending on the specific type of security or instrument held. Funds-of-funds are valued based upon the net asset values of the underlying investments in hedge funds.

Private equity consists of interests in partnerships that invest in U.S. and non-U.S. debt and equity securities. Partnership interests are valued using the most recent general partner statement of fair value, updated for any subsequent partnership interest cash flows.

Real estate funds include commercial properties, land and timberland, and generally includes, but is not limited to, retail, office, industrial, multifamily and hotel properties. Real estate fund values are primarily reported by the fund manager and are based on valuation of the underlying investments which include inputs such as cost, discounted cash flows, independent appraisals and market based comparable data.

The following is a reconciliation of the assets that are classified using significant unobservable inputs (Level 3) at December 31, 2018 .

Fair Value Measurements Using Significant Unobservable Inputs (Level 3)

In millions	Mortgage backed securities	Other fixed income	Derivatives	Total
Beginning balance at December 31, 2016	$ 1	$ 11	$ (71)	$ (59)
Actual return on plan assets:				
Relating to assets still held at the reporting date	—	1	94	95
Relating to assets sold during the period	—	—	(23)	(23)
Purchases, sales and settlements	—	—	16	16
Transfers in and/or out of Level 3	—	—	—	—
Ending balance at December 31, 2017	$ 1	$ 12	$ 16	$ 29
Actual return on plan assets:				
Relating to assets still held at the reporting date	**—**	**1**	**75**	**76**
Relating to assets sold during the period	**—**	**—**	**(19)**	**(19)**
Purchases, sales and settlements	**(1)**	**—**	**26**	**25**
Transfers in and/or out of Level 3	**—**	**—**	**—**	**—**
Ending balance at December 31, 2018	**$ —**	**$ 13**	**$ 98**	**$ 111**

FUNDING AND CASH FLOWS

The Company's funding policy for the Pension Plan is to contribute amounts sufficient to meet legal funding requirements, plus any additional amounts that the Company may determine to be appropriate considering the funded status of the plans, tax deductibility, cash flow generated by the Company, and other factors. The Company continually reassesses the amount and timing of any discretionary contributions. Contributions to the qualified plan totaling $1.25 billion and $750 million were made by the Company in 2017 and 2016 , respectively. No voluntary contributions were made in 2018. Generally, International Paper's non-U.S. pension plans are funded using the projected benefit as a target, except in certain countries where funding of benefit plans is not required.

At December 31, 2018 , projected future pension benefit payments, excluding any termination benefits, were as follows:

In millions	
2019	$ 562
2020	571
2021	585
2022	597
2023	611
2024-2028	3,191

OTHER U.S. PLANS

International Paper sponsors the International Paper Company Salaried Savings Plan and the International Paper Company Hourly Savings Plan, both of which are tax-qualified defined contribution 401(k) savings plans.

Substantially all U.S. salaried and certain hourly employees are eligible to participate and may make elective deferrals to such plans to save for retirement. International Paper makes matching contributions to participant accounts on a specified percentage of employee deferrals as determined by the provisions of each plan. For eligible employees hired after June 30, 2004, the Company makes Retirement Savings Account contributions equal to a percentage of an eligible employee's pay. Beginning in 2019, as a result of the freeze for salaried employees under the Pension Plan, all salaried employees will be eligible for the contribution to the Retirement Savings Account.

The Company also sponsors the International Paper Company Deferred Compensation Savings Plan, which is an unfunded nonqualified defined contribution plan. This plan permits eligible employees to continue to make deferrals and receive company matching contributions (and Retirement Savings Account contributions) when their contributions to the International Paper Salaried Savings Plan are stopped due to limitations under U.S. tax law. Participant deferrals and company contributions are not invested in a separate trust, but are paid directly from International Paper's general assets at the time benefits become due and payable.

Company contributions to the plans totaled approximately $125 million , $117 million and $106 million for the plan years ending in 2018 , 2017 and 2016 , respectively.

NOTE 19 POSTRETIREMENT BENEFITS

U.S. POSTRETIREMENT BENEFITS

International Paper provides certain retiree health care and life insurance benefits covering certain U.S. salaried and hourly employees. These employees are generally eligible for benefits upon retirement and completion of a specified number of years of creditable service. International Paper does not fund these benefits prior to payment and has the right to modify or terminate certain of these plans in the future.

In addition to the U.S. plan, certain Brazilian and Moroccan employees are eligible for retiree health care and life insurance benefits.

The components of postretirement benefit expense in 2018 , 2017 and 2016 were as follows:

In millions	**2018**		2017		2016	
	U.S. Plans	**Non-U.S. Plans**	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Service cost	**$ 1**	**$ —**	$ 1	$ —	$ 1	$ —
Interest cost	**8**	**2**	11	2	11	3
Actuarial loss	**9**	**2**	8	3	5	2
Amortization of prior service credits	**(2)**	**(3)**	(3)	(4)	(4)	(4)
Net postretirement expense	**$ 16**	**$ 1**	$ 17	$ 1	$ 13	$ 1

International Paper evaluates its actuarial assumptions annually as of December 31 (the measurement date) and considers changes in these long-term factors based upon market conditions and the requirements of employers' accounting for postretirement benefits other than pensions. The discount rate assumption was determined based on a hypothetical settlement portfolio selected from a universe of high quality corporate bonds.

The discount rates used to determine net U.S. and non-U.S. postretirement benefit cost for the years ended December 31, 2018 , 2017 and 2016 were as follows:

	2018		2017		2016	
	U.S. Plans	**Non-U.S. Plans**	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Discount rate	**3.50%**	**9.38%**	4.00%	10.53%	4.20%	12.23%

The weighted average assumptions used to determine the benefit obligation at December 31, 2018 and 2017 were as follows:

	2018		2017	
	U.S. Plans	**Non-U.S. Plans**	U.S. Plans	Non-U.S. Plans
Discount rate	**4.20%**	**9.10%**	3.50%	9.38%
Health care cost trend rate assumed for next year	**7.00%**	**10.04%**	6.50%	10.27%
Rate that the cost trend rate gradually declines to	**5.00%**	**4.93%**	5.00%	5.15%
Year that the rate reaches the rate it is assumed to remain	**2026**	**2030**	2022	2028

The plans are only funded in an amount equal to benefits paid. The following table presents the changes in benefit obligation and plan assets for 2018 and 2017 :

In millions	2018		2017	
	U.S. Plans	**Non-U.S. Plans**	U.S. Plans	Non-U.S. Plans
Change in projected benefit obligation:				
Benefit obligation, January 1	**$ 270**	**$ 25**	$ 280	$ 23
Service cost	**1**	**—**	1	—
Interest cost	**8**	**2**	11	2
Participants' contributions	**5**	**—**	5	—
Actuarial (gain) loss	**(34)**	**2**	14	2
Plan amendments	**—**	**—**	—	—
Benefits paid	**(38)**	**(1)**	(42)	(2)
Less: Federal subsidy	**1**	**—**	1	—
Currency Impact	**—**	**(4)**	—	—
Benefit obligation, December 31	**$ 213**	**$ 24**	$ 270	$ 25
Change in plan assets:				
Fair value of plan assets, January 1	**$ —**	**$ —**	$ —	$ —
Company contributions	**33**	**1**	37	2
Participants' contributions	**5**	**—**	5	—
Benefits paid	**(38)**	**(1)**	(42)	(2)
Fair value of plan assets, December 31	**$ —**	**$ —**	$ —	$ —
Funded status, December 31	**$ (213)**	**$ (24)**	$ (270)	$ (25)
Amounts recognized in the consolidated balance sheet under ASC 715:				
Current liability	**$ (23)**	**$ (1)**	$ (28)	$ (1)
Non-current liability	**(190)**	**(23)**	(242)	(24)
	$ (213)	**$ (24)**	$ (270)	$ (25)
Amounts recognized in accumulated other comprehensive income under ASC 715 (pre-tax):				
Net actuarial loss (gain)	**$ 31**	**$ 15**	$ 74	$ 19
Prior service credit	**(4)**	**(22)**	(6)	(30)
	$ 27	**$ (7)**	$ 68	$ (11)

The non-current portion of the liability is included with the postemployment liability in the accompanying consolidated balance sheet under Postretirement and postemployment benefit obligation.

The components of the ($41) million and $4 million change in the amounts recognized in OCI during 2018 for U.S. and non-U.S. plans, respectively, consisted of:

In millions	**U.S. Plans**	**Non-U.S. Plans**
Current year actuarial (gain) loss	**$ (34)**	**$ 2**
Amortization of actuarial (loss) gain	**(9)**	**(2)**
Current year prior service cost	**—**	**—**
Amortization of prior service credit	**2**	**3**
Currency impact	**—**	**1**
	$ (41)	**$ 4**

The portion of the change in the funded status that was recognized in either net periodic benefit cost or OCI for the U.S. plans was $(25) million , $25 million and $42 million in 2018 , 2017 and 2016 , respectively. The portion of the change in funded status for the non-U.S. plans was $5 million , $3 million , and $(25) million in 2018 , 2017 and 2016 , respectively.

At December 31, 2018 , estimated total future postretirement benefit payments, net of participant contributions and estimated future Medicare Part D subsidy receipts, were as follows:

In millions	Benefit Payments	Subsidy Receipts	Benefit Payments
	U.S. Plans	U.S. Plans	Non-U.S. Plans
2019	$ 24	$ 1	$ 1
2020	23	1	1
2021	21	1	1
2022	20	1	1
2023	19	1	1
2024 – 2028	77	5	7

NOTE 20 INCENTIVE PLANS

International Paper currently has an Incentive Compensation Plan (ICP) which, upon the approval by the Company's shareholders in May 2009, replaced the Company's Long-Term Incentive Compensation Plan (LTICP). The ICP authorizes grants of restricted stock, restricted or deferred stock units, performance awards payable in cash or stock upon the attainment of specified performance goals, dividend equivalents, stock options, stock appreciation rights, other stock-based awards, and cash-based awards at the discretion of the Management Development and Compensation Committee of the Board of Directors (the Committee) that administers the ICP. Additionally, restricted stock, which may be deferred into RSU's, may be awarded under a Restricted Stock and Deferred Compensation Plan for Non-Employee Directors.

PERFORMANCE SHARE PLAN

Under the Performance Share Plan (PSP), contingent awards of International Paper common stock are granted by the Committee. The PSP awards are earned over a three-year period. PSP awards are earned based on the achievement of defined performance rankings of Return on Invested Capital (ROIC) and Total Shareholder Return (TSR) compared to ROIC and TSR peer groups of companies. The 2016-2018 and 2017-2019 Awards are weighted 75% for ROIC and 25% for TSR for all participants except for officers for whom the awards are weighted 50% for ROIC and 50% for TSR. The 2018-2020 Award is weighted 50% ROIC and 50% TSR for all participants. The ROIC component of the PSP awards is valued at the closing stock price on the day prior to the grant date. As the ROIC component contains a performance condition, compensation expense, net of estimated forfeitures, is recorded over the requisite service period based on the most probable number of awards expected to vest. The TSR component of the PSP awards is valued using a Monte Carlo simulation as the TSR component contains a market condition. The Monte Carlo simulation estimates the fair value of the TSR component based on the expected term of the award, a risk-free rate, expected dividends, and the expected volatility for the Company and its competitors. The expected term is estimated based on the vesting period of the awards, the risk-free rate is based on the yield on U.S. Treasury securities matching the vesting period, and the volatility is based on the Company's historical volatility over the expected term. PSP grants are made in performance-based restricted stock units.

The following table sets forth the assumptions used to determine compensation cost for the market condition component of the PSP plan:

	Twelve Months Ended December 31, 2018
Expected volatility	**22.75%-22.99%**
Risk-free interest rate	**1.31%-1.98%**

The following summarizes PSP activity for the three years ending December 31, 2018 :

	Share/Units	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2015	5,857,733	$38.69
Granted	2,617,982	37.26
Shares issued	(2,316,085)	43.82
Forfeited	(209,500)	43.61
Outstanding at December 31, 2016	5,950,130	35.89
Granted	2,163,912	51.78
Shares issued	(1,876,134)	51.00
Forfeited	(438,024)	45.96
Outstanding at December 31, 2017	5,799,884	36.17
Granted	**1,751,235**	**62.97**
Shares issued	**(1,588,642)**	**53.67**
Forfeited	**(196,000)**	**56.57**
Outstanding at December 31, 2018	**5,766,477**	**$38.79**

RESTRICTED STOCK AWARD PROGRAMS

The service-based Restricted Stock Award program (RSA), designed for recruitment, retention and special recognition purposes, provides for awards of restricted stock to key employees.

The following summarizes the activity of the RSA program for the three years ending December 31, 2018 :

	Shares	Weighted Average Grant Date Fair Value
Outstanding at December 31, 2015	120,368	$48.24
Granted	117,881	42.81
Shares issued	(59,418)	47.14
Forfeited	(9,500)	39.36
Outstanding at December 31, 2016	169,331	45.34
Granted	63,319	57.24
Shares issued	(59,650)	47.90
Forfeited	(6,700)	53.53
Outstanding at December 31, 2017	166,300	48.63
Granted	**66,100**	**51.43**
Shares issued	**(100,289)**	**48.44**
Forfeited	**—**	**—**
Outstanding at December 31, 2018	**132,111**	**$50.17**

At December 31, 2018 , 2017 and 2016 a total of 11.9 million , 13.2 million and 14.3 million shares, respectively, were available for grant under the ICP.

Stock-based compensation expense and related income tax benefits were as follows:

In millions	2018	2017	2016
Total stock-based compensation expense (included in selling and administrative expense)	$ 135	$ 147	$ 124
Income tax benefits related to stock-based compensation	16	45	34

At December 31, 2018 , $104 million of compensation cost, net of estimated forfeitures, related to unvested restricted performance shares, executive continuity awards and restricted stock attributable to future performance had not yet been recognized. This amount will be recognized in expense over a weighted-average period of 1.7 years.

NOTE 21 FINANCIAL INFORMATION BY BUSINESS SEGMENT AND GEOGRAPHIC AREA

International Paper's business segments, Industrial Packaging, Global Cellulose Fibers and Printing Papers, are consistent with the internal structure used to manage these businesses. See the Description of Business Segments in Part II. Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for a description of the types of products and services from which each reportable segment derives its revenues. All segments are differentiated on a common product, common customer basis consistent with the business segmentation generally used in the Forest Products industry.

Business segment operating profits are used by International Paper's management to measure the earnings performance of its businesses. Management believes that this measure allows a better understanding of trends in costs, operating efficiencies, prices and volumes. Business segment operating profits are defined as earnings (loss) from continuing operations before income taxes and equity earnings, but including the impact of equity earnings and noncontrolling interests, excluding interest expense, net, corporate items, net, corporate special items, net, and non-operating pension expense.

External sales by major product is determined by aggregating sales from each segment based on similar products or services. External sales are defined as those that are made to parties outside International Paper's consolidated group, whereas sales by segment in the Net Sales table are determined using a management approach and include intersegment sales.

INFORMATION BY BUSINESS SEGMENT

Net Sales

In millions	2018	2017	2016
Industrial Packaging	$ 15,900	$ 15,077	$ 14,226
Global Cellulose Fibers	2,819	2,551	1,092
Printing Papers	4,375	4,157	4,058
Corporate and Intersegment Sales (a)	212	(42)	119
Net Sales	$ 23,306	$ 21,743	$ 19,495

Operating Profit

In millions	2018	2017	2016
Industrial Packaging	$ 2,093	$ 1,547	$ 1,741
Global Cellulose Fibers	251	65	(179)
Printing Papers	533	457	540
Business Segment Operating Profit	2,877	2,069	2,102
Earnings (loss) from continuing operations before income taxes and equity earnings	1,781	848	795
Interest expense, net	536	572	520
Noncontrolling interests / equity earnings adjustment (b)	(10)	(2)	1
Corporate items, net (a)	67	91	121
Corporate special items, net (a)	9	76	55
Non-operating pension expense	494	484	610
	$ 2,877	$ 2,069	$ 2,102

Restructuring and Other Charges

In millions	2018	2017	2016
Industrial Packaging	$ 47	$ —	$ 7
Global Cellulose Fibers	—	—	—
Printing Papers	3	—	—
Corporate (c)	(21)	67	47
Restructuring and Other Charges	$ 29	$ 67	$ 54

Assets

In millions		2018		2017
Industrial Packaging	**$**	**15,859**	$	15,354
Global Cellulose Fibers		**3,880**		3,913
Printing Papers		**3,905**		4,054
Corporate and other (d)		**9,932**		10,582
Assets	**$**	**33,576**	$	33,903

Capital Spending

In millions		2018		2017		2016
Industrial Packaging	**$**	**1,061**	$	836	$	832
Global Cellulose Fibers		**183**		188		174
Printing Papers		**303**		235		215
Subtotal		**1,547**		1,259		1,221
Corporate and other (e)		**25**		21		20
Capital Spending	**$**	**1,572**	$	1,280	$	1,241

Depreciation, Amortization and Cost of Timber Harvested (f)(g)

In millions		2018		2017		2016
Industrial Packaging	**$**	**803**	$	815	$	760
Global Cellulose Fibers		**262**		264		110
Printing Papers		**258**		254		242
Corporate (h)		**5**		10		12
Depreciation and Amortization	**$**	**1,328**	$	1,343	$	1,124

External Sales By Major Product

In millions		2018		2017		2016
Industrial Packaging	**$**	**15,828**	$	14,946	$	14,142
Global Cellulose Fibers		**2,810**		2,524		1,090
Printing Papers		**4,359**		4,142		4,062
Other (i)		**309**		131		201
Net Sales	**$**	**23,306**	$	21,743	$	19,495

INFORMATION BY GEOGRAPHIC AREA

Net Sales (j)

In millions		2018		2017		2016
United States (k)	**$**	**17,609**	$	16,247	$	14,363
EMEA		**3,321**		3,129		2,852
Pacific Rim and Asia		**605**		625		699
Americas, other than U.S.		**1,771**		1,742		1,581
Net Sales	**$**	**23,306**	$	21,743	$	19,495

Long-Lived Assets (l)

In millions		2018		2017
United States	**$**	**10,586**	$	10,545
EMEA		**1,315**		1,302
Pacific Rim and Asia		**201**		236
Americas, other than U.S.		**1,367**		1,630
Long-Lived Assets	**$**	**13,469**	$	13,713

(a) Includes sales of $0 million in 2018, $15 million in 2017 and $42 million in 2016, operating profits (losses) of $0 million in 2018, $0 million in 2017 and $(2) million in 2016, and corporate special items expense of $0 million in 2018, $9 million in 2017 and $9 million in 2016, from previously divested businesses.

(b) Operating profits for industry segments include each segment's percentage share of the profits of subsidiaries included in that segment that are less than wholly-owned. The pre-tax noncontrolling interests and equity earnings for these subsidiaries is added here to present consolidated earnings from continuing operations before income taxes and equity earnings.

(c) Includes corporate expenses and expenses of $0 million in 2018, $9 million in 2017 and $9 million in 2016, from previously divested businesses.

(d) Includes corporate assets, assets of businesses held for sale and assets of previously divested businesses.

(e) Includes corporate assets and assets of previously divested businesses of $0 million in 2018, $0 million in 2017 and $1 million in 2016.

(f) Excludes accelerated depreciation related to the closure and/or repurposing of mills in 2016.

(g) Prior years recast to reflect current methodology for allocation of Corporate depreciation and amortization to the business segments. There is no change to segment operating profit.

(h) Includes $0 million in 2018, $1 million in 2017 and $2 million in 2016, from previously divested businesses.

(i) Includes $0 million in 2018, $15 million in 2017, and $42 million in 2016, from previously divested businesses.

(j) Net sales are attributed to countries based on the location of the seller.

(k) Export sales to unaffiliated customers were $3.1 billion in 2018 , $2.9 billion in 2017 and $1.8 billion in 2016 .

(l) Long-Lived Assets includes Forestlands and Plants, Properties and Equipment, net.

INTERIM FINANCIAL RESULTS (UNAUDITED)

In millions, except per share amounts and stock prices	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter		Year	
2018										
Net sales	**$ 5,621**		**$ 5,833**		**$ 5,901**		**$ 5,951**		**$ 23,306**	
Earnings (loss) from continuing operations before income taxes and equity earnings	**356**	**(a)**	**490**	**(a)**	**553**	**(a)**	**382**	**(a)**	**1,781**	**(a)**
Gain (loss) from discontinued operations	**368**	**(b)**	**(23)**	**(b)**	**—**	**(b)**	**—**	**(b)**	**345**	**(b)**
Net earnings (loss) attributable to International Paper Company	**729**	**(a-c)**	**405**	**(a-c)**	**562**	**(a-c)**	**316**	**(a-c)**	**2,012**	**(a-c)**
Basic earnings (loss) per share attributable to International Paper Company common shareholders:										
Earnings (loss) from continuing operations	**$ 0.87**		**$ 1.03**		**$ 1.38**		**$ 0.79**		**$ 4.07**	
Gain (loss) from discontinued operations	**0.89**		**(0.05)**		**—**		**—**		**0.84**	
Net earnings (loss)	**1.76**		**0.98**		**1.38**		**0.79**		**4.91**	
Diluted earnings (loss) per share attributable to International Paper Company common shareholders:										
Earnings (loss) from continuing operations	**0.86**		**1.02**		**1.37**		**0.78**		**4.02**	
Gain (loss) from discontinued operations	**0.88**		**(0.05)**		**—**		**—**		**0.83**	
Net earnings (loss)	**1.74**		**0.97**		**1.37**		**0.78**		**4.85**	
Dividends per share of common stock	**0.4750**		**0.4750**		**0.4750**		**0.5000**		**1.9250**	
2017										
Net sales	$ 5,132		$ 5,383		$ 5,517		$ 5,711		$ 21,743	
Earnings (loss) from continuing operations before income taxes and equity earnings	217	(d)	(23)	(d)	457	(d)	197	(d)	848	(d)
Gain (loss) from discontinued operations	17	(e)	(4)	(e)	29	(e)	(8)	(e)	34	(e)
Net earnings (loss) attributable to International Paper Company	209	(d-f)	80	(d-f)	395	(d-f)	1,460	(d-f)	2,144	(d-f)
Basic earnings (loss) per share attributable to International Paper Company common shareholders:										
Earnings (loss) from continuing operations	$ 0.47		$ 0.20		$ 0.89		$ 3.56		$ 5.11	
Gain (loss) from discontinued operations	0.04		(0.01)		0.07		(0.02)		0.08	
Net earnings (loss)	0.51		0.19		0.96		3.54		5.19	
Diluted earnings (loss) per share attributable to International Paper Company common shareholders:										
Earnings (loss) from continuing operations	0.46		0.20		0.88		3.52		5.05	
Gain (loss) from discontinued operations	0.04		(0.01)		0.07		(0.02)		0.08	
Net earnings (loss)	0.50		0.19		0.95		3.50		5.13	
Dividends per share of common stock	0.4625		0.4625		0.4625		0.4750		1.8625	

Note: International Paper's common shares (symbol: IP) are listed on the New York Stock Exchange.

Note: Since basic and diluted earnings per share are computed independently for each period and category, full year per share amounts may not equal the sum of the four quarters.

Footnotes to Interim Financial Results

(a) Includes the following pre-tax charges (gains):

	2018			
In millions	**Q1**	**Q2**	**Q3**	**Q4**
Smurfit-Kappa acquisition proposal costs	**$ —**	**$ 12**	**$ —**	**$ —**
Legal settlement	**9**	**—**	**—**	**—**
Litigation settlement recovery	**—**	**—**	**—**	**(5)**
Environmental remediation reserve adjustment	**—**	**—**	**9**	**—**
EMEA Packaging optimization	**22**	**26**	**—**	**(1)**
Abandoned property removal	**9**	**9**	**6**	**8**
Riverdale mill conversion costs	**—**	**—**	**5**	**4**
Brazil Packaging impairment	**—**	**—**	**122**	**—**
Debt extinguishment costs	**—**	**—**	**—**	**10**
Gain on sale of investment in Liaison Technologies	**—**	**—**	**—**	**(31)**
Non-operating pension expense	**4**	**36**	**25**	**429**
Total	**$ 44**	**$ 83**	**$ 167**	**$ 414**

(b) Includes the following pre-tax charges (gains):

	2018			
In millions	**Q1**	**Q2**	**Q3**	**Q4**
North American Consumer Packaging transaction costs	**$ 23**	**$ 2**	**$ —**	**$ —**
North American Consumer Packaging gain on transfer	**(516)**	**28**	**—**	**—**
Total	**$ (493)**	**$ 30**	**$ —**	**$ —**

(c) Includes the following tax expenses (benefits):

	2018			
In millions	**Q1**	**Q2**	**Q3**	**Q4**
State income tax legislative changes	**$ —**	**$ 9**	**$ —**	**$ —**
Tax benefit of Tax Cuts and Jobs Act	**—**	**—**	**(36)**	**—**
International investment restructuring	**—**	**—**	**—**	**19**
Foreign tax audits	**—**	**—**	**—**	**25**
Tax impact of other special items	**(9)**	**(13)**	**(46)**	**3**
Tax impact of non-operating pension expense	**(1)**	**(9)**	**(6)**	**(107)**
Total	**$ (10)**	**$ (13)**	**$ (88)**	**$ (60)**

(d) Includes the following pre-tax charges (gains):

	2017			
In millions	Q1	Q2	Q3	Q4
Gain on sale of investment in ArborGen	$ —	$ (14)	$ —	$ —
Costs associated with the pulp business acquired in 2016	4	5	6	18
Amortization of Weyerhaeuser inventory fair value step-up	14	—	—	—
Holmen bargain purchase gain	(6)	—	—	—
Abandoned property removal	2	5	7	6
Kleen Products settlement	—	354	—	—
Asia Foodservice sale	—	9	—	—
Brazil Packaging wood supply accelerated amortization	—	—	10	—
Debt extinguishment costs	—	—	—	83
Interest income on income tax refund claims	—	(4)	—	(1)
Other items	—	(2)	—	—
Non-operating pension expense	31	34	33	386
Total	$ 45	$ 387	$ 56	$ 492

(e) Includes the operating earnings of the North American Consumer Packaging business for the full year. Also includes the following pre-tax charges (gains):

	2017			
In millions	Q1	Q2	Q3	Q4
North American Consumer Packaging transaction costs	$ —	$ —	$ —	$ 17
Non-operating pension expense	—	—	—	45
Total	$ —	$ —	$ —	$ 62

(f) Includes the following tax expenses (benefits):

	2017			
In millions	Q1	Q2	Q3	Q4
International legal entity restructuring	$ 15	$ —	$ 19	$ —
Income tax refund claims	—	(85)	—	(28)
Cash pension contribution	—	38	—	—
International tax law change	—	—	—	9
Tax benefit of Tax Cuts and Jobs Act	—	—	—	(1,222)
Tax impact of other special items	(8)	(137)	(8)	(41)
Tax impact of non-operating pension expense	(12)	(13)	(13)	(148)
Total	$ (5)	$ (197)	$ (2)	$ (1,430)

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

As of December 31, 2018, an evaluation was carried out under the supervision and with the participation of the Company's management, including our principal executive officer and principal financial officer, of the effectiveness of our disclosure controls and procedures and internal control over financial reporting. Based upon this evaluation, our principal executive officer and principal financial officer have concluded that the Company's disclosure controls and procedures and internal control over financial reporting were effective as of December 31, 2018.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

There have been no changes in our internal control over financial reporting during the quarter ended December 31, 2018 , that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information concerning our directors is hereby incorporated by reference to our definitive proxy statement that will be filed with the Securities and Exchange Commission (SEC) within 120 days of the close of our fiscal year. The Audit and Finance Committee of the Board of Directors has at least one member who is a financial expert, as that term is defined in Item 401(d)(5) of Regulation S-K. Further information concerning the composition of the Audit and Finance Committee and our audit committee financial experts is hereby incorporated by reference to our definitive proxy statement that will be filed with the SEC within 120 days of the close of our fiscal year. Information with respect to our executive officers is set forth on pages 4 and 5 in Part I of this Form 10-K under the caption, " Executive Officers of the Registrant ."

Executive officers of International Paper are elected to hold office until the next annual meeting of the Board of Directors following the annual meeting of shareholders and, until the election of successors, subject to removal by the Board.

The Company's Code of Business Ethics (Code) is applicable to all employees of the Company, including the chief executive officer and senior financial officers, as well as the Board of Directors. We disclose any amendments to our Code and any waivers from a provision of our Code granted to our directors, chief executive officer and senior financial officers on our website within four business days following such amendment or waiver. To date, no waivers of the Code have been granted.

We make available free of charge on our website at www.internationalpaper.com, and in print to any shareholder who requests them, our Corporate Governance Principles, our Code of Business Ethics and the Charters of our Audit and Finance Committee, Management Development and Compensation Committee, Governance Committee and Public Policy and Environment Committee. Requests for copies may be directed to the corporate secretary at our corporate headquarters.

Information with respect to compliance with Section 16(a) of the Exchange Act and our corporate governance is hereby incorporated by reference to our definitive proxy statement that will be filed with the SEC within 120 days of the close of our fiscal year.

ITEM 11. EXECUTIVE COMPENSATION

Information with respect to the compensation of executives and directors of the Company is hereby incorporated by reference to our definitive proxy statement that will be filed with the SEC within 120 days of the close of our fiscal year.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

A description of the security ownership of certain beneficial owners and management and equity compensation plan information is hereby incorporated by reference to our definitive proxy statement that will be filed with the SEC within 120 days of the close of our fiscal year.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

A description of certain relationships and related transactions is hereby incorporated by reference to our definitive proxy statement that will be filed with the SEC within 120 days of the close of our fiscal year.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information with respect to fees paid to, and services rendered by, our independent registered public accounting firm, and our policies and procedures for pre-approving those services, is hereby incorporated by reference to our definitive proxy statement that will be filed with the SEC within 120 days of the close of our fiscal year.

PART IV.

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(1) Financial Statements – See Item 8. Financial Statements and Supplementary Data .

(2) Financial Statement Schedules – The following additional financial data should be read in conjunction with the consolidated financial statements in Item 8. Financial Statements and Supplementary Data . Schedules not included with this additional financial data have been omitted because they are not applicable, or the required information is shown in the consolidated financial statements or the notes thereto.

Additional Financial Data

2018 , 2017 and 2016

(2.1) Transaction Agreement, dated October 23, 2017, by and among the Company, Graphic Packaging Holding Company, Gazelle Newco LLC and Graphic Packaging International, Inc. (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed October 24, 2017).

(3.1) Restated Certificate of Incorporation of International Paper Company (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K dated May 13, 2013).

(3.2) By-laws of International Paper Company, as amended through February 9, 2016 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K dated February 8, 2016).

(4.1) Indenture, dated as of April 12, 1999, between International Paper and The Bank of New York, as Trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated June 29, 2000).

(4.2) Supplemental Indenture (including the form of Notes), dated as of June 4, 2008, between International Paper Company and The Bank of New York, as Trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated June 4, 2008).

(4.3) Supplemental Indenture (including the form of Notes), dated as of May 11, 2009, between International Paper Company and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated May 11, 2009).

(4.4) Supplemental Indenture (including the form of Notes), dated as of August 10, 2009, between International Paper Company and The Bank of New York Mellon, as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated August 10, 2009).

(4.5) Supplemental Indenture (including the form of Notes), dated as of December 7, 2009, between International Paper Company and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated December 7, 2009).

(4.6) Supplemental Indenture (including the form of Notes), dated as of November 16, 2011, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated November 16, 2011).

(4.7) Supplemental Indenture (including the form of Notes), dated as of June 10, 2014, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated June 10, 2014).

(4.8) Supplemental Indenture (including the form of Notes), dated as of May 26, 2015, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated May 26, 2015).

(4.9)	Supplemental Indenture (including the form of Notes), dated as of August 11, 2016, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated August 11, 2016).
(4.10)	Supplemental Indenture (including the form of Notes), dated as of August 9, 2017, between the Company and The Bank of New York Mellon Trust Company, N.A., as trustee (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K dated August 9, 2017).
(4.11)	In accordance with Item 601 (b) (4) (iii) (A) of Regulation S-K, certain instruments respecting long-term debt of the Company have been omitted but will be furnished to the Commission upon request.
(10.1)	Amended and Restated 2009 Incentive Compensation Plan (ICP) (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K dated February 10, 2014). +
(10.2)	Restricted Stock and Deferred Compensation Plan for Non-Employee Directors, Amended and Restated as of May 10, 2010 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2010). +
(10.3)	Form of Restricted Stock Award Agreement (incorporated by reference to Exhibit 10.3 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017). * +
(10.4)	Form of Restricted Stock Unit Award Agreement (cash settled) (incorporated by reference to Exhibit 10.4 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017). +
(10.5)	Form of Restricted Stock Unit Award Agreement (stock settled) (incorporated by reference to Exhibit 10.5 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017). +
(10.6)	Form of Performance Share Plan award certificate (incorporated by reference to Exhibit 10.6 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2017). +
(10.7)	Pension Restoration Plan for Salaried Employees (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2009). +
(10.8)	Unfunded Supplemental Retirement Plan for Senior Managers, as amended and restated effective January 1, 2008 (incorporated by reference to Exhibit 10.21 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2007). +
(10.9)	Amendment No. 1 to the International Paper Company Unfunded Supplemental Retirement Plan for Senior Managers, effective October 13, 2008 (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K dated October 17, 2008). +
(10.10)	Amendment No. 2 to the International Paper Company Unfunded Supplemental Retirement Plan for Senior Managers, effective October 14, 2008 (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K dated October 17, 2008). +
(10.11)	Amendment No. 3 to the International Paper Company Unfunded Supplemental Retirement Plan for Senior Managers, effective December 8, 2008 (incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008). +
(10.12)	Amendment No. 4 to the International Paper Company Unfunded Supplemental Retirement Plan for Senior Managers, effective January 1, 2009 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2009). +
(10.13)	Amendment No. 5 to the International Paper Company Unfunded Supplemental Retirement Plan for Senior Managers, effective October 31, 2009 (incorporated by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2009). +
(10.14)	Amendment No. 6 to the International Paper Company Unfunded Supplemental Retirement Plan for Senior Managers, effective January 1, 2012 (incorporated by reference to Exhibit 10.21 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2011). +
(10.15)	Form of Non-Competition Agreement, entered into by certain Company employees (including named executive officers) who have received restricted stock (incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2008). +

(10.16)	Form of Non-Solicitation Agreement, entered into by certain Company employees (including named executive officers) who have received restricted stock (incorporated by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2006). +
(10.17)	Form of Change-in-Control Agreement - Tier I, for the Chief Executive Officer and all "grandfathered" senior vice presidents elected prior to 2012 (all named executive officers) - approved September 2013 (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2013). +
(10.18)	Form of Change-in-Control Agreement - Tier II, for all future senior vice presidents and all "grandfathered" vice presidents elected prior to February 2008 - approved September 2013 (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2013). +
(10.19)	Form of Indemnification Agreement for Directors (incorporated by reference to Exhibit 10.13 to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2003). +
(10.20)	Board Policy on Severance Agreements with Senior Executives (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on October 18, 2005). +
(10.21)	Board Policy on Change of Control Agreements (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on October 18, 2005). +
(10.22)	Time Sharing Agreement, dated October 17, 2014 (and effective November 1, 2014), by and between Mark S. Sutton and International Paper Company (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K dated October 14, 2014). +
(10.23)	Five-Year Credit Agreement dated as of December 12, 2016, among International Paper Company, JPMorgan Chase Bank, N.A., individually and as administrative agent, and certain lenders (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed June 6, 2017).
(10.24)	Settlement Agreement dated June 27, 2017, by and between International Paper Company, Temple-Inland Inc., n/k/a Temple-Inland LLC, TIN Inc., n/k/a TIN LLC, and Weyerhaeuser Company, and Kleen Products LLC, R.P.R. Enterprises, Inc., Mighty Pac, Inc., Ferraro Foods, Inc., Ferraro Foods of North Carolina, LLC, MTM Packaging Solutions of Texas, LLC, RHE Hatco, Inc., and Chandler Packaging, Inc., the plaintiff class representatives, both individually and on behalf of the plaintiff class (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017).
(10.25)	Commitment Agreement, dated September 26, 2017, between International Paper Company and The Prudential Insurance Company of America, relating to the Retirement Plan of International Paper Company (incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017). †
(10.26)	Credit Agreement, dated December 8, 2017, by and among the Company, Bank of America, N.A. and BNP Paribas (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed December 12, 2017).
(10.27)	Commitment Agreement, dated September 25, 2018, between International Paper Company and Prudential Insurance Company of America, relating to the Retirement Plan of International Paper Company (corrected version of previously filed exhibit). * †
(10.28)	Termination Agreement and Release, dated July 6, 2018, and executed July 23, 2018, between International Paper Company and Glenn R. Landau (incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K/A filed on July 27, 2018).
(10.29)	Letter to Glenn R. Landau, dated July 23, 2018 (incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K/A filed on July 27, 2018).
(21)	Subsidiaries and Joint Ventures.*
(23.1)	Consent of Independent Registered Public Accounting Firm. *
(23.2)	Consent of Independent Auditors. *
(24)	Power of Attorney (contained on the signature page to the Company's Annual Report on Form 10-K for the year ended December 31, 2018). *
(31.1)	Certification by Mark S. Sutton, Chairman and Chief Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. *
(31.2)	Certification by Tim S. Nicholls, Senior Vice President and Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. *
(32)	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.*
(99.1)	Audited Financial Statements for Ilim S.A. and its subsidiaries as of and for the year ended December 31, 2018 and 2017. *

(101.INS)	XBRL Instance Document *
(101.SCH)	XBRL Taxonomy Extension Schema *
(101.CAL)	XBRL Taxonomy Extension Calculation Linkbase *
(101.DEF)	XBRL Taxonomy Extension Definition Linkbase *
(101.LAB)	XBRL Taxonomy Extension Label Linkbase *
(101.PRE)	XBRL Extension Presentation Linkbase *

+ Management contract or compensatory plan or arrangement.
** Filed herewith*
† Confidential treatment has been granted for certain information pursuant to Rule 24b-2 under the Securities Act of 1934, as amended.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

INTERNATIONAL PAPER COMPANY

By: /s/ Sharon R. Ryan February 20, 2019

Sharon R. Ryan
Senior Vice President, General Counsel and Corporate Secretary

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Sharon R. Ryan and Matthew Barron as his or her true and lawful attorney-in-fact and agent, acting alone, with full power of substitution and resubstitution for him or her and in his or her name, place and stead, in any and all capacities, to sign any or all amendments to this annual report on Form 10-K, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact full power and authority to do and perform each and every act and thing requisite or necessary to be done, hereby ratifying and confirming all that said attorney-in-fact and agent, or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Mark S. Sutton **Mark S. Sutton**	Chairman of the Board & Chief Executive Officer and Director	February 20, 2019
/s/ David J. Bronczek **David J. Bronczek**	Director	February 20, 2019
/s/ William J. Burns **Willliam J. Burns**	Director	February 20, 2019
/s/ Christopher M. Connor **Christopher M. Connor**	Director	February 20, 2019
/s/ Ahmet C. Dorduncu **Ahmet C. Dorduncu**	Director	February 20, 2019
/s/ Ilene S. Gordon **Ilene S. Gordon**	Director	February 20, 2019

/s/ Jacqueline C. Hinman **Jacqueline C. Hinman**	Director	February 20, 2019
/s/ Clinton A. Lewis, Jr. **Clinton A. Lewis, Jr.**	Director	February 20, 2019
/S/ Kathryn D. Sullivan **Kathryn D. Sullivan**	Director	February 20, 2019
/s/ J. Steven Whisler **J. Steven Whisler**	Director	February 20, 2019
/s/ Ray G. Young **Ray G. Young**	Director	February 20, 2019
/s/ Timothy S. Nicholls **Timothy S. Nicholls**	Senior Vice President and Chief Financial Officer	February 20, 2019
/s/ Vincent P. Bonnot **Vincent P. Bonnot**	Vice President – Finance and Controller	February 20, 2019

APPENDIX I

2018 LISTING OF FACILITIES

(all facilities are owned except noted otherwise)

PRINTING PAPERS

Uncoated Papers

U.S.:

Selma, Alabama (Riverdale Mill)
Ticonderoga, New York
Eastover, South Carolina
Georgetown, South Carolina
Sumter, South Carolina

International:

Luiz Antônio, São Paulo, Brazil
Mogi Guacu, São Paulo, Brazil
Três Lagoas, Mato Grosso do Sul, Brazil
Saillat, France
Kadiam, India
Rajahmundry, India
Kwidzyn, Poland
Svetogorsk, Russia

GLOBAL CELLULOSE FIBERS

Pulp

U.S.:

Cantonment, Florida
Flint River, Georgia
Port Wentworth, Georgia
Columbus, Mississippi
New Bern, North Carolina
Riegelwood, North Carolina
Eastover, South Carolina
Georgetown, South Carolina
Franklin, Virginia

International:

Grande Prairie, Alberta, Canada
Saillat, France
Gdansk, Poland
Kwidzyn, Poland
Svetogorsk, Russia

INDUSTRIAL PACKAGING

Containerboard

U.S.:

Pine Hill, Alabama
Prattville, Alabama
Cantonment, Florida
Rome, Georgia
Savannah, Georgia
Cayuga, Indiana
Cedar Rapids, Iowa
Henderson, Kentucky
Maysville, Kentucky
Bogalusa, Louisiana
Campti, Louisiana
Mansfield, Louisiana
Vicksburg, Mississippi
Valliant, Oklahoma
Springfield, Oregon
Orange, Texas

International:

Franco da Rocha, São Paulo, Brazil
Nova Campina, São Paulo, Brazil
Paulinia, São Paulo, Brazil
Veracruz, Mexico
Kenitra, Morocco
Madrid, Spain

Corrugated Container

U.S.:

Bay Minette, Alabama
Decatur, Alabama
Dothan, Alabama leased
Huntsville, Alabama
Conway, Arkansas
Fort Smith, Arkansas (2 locations)
Russellville, Arkansas (2 locations)
Tolleson, Arizona
Yuma, Arizona
Anaheim, California
Buena Park, California leased
Camarillo, California
Carson, California
Cerritos, California leased
Compton, California
Elk Grove, California
Exeter, California
Gilroy, California (2 locations)
Los Angeles, California
Modesto, California
Ontario, California
Salinas, California
Sanger, California
San Leandro, California leased [3]
Santa Fe Springs, California (2 locations)
Stockton, California
Tracy, California
Golden, Colorado
Wheat Ridge, Colorado
Putnam, Connecticut
Orlando, Florida
Plant City, Florida
Tampa, Florida leased
Columbus, Georgia
Forest Park, Georgia
Griffin, Georgia
Kennesaw, Georgia leased
Lithonia, Georgia
Savannah, Georgia
Stone Mountain, Georgia leased
Tucker, Georgia
Aurora, Illinois (3 locations)
Bedford Park, Illinois (2 locations) 1 leased
Belleville, Illinois
Carol Stream, Illinois
Des Plaines, Illinois
Lincoln, Illinois
Montgomery, Illinois
Northlake, Illinois
Rockford, Illinois
Butler, Indiana
Crawfordsville, Indiana
Fort Wayne, Indiana
Hammond, Indiana
Indianapolis, Indiana (2 locations)
Saint Anthony, Indiana
Tipton, Indiana
Cedar Rapids, Iowa
Waterloo, Iowa
Garden City, Kansas
Kansas City, Kansas
Bowling Green, Kentucky
Lexington, Kentucky
Louisville, Kentucky
Walton, Kentucky
Bogalusa, Louisiana
Lafayette, Louisiana
Shreveport, Louisiana
Springhill, Louisiana
Auburn, Maine
Three Rivers, Michigan
Arden Hills, Minnesota
Austin, Minnesota
Fridley, Minnesota
Minneapolis, Minnesota leased

Shakopee, Minnesota	Laurens, South Carolina	Silao, Mexico
White Bear Lake, Minnesota	Lexington, South Carolina	Toluca, Mexico
Houston, Mississippi	*Ashland City, Tennessee leased*	Villa Nicolas Romero, Mexico
Jackson, Mississippi	Cleveland, Tennessee	Zapopan, Mexico
Magnolia, Mississippi leased	*Elizabethton, Tennessee leased*	Agadir, Morocco
Olive Branch, Mississippi	Morristown, Tennessee	Casablanca, Morocco
Fenton, Missouri	Murfreesboro, Tennessee	Tangier, Morocco
Kansas City, Missouri	Amarillo, Texas	Almeria, Spain [2]
Maryland Heights, Missouri	Carrollton, Texas (2 locations)	Barcelona, Spain
North Kansas City, Missouri leased	Edinburg, Texas	Bilbao, Spain
St. Joseph, Missouri	El Paso, Texas	Gandia, Spain
St. Louis, Missouri	*Ft. Worth, Texas leased*	Las Palmas, Spain
Omaha, Nebraska	Grand Prairie, Texas	Madrid, Spain
Barrington, New Jersey	Hidalgo, Texas	Tenerife, Spain
Bellmawr, New Jersey	McAllen, Texas	Adana, Turkey
Milltown, New Jersey	San Antonio, Texas (2 locations)	Bursa. Turkey
Spotswood, New Jersey	Sealy, Texas	Corlu, Turkey
Thorofare, New Jersey	Waxahachie, Texas	Corum, Turkey
Binghamton, New York	Lynchburg, Virginia	Gebze, Turkey
Buffalo, New York	Petersburg, Virginia	Izmir, Turkey
Rochester, New York	Richmond, Virginia	
Scotia, New York	Moses Lake, Washington	**Recycling**
Utica, New York	Olympia, Washington	***U.S.:***
Charlotte, North Carolina (2 locations) 1 leased	Yakima, Washington	Phoenix, Arizona
Lumberton, North Carolina	Fond du Lac, Wisconsin	Fremont, California
Manson, North Carolina	Manitowoc, Wisconsin	Norwalk, California
Newton, North Carolina		West Sacramento, California
Statesville, North Carolina	***International:***	Itasca, Illinois
Byesville, Ohio	Manaus, Amazonas, Brazil	Des Moines, Iowa
Delaware, Ohio	Paulinia, São Paulo, Brazil	Wichita, Kansas
Eaton, Ohio	Rio Verde, Goias, Brazil	Roseville, Minnesota
Madison, Ohio	Suzano, São Paulo, Brazil	Omaha, Nebraska
Marion, Ohio	Rancagua, Chile	Charlotte, North Carolina
Marysville, Ohio leased	Arles, France	Beaverton, Oregon
Middletown, Ohio	Chalon-sur-Saone, France	*Springfield, Oregon leased*
Mt. Vernon, Ohio	Creil, France	Carrollton, Texas
Newark, Ohio	LePuy, France (Espaly Box Plant)	Salt Lake City, Utah
Streetsboro, Ohio	Mortagne, France	Richmond, Virginia
Wooster, Ohio	Guadeloupe, French West Indies	Kent, Washington
Oklahoma City, Oklahoma	Bellusco, Italy	
Beaverton, Oregon (3 locations)	Catania, Italy	***International:***
Hillsboro, Oregon	Pomezia, Italy	*Monterrey, Mexico leased*
Portland, Oregon	San Felice, Italy	*Xalapa, Veracruz, Mexico leased*
Salem, Oregon leased	*Apodaco (Monterrey), Mexico leased*	
Biglerville, Pennsylvania (2 locations)	Ixtaczoquitlan, Mexico	**Bags**
Eighty-four, Pennsylvania	*Juarez, Mexico leased*	***U.S.:***
Hazleton, Pennsylvania	Los Mochis, Mexico	Buena Park, California
Kennett Square, Pennsylvania	*Puebla, Mexico leased*	Beaverton, Oregon
Lancaster, Pennsylvania	Reynosa, Mexico	Grand Prairie, Texas
Mount Carmel, Pennsylvania	San Jose Iturbide, Mexico	
Georgetown, South Carolina	Santa Catarina, Mexico	

Coated Paperboard

International:

Kwidzyn, Poland

Svetogorsk, Russia

DISTRIBUTION

IP Asia

International:

Guangzhou, China

Hong Kong, China

Shanghai, China

Japan

Korea

Singapore

Taiwan [1]

Thailand [1]

Vietnam [1]

FOREST RESOURCES

International:

Approximately 329,400 acres

in Brazil

1) Closed July 2018

2) Closed September 2018

3) Closed December 2018

APPENDIX II

2018 CAPACITY INFORMATION

(in thousands of short tons except as noted)	U.S.	EMEA	Americas, other than U.S.	India	Total
Industrial Packaging					
Containerboard [(a)]	**13,596**	**91**	**366**	**—**	**14,053**
Coated Paperboard	**—**	**428**	**—**	**—**	**428**
Total Industrial Packaging	**13,596**	**519**	**366**	**—**	**14,481**
Global Cellulose Fibers					
Dried Pulp *(in thousands of metric tons)*	**2,914**	**277**	**535**	**—**	**3,726**
Printing Papers					
Uncoated Freesheet & Bristols [(b)]	**1,990**	**1,162**	**1,135**	**266**	**4,553**
Newsprint	**—**	**75**	**—**	**—**	**75**
Total Printing Papers	**1,990**	**1,237**	**1,135**	**266**	**4,628**

(a) In addition to Containerboard, this also includes saturated kraft, kraft bag, and gypsum.
(b) In addition to Uncoated Freesheet and Bristols, includes bleached multiwall bag and plate.

Forest Resources	
We own, manage or have an interest in approximately 1.4 million acres of forestlands worldwide. These forestlands and associated acres are located in the following regions:	(M Acres)
Brazil	**329**
We have harvesting rights in:	
Russia	**1,047**
Total	**1,376**

THE USE OF THE FOLLOWING NOTATION IN THIS EXHIBIT INDICATES THAT THE CONFIDENTIAL PORTION HAS BEEN OMITTED PURSUANT TO A REQUEST FOR CONFIDENTIAL TREATMENT AND THE OMITTED MATERIAL HAS BEEN FILED SEPARATELY WITH THE SECURITIES AND EXCHANGE COMMISSION: [***]

COMMITMENT AGREEMENT

September 25, 2018 (the " Commitment Agreement Date ")

The Prudential Insurance Company of America (" Prudential ") is pleased to provide, on the following terms, the non-participating single premium group annuity contract, supported by a dedicated separate account and guaranteed by its general account (the " Contract ") for the Retirement Plan of International Paper Company (the " Plan ") in consideration of the mutual promises made and representations, warranties and covenants contained in this Commitment Agreement (this " Commitment Agreement "). For purposes of this Commitment Agreement, capitalized terms will have the meaning set forth in paragraph 10 . By signing this Commitment Agreement, Prudential and International Paper Company (the " Company "), and State Street Global Advisors Trust Company, acting solely in its capacity as the independent fiduciary of the Plan (the " Independent Fiduciary "), agree as follows:

1. **GAC Issuance and GAC Issuance True-Up Premium** . Prudential agrees to issue the Contract as follows:

    a. Specimen GAC Form Issuance . On the Scheduled GAC Issuance Date, subject to Prudential's receipt of the Premium Due Date Transfers and any GAC Issuance True-Up Premium due to Prudential and subject to the terms of paragraphs 1.b. and 1.c., Prudential irrevocably agrees to issue the Contract with an effective date that is the Premium Due Date, and in accordance with the Contract, irrevocably commits to make payments owed to Payees under the Contract on and after the Annuity Start Date; provided that, if the parties are unable to complete the takeover of administration services regarding payments under the Contract pursuant to paragraph 6 prior to the Annuity Start Date, Prudential shall make a bulk payment to the Plan Trust (or in such other manner as the parties agree) equal to the Aggregate Monthly Payment (as defined in the Contract) for each month until administration is transferred to Prudential pursuant to paragraph 6. The Contract will be in substantially the form of the specimen group annuity contract (the " Specimen GAC Form ") attached hereto as Schedule 1 unless a Modified GAC Form is issued pursuant to and in accordance with paragraph 2.

    b. Form of Annuities and Payments under the Contract . The type, description and forms of annuities (e.g., single life annuity, joint and survivor annuity), payments under the Contract and other terms of the Contract will be consistent with the terms of Prudential's proposal dated June 7, 2018 and September 21, 2018 (the " Proposal ") as updated to reflect (i) any modifications contemplated in Prudential's Final Annuity Quote Sheet dated September 25, 2018 (the " Final Annuity Quote Sheet ") and (ii) any modifications mutually agreed to between the parties after the Commitment Agreement Date and before the 35 th Business Day prior to the Scheduled GAC Issuance Date. Subject to Prudential's receipt of the Premium Due Date Transfers, Prudential will make payments to Payees commencing on December 31, 2018 in accordance with the Proposal and the Final Annuity Quote Sheet until the Contract has been issued and, for the avoidance of doubt, will make such payments even if the Contract has not been issued by Prudential as of December 31, 2018. The original annuity exhibit to the Contract will be consistent with the Payees (including annuitants, contingent annuitants, alternate payees and beneficiaries) on Tab DG3 of the Base File.

c. Necessary Data . As a condition to Prudential's issuing the Contract, the Company will deliver or cause to be delivered to Prudential the data necessary for Prudential to prepare the annuity exhibit and the information necessary for Prudential to draft provisions of the Contract and administer the payments thereunder. If there are any delays in the delivery of the foregoing information based on the delivery dates set forth in Schedule 7 or such other delivery dates as may be designated by Prudential, Prudential may refer any Payee who contacts Prudential to the Company Contact for assistance and Prudential may, in its sole discretion, delay the mailing of Welcome Kits and annuity certificates. The annuity exhibit will not include any Payee for which Prudential has not been provided each of the following: (i) name, (ii) gender, (iii) date of birth and (iv) social security or federal taxpayer identification number.

d. GAC Issuance True-Up Premium . Schedule 8 provides a description of the methodologies and procedures by which Prudential will calculate the GAC Issuance True-Up Premium. Prudential and the Company will cooperate in good faith so that Prudential can calculate the GAC Issuance True-Up Premium, subject to the following acknowledgements, limitations and conditions:

   i. GAC Issuance Data . To the extent that the Company discovers or has any Removed Lives or Data Corrections after the Commitment Agreement Date and prior to the date that is 35 Business Days prior to the Scheduled GAC Issuance Date (the " GAC Issuance Data Notice Date "), the Company will provide written notice of such Removed Life or Data Correction as promptly as reasonably practicable to Prudential. Prudential will only be responsible for incorporating into the calculation of the GAC Issuance True-Up Premium those Data Corrections and Removed Lives that have been notified to Prudential by the Company on or prior to the GAC Issuance Data Notice Date together with any other Removed Lives and Data Corrections identified by Prudential (the " GAC Issuance Data "). Such incorporation is subject to Prudential's agreement with such Removed Lives or Data Corrections and any limitations on incorporating such Data Corrections and Removed Lives into the GAC Issuance True-Up Premium set forth in Schedule 8.

   ii. GAC Issuance Annuity Exhibit . Twenty Business Days prior to the Scheduled GAC Issuance Date, Prudential will deliver to the Company a proposed annuity exhibit utilizing and consistent with the Base File and the GAC Issuance Data. Fifteen Business Days prior to the Scheduled GAC Issuance Date, the Company will respond to Prudential with any questions on the annuity exhibit. Prudential and the Company will cooperate in good faith to resolve any discrepancies on or prior to the eleventh Business Day prior to the Scheduled GAC Issuance Date and Prudential will reflect in the annuity exhibit any changes that have been agreed to on or prior to such eleventh Business Day. The annuity exhibit will not include any Payee for which Prudential has not been provided each of the following: (1) name, (2) gender, (3) date of birth and (4) social security or federal taxpayer identification number. Notwithstanding the foregoing, if the (1) name, (2) gender, (3) date of birth or (4) social security or federal taxpayer identification number for a Payee that is provided in accordance with this paragraph 1.d.ii is determined to be incorrect after the Scheduled GAC Issuance Date, any adjustments or amendments to the Contract shall be made solely in accordance with the terms of the Contract.

iii. GAC Issuance True-Up Premium . Eight Business Days prior to the Scheduled GAC Issuance Date, Prudential will send the calculation of the GAC Issuance True-Up Premium to the Company for review [***]. Five Business Days prior to the Scheduled GAC Issuance Date, the Company will respond to Prudential with any questions on the GAC Issuance True-Up Premium. If the Company and Prudential cannot resolve any dispute with respect to the GAC Issuance True-Up Premium on or prior to the date that is three Business Days prior to the Scheduled GAC Issuance Date, then Prudential's determination will control for purposes of the GAC Issuance True-Up Premium but the Company may immediately commence an arbitration dispute pursuant to Schedule 4 with respect to the GAC Issuance True-Up Premium.

iv. GAC Issuance True-Up Premium Payment . The GAC Issuance True-Up Premium will be paid on the Scheduled GAC Issuance Date as follows: (A) if the GAC Issuance True-Up Premium is a positive number, then the Independent Fiduciary will irrevocably direct the Plan Trustee to pay to Prudential an amount, in Cash, equal to the GAC Issuance True-Up Premium or (B) if the GAC Issuance True-Up Premium is a negative number, then Prudential will pay to the Plan Trust an amount, in Cash, equal to the absolute value of the GAC Issuance True-Up Premium.

2. **Negotiation of Modified GAC Form .** After the Commitment Agreement Date, Prudential, the Company and the Independent Fiduciary will each use commercially reasonable efforts to revise the Specimen GAC Form to reflect such revisions that were mutually agreed to by the parties prior to the Commitment Agreement Date and will use commercially reasonable efforts to negotiate any additional revisions to the Specimen GAC Form (the " Modified GAC Form ") and related forms of annuity certificates, subject to the following acknowledgements, limitations and conditions:

   a. Regulatory Approvals . Prudential will use commercially reasonable efforts to obtain regulatory approvals, to the extent required by applicable law, of the Modified GAC Form prior to the date that is 90 Business Days after the Commitment Agreement Date (the " Modified GAC Deadline Date ") and in the event that any approval, to the extent required by applicable law, is not granted, or if the Contract is disapproved, Prudential, the Independent Fiduciary and the Company will cooperate in good faith to mutually agree on modifications to the Contract to address the requests of the Tennessee Department of Commerce and Insurance, if any, and, to the extent possible, to preserve the provisions included in the Modified GAC Form. Prudential will use commercially reasonable efforts to obtain regulatory approvals, to the extent required by applicable law, of customized annuity certificates prior to the annuity certificate mailing date set forth in paragraph 5.b.

   b. Modified GAC Form Issuance . If, in accordance with paragraph 2.a., the negotiation of the Modified GAC Form and the receipt of any related regulatory approvals for all negotiated changes to the Specimen GAC Form are completed by the Modified GAC Deadline Date, then, subject to Prudential's receipt of the Premium Due Date Transfers and any GAC Issuance True-Up Premium due to Prudential, (i) if Prudential has not previously issued the Contract in the form of the Specimen GAC Form, Prudential will issue the Contract using the Modified GAC Form in lieu of the Specimen GAC Form, subject to and in accordance with paragraphs 1.a., 1.b. and 1.c., or (ii) if Prudential has previously issued the Contract in the form of the Specimen GAC Form subject to and in accordance with paragraphs 1.a., 1.b. and 1.c., Prudential will amend and restate the Contract so that its terms are replaced by the Modified GAC Form (or applicable provisions thereof). Such Contract will have an effective date that is the Premium Due Date.

3. **Premium Due Date Transfers .** The Independent Fiduciary will irrevocably direct the Plan Trustee to pay Prudential [***]. (the " Premium Amount ") on the Premium Due Date by paying an amount in Cash equal to the Premium Amount (such payment, the " Premium Due Date Transfer "). Notwithstanding anything to the contrary in this Commitment Agreement, Prudential, the Company and the Independent Fiduciary each agree and acknowledge that the Premium Amount will be paid entirely in Cash [***].

   a. Schedule 2 Updates . On the second Business Day after the Commitment Agreement Date, Prudential will deliver to the Company an updated Schedule 2 that reflects the [***] of each [***]. If the Company and Prudential cannot resolve any dispute with respect to any such information on or prior to the Premium Due Date, then [***] may immediately commence an arbitration dispute pursuant to Schedule 4 with respect to any such information. On the Premium Due Date, Prudential will, if needed, update Schedule 2 to reflect the removal of [***]. Prudential will, if needed, further update Schedule 2 to reflect the removal of [***] and is returned to the Plan Trust in accordance therewith.
   b. [***] . On and as of the Business Day prior to the Premium Due Date, Prudential will provide to the Company [***] in the form of Schedule 5 [***]. Prior to the Premium Due Date, the Company will confirm to Prudential in writing that such information is accurate and complete or will provide any additions, deletions or corrections to such information. If the Company and Prudential have a dispute with respect to any such information and cannot resolve such dispute on or prior to the Business Day prior to the Premium Due Date, then [***] may immediately commence an arbitration dispute pursuant to Schedule 4 with respect to any such information.
   c. [***] . By written notice to the other party on or before [***] following the Premium Due Date, the Company or Prudential may identify [***] and the parties will work in good faith [***] following the receipt of such notice to agree on which, if any, [***]. If the parties agree that an asset is [***] within [***] following the receipt of such notice, then, on or before the date that is [***] following such agreement, the Independent Fiduciary will irrevocably direct the Plan Trustee to promptly pay or cause to be paid to Prudential an amount, in Cash, equal to [***], and, simultaneously with receipt of such payment, Prudential will return [***] to the Plan Trust together with any [***].
   d. Additional Actions with respect to Assets . The Independent Fiduciary will irrevocably direct the Plan Trustee to promptly give all notices that are required, under applicable law and the terms of [***], in connection with the sale, assignment, transfer and delivery of [***] on the Premium Due Date. The Independent Fiduciary will irrevocably direct the Plan Trustee to and Prudential will promptly execute, deliver, record or file or cause to be executed, delivered, recorded or filed any and all releases, affidavits,

waivers, notices or other documents that the Company or Prudential may reasonably request in order to implement the transfer of [***] to Prudential.

e. [***]. [***].

f. Available Assets. The Company will cause the Plan Trust to have sufficient Cash or other assets (whether by means of a Cash contribution or otherwise) to enable the Plan Trustee to pay all amounts that it is directed to pay to Prudential by the Independent Fiduciary pursuant to this Commitment Agreement.

4. **Public Announcements.**

a. Press Releases. The Company and Prudential have the right to issue a transaction announcement or press release regarding the transactions contemplated by this Commitment Agreement, a copy of which will be provided to the other party for review no less than two Business Days prior to the issuance thereof, and the party issuing the transaction announcement or press release will consider in good faith any comments made by the other party; provided, however, that, if the Company has not issued a transaction announcement or press release, Prudential will not issue a transaction announcement or press release without the prior written consent of the Company; provided, further, that nothing contained in this paragraph 4.a. will prevent Prudential from communicating with Payees, including through communications posted to Prudential's website.

b. SEC Filings. If the Company concludes that disclosure of this Commitment Agreement is required by the rules of the Securities and Exchange Commission ("SEC"), (i) the Company will, in good faith, consider whether to make an application with the SEC for confidential treatment of information that the Company concludes is competitively sensitive from the perspective of the Company and (ii) the Company will provide Prudential with a copy of any material correspondence (written or oral) with the SEC regarding any such application for confidential treatment, and the Company and Prudential will otherwise reasonably cooperate in connection with any such application.

c. No Insurer Communications. From the Commitment Agreement Date until the issuance of any annuity certificate by Prudential to an annuitant, other than as provided for in this Commitment Agreement, without the Company's prior written consent, (i) Prudential will cause the employees of its retirement services business unit not to initiate any contact or communication with any participant or beneficiary of the Plan in connection with any transactions other than those transactions contemplated by this Commitment Agreement and (ii) Prudential will not, and will cause all of its affiliates not to, provide any of their respective insurance agents, wholesalers, retailers or other representatives with any contact information of such participants and beneficiaries of the Plan obtained from the Company or any of its representatives in connection with the transactions contemplated by this Commitment Agreement, except for those representatives of Prudential or any of their respective affiliates who need to know such information for purposes of the transactions contemplated by this Commitment Agreement and agree to comply with the requirements of this Commitment Agreement. However, this paragraph 4.c. will not restrict employees of Prudential's retirement services business unit from contacting any participant or beneficiary of the Plan in connection with, or to facilitate, Prudential's performance of its obligations under the Contract, the annuity certificates or this Commitment Agreement. Until the issuance of an annuity certificate by Prudential to an annuitant, other than as provided for in this Commitment Agreement, if any participant or beneficiary of the Plan contacts an employee of Prudential's retirement services business unit, Prudential and the Company will cooperate to coordinate on a response to such participant or beneficiary of the Plan. [***]. [***].

5. **Welcome Kits and Annuity Certificates** .

   a. Welcome Kits . Beginning on December 12, 2018, Prudential will mail a welcome kit to each annuitant under the Contract (the " Welcome Kit "). Prudential will send a preliminary draft of the Welcome Kit to the Company and the Independent Fiduciary as soon as practicable and Prudential will consider in good faith any comments made by the Company or the Independent Fiduciary on the "Frequently Asked Questions" section of the Welcome Kit on or before the fifth Business Day after it receives the preliminary draft of the Welcome Kit from Prudential.
   b. Annuity Certificates . Prudential will mail an annuity certificate to each applicable Payee on or before the later of (i) 20 Business Days after the Contract is issued and (ii) 120 Business Days after the date on which the Welcome Kit is mailed to Payees, in each case, subject to receiving regulatory approvals for any such annuity certificate, if needed. To the extent that any changes are made to the forms of annuity certificates or the related benefit terms after the Company, the Independent Fiduciary and Prudential have agreed on the forms of annuity certificates to be filed and the related benefit terms, the mailing of an annuity certificate to each applicable Payee shall be extended by the number of days elapsed since the Company, the Independent Fiduciary and Prudential had first agreed on the forms of such annuity certificates and the related benefit terms. Each annuity certificate will include a statement informing a Payee of his or her right to obtain a copy of the Contract (redacted to exclude information concerning other annuitants) and the right to enforce all provisions of the Contract. The rights of a Payee are not conditioned on the issuance of the annuity certificates, and any delay in issuing a certificate shall not have any effect on the date as of which the Payee has enforceable rights against Prudential.

6. **Administration and Transfer .**

   a. Administrative Transition . The Company will provide or cause to be provided to Prudential the information needed to administer the payments under the Contract and will complete or cause to be completed all processes set forth in Schedule 7. The Company and Prudential will use commercially reasonable efforts to take or cause to be taken all actions and do or cause to be done all things necessary to coordinate the takeover by Prudential of all administration responsibilities necessary to effectively provide recordkeeping and administration services regarding payments under the Contract commencing on December 31, 2018. The Company will provide Prudential with final census data in good order on or before October 22, 2018 in order for Prudential to provide recordkeeping and administration services regarding payments under the Contract commencing on December 31, 2018. The Company agrees to cooperate with Prudential in the takeover of such recordkeeping and administration services, including ensuring that any third-party service provider provides Prudential with any reasonably necessary information or records relating to the Plan benefits and the Payees in its possession. The Company will make subject matter experts available to promptly address any questions Prudential may have regarding the benefit provisions, including but not limited to forms of annuity, eligibility conditions, administrative practices and calculation methodology. Prudential shall perform all of its obligations contemplated under this Agreement and the Contract in compliance with all applicable laws.

b. Call Center and Company Contact . Prudential will maintain, at its cost and expense, a toll-free phone number and/or a website (the " Call Center ") which will be available starting from December 12, 2018 for Payees to contact Prudential with questions related to the Contract and the annuity certificates. For a period of five years following the Premium Due Date, the Company will maintain, at its cost and expense, a point of contact (the " Company Contact ") to which Prudential may refer Payees who pose questions related to their Plan benefits. In the event that a Payee contacts the Company with questions related to the Contract and the annuity certificates, the Company may refer the Payee to the Call Center. In the event that a Payee contacts Prudential with questions related to their Plan benefits, Prudential may refer the Payee to the Company Contact.

7. **[***]; Termination .**

a. [***] . In the event (1) the Independent Fiduciary breaches its obligation to irrevocably direct the Plan Trustee to pay the Premium Due Date Transfers in accordance with paragraph 3, (2) the Premium Due Date Transfers are not transferred to and received by Prudential in accordance with paragraph 3 (due to failure of the Plan Trustee to pay the Premium Due Date Transfers or otherwise) or (3) the condition to closing set forth in paragraph 9.b.ii is not satisfied, the Company will promptly pay Prudential [***]. [***].

b. Termination . This Commitment Agreement (i) may be terminated at Prudential's option if the Premium Due Date Transfers have not occurred in accordance with this Commitment Agreement on the Premium Due Date, or (ii) will be terminated upon the payment of [***]. If this Commitment Agreement is terminated pursuant to the preceding sentence, all rights and obligations of the parties under this Commitment Agreement will terminate and will become null and void except that this paragraph 7 ([***]; Termination), paragraph 10 (Definitions), Schedule 9 ([***]), and paragraph 12 (Miscellaneous) will survive any such termination and no party will otherwise have any liability to any other party under this Commitment Agreement. However, nothing in this paragraph 7 will relieve any party from liability for any fraud or willful and material breach of this Commitment Agreement.

8. **Representations and Warranties.**

a. Prudential Representations and Warranties . Prudential hereby represents and warrants to the Company and the Independent Fiduciary as of the Commitment Agreement Date and as of the Premium Due Date that:

i. Due Organization, Good Standing and Corporate Power . Prudential is a life insurance company, duly organized, validly existing and in good standing under the laws of the State of New Jersey. Prudential is duly qualified or licensed to do business and is in good standing in each jurisdiction in which its performance of its obligations in the Commitment Agreement and the Ancillary Agreements makes such qualification or licensing necessary, except in such jurisdictions where the failure to be in good standing or so qualified or licensed would not be material. Prudential has all requisite power and authority to enter into and carry out its obligations under this Commitment Agreement and the Ancillary Agreements and to consummate the transactions contemplated to be undertaken by Prudential in this Commitment Agreement and the Ancillary Agreements.

ii. Authorization of Commitment Agreement and Enforceability . Prudential has received all necessary corporate approvals and no other action on the part of Prudential is necessary to authorize the execution, delivery and performance of this Commitment Agreement and the Ancillary Agreements, and the consummation of the transactions contemplated to be undertaken by Prudential in this Commitment Agreement and the Ancillary Agreements. This Commitment Agreement and the Ancillary Agreements have been (or will be) duly executed and delivered by Prudential, and each is (or when executed will be) a valid and binding obligation of Prudential, enforceable against Prudential in accordance with its terms, subject to the applicable bankruptcy, insolvency, reorganization, moratorium and similar laws affecting the enforcement of creditors' rights generally and by general equitable principles (" Enforceability Exceptions ").

iii. No Conflict . The execution, delivery and performance of this Commitment Agreement and the Ancillary Agreements by Prudential, and the consummation by Prudential of the transactions contemplated to be undertaken by Prudential in this Commitment Agreement do not (1) violate or conflict with any provision of its certificates or articles of incorporation, bylaws, code of regulations, or the comparable governing documents, (2) except for the filings and approvals of state insurance governmental authorities in the states listed on Schedule 11, violate or conflict with any law or order of any governmental authority applicable to Prudential, (3) require any governmental or governmental agency approval other than any filing made or approval received as of the Commitment Agreement Date and filings with and approvals of state insurance governmental authorities in the states listed on Schedule 11 or (4) require any consent of or other action by any person under, constitute a default or an event that, with or without notice or lapse of time or both, would constitute a default under, or cause or permit termination, cancellation, acceleration or other change of any right or obligation or the loss of any benefit under, any provision of any contract to which Prudential is a party, except where the occurrence of any of the foregoing would not have a material adverse effect on Prudential's ability to consummate the transactions and perform its obligations contemplated by this Commitment Agreement. No filing or approval is required to issue the annuity certificates in accordance with the Contract, other than any filing made or approval received as of the Commitment Agreement Date and filings with and approvals of state insurance governmental authorities in the states listed on Schedule 11.

iv. Compliance with Laws . The business of insurance conducted by Prudential has been and is being conducted in material compliance with applicable laws, and none of the licenses, permits or governmental approvals required for the continued conduct of the business of Prudential as such business is currently being conducted will lapse, terminate, expire or otherwise be impaired as a result of the consummation of the transactions contemplated to be undertaken by Prudential in this Commitment Agreement, except as, in either case, would not reasonably be expected to have, individually or in the aggregate, a material adverse effect on the ability of Prudential to perform its obligations under this Commitment Agreement.

v. Accuracy of Information . To Prudential's Knowledge (x) all material information provided by Prudential to the Company or the Independent Fiduciary (other than any component incorporated into the calculation of the Premium Amount or the GAC Issuance True-Up Premium not calculated, determined or provided by Prudential, including the Base File, and any information provided by Prudential based on any such component) in connection with the transactions contemplated by this Commitment Agreement was, as of the date indicated on such information, true and correct in all material respects and (y) no change has occurred since the date indicated on such information that Prudential has not publicly disclosed or disclosed to the recipient of such information that would cause such information, taken as a whole, to be materially false or misleading.

vi. Relationship to the Plan . Prudential is not (1) a trustee of the Plan (other than a non-discretionary trustee who does not render investment advice with respect to any assets of the Plan), (2) a Plan administrator (within the meaning of ERISA § 3(16)(A) and the Code § 414(g)) with respect to the Plan or) or (3) an employer any of whose employees are covered by the Plan. Schedule 6 sets forth a true and complete list of (x) Prudential and Prudential's affiliates that are investment managers within the meaning of ERISA § 3(38)(B) and (y) without duplication of clause (x), Prudential and Prudential's affiliates that are registered as investment advisers under the Investment Advisers Act of 1940; provided, however, that solely with respect to the representation and warranty as to Schedule 6 to be made by Prudential on and as of the Premium Due Date, Prudential may update Schedule 6 through the Premium Due Date by providing a written update to the Company so that the information included therein is current on and as of the Premium Due Date.

vii. No Post-Closing Liability . Following receipt by Prudential of the Premium Due Date Transfers, the Plan, the Company and the Independent Fiduciary and their respective affiliates and representatives will not have any liability to pay any annuity payment under the Contract.

viii. The Contract . The Contract, when executed, will be duly executed and delivered by Prudential and will be a valid and binding obligation of Prudential and enforceable against Prudential by the Company and each Payee in accordance with its terms, subject to the Enforceability Exceptions. At all times, the right to a benefit and all other provisions under the Contract, in accordance with the Contract's terms, will be enforceable by the sole choice of the Payee to whom such benefit is owed under the Contract, subject to the Enforceability Exceptions. In the event that the Company, as the contract holder, ceases to exist, notifies Prudential that it will cease to perform its obligations under the Contract, or no longer has obligations under the Contract, the Contract will remain a valid and binding obligation of Prudential, irrevocable and in full force and effect, and enforceable against Prudential by each Payee in accordance with its terms, subject to the Enforceability Exceptions.

ix. Litigation. As of the Commitment Agreement Date, there is no action pending or, to Prudential's Knowledge, threatened against Prudential that in any manner challenges or seeks to prevent, enjoin or materially alter or delay the transactions contemplated by this Commitment Agreement or that could reasonably be expected to materially impair or restrict Prudential's ability to consummate the transactions contemplated by this Commitment Agreement and to perform its obligations hereunder.

x. No Commissions. No fees, commissions or payments are or will be owed by Prudential to any individual or entity in connection with the transactions contemplated in this Commitment Agreement and the Ancillary Agreements for which any other party, or its respective affiliates or representatives, could be liable.

xi. RBC Ratio. As of the Commitment Agreement Date, Prudential's most recent Projected RBC Ratio is [***] and, to Prudential's Knowledge, no event (including a change to financial market metrics) has occurred between the date of Prudential's most recent Projected RBC Ratio and the Commitment Agreement Date that would be expected to cause Prudential's Projected RBC Ratio, calculated as of part of its next scheduled forecast, to [***].

xii. [***]. [***]. [***]. [***]. [***].

b. Company Representations and Warranties. The Company hereby represents and warrants to Prudential and the Independent Fiduciary as of the Commitment Agreement Date and as of the Premium Due Date that:

i. Due Organization, Good Standing and Corporate Power. The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of New York. The Company is duly qualified or licensed to do business and is in good standing in each jurisdiction in which its performance of its obligations in the Commitment Agreement and the Ancillary Agreements to which it is a party makes such qualification or licensing necessary, except in such jurisdictions where the failure to be in good standing or so qualified or licensed would not be material. The Company has all requisite power and authority to enter into and carry out its obligations under this Commitment Agreement and the Ancillary Agreements to which it is a party and to consummate the transactions contemplated to be undertaken by the Company in this Commitment Agreement and the Ancillary Agreements.

ii. Authorization of Commitment Agreement and Enforceability. The Company has received all necessary corporate approvals and no other action on the part of the Company is necessary to authorize the execution, delivery and performance of this Commitment Agreement and the Ancillary Agreements to which it is a party, and the consummation of the transactions contemplated to be undertaken by the Company in this Commitment Agreement and the Ancillary Agreements to which it is a party. This Commitment Agreement and the Ancillary Agreements to which it is a party have been (or will be) duly executed and delivered by the Company, and each is (or when executed will be) a valid and binding obligation of the Company, enforceable against the Company in accordance with its terms, subject to the Enforceability Exceptions.

iii. No Conflict . The execution, delivery and performance of this Commitment Agreement and the Ancillary Agreements to which it is a party by the Company, and the consummation by the Company of the transactions contemplated to be undertaken by the Company in this Commitment Agreement do not (1) violate or conflict with any provision of the Plan and any documents and instruments governing the Plan as contemplated under ERISA § 404(a)(1)(D) (the " Plan Governing Documents "), the certificates or articles of incorporation, bylaws, code of regulations, or the comparable governing documents of the Company, (2) violate or conflict with any law or order of any governmental authority applicable to the Company or the Plan Governing Documents, (3) require any governmental or governmental agency approval or (4) require any consent of or other action by any person under, constitute a default or an event that, with or without notice or lapse of time or both, would constitute a default under, or cause or permit termination, cancellation, acceleration or other change of any right or obligation or the loss of any benefit under, any provision of any contract to which the Company is a party, except where the occurrence of any of the foregoing would not have a material adverse effect on the Company's ability to consummate the transactions and perform its obligations contemplated by this Commitment Agreement.

iv. Accuracy of Information . Notwithstanding anything to the contrary in the Company NDA, to the Company's Knowledge, (1) the mortality experience data file provided by or on behalf of the Company to Prudential identified on Schedule 10 did not contain any misstatements or omissions that were, in the aggregate, material, and (2) the data in respect of benefit amounts, forms of annuities, date of birth, date of death, state of residence, gender and status (beneficiary in pay or participant), in each case, with respect to the Payees that was furnished by or on behalf of the Company to Prudential, was not generated using any materially incorrect systematic assumptions or material omissions.

v. Compliance with ERISA . The Plan and Plan Trust are maintained under and subject to ERISA and, to the Company's Knowledge, are in compliance with ERISA in all material respects. To the Company's Knowledge, no event has occurred that is reasonably likely to result in the Plan losing its status as qualified by the Code for preferential tax treatment under Code §§ 401(a) and 501(a). All Plan amendments necessary to effect the transactions contemplated by this Commitment Agreement and the Ancillary Agreements have been duly executed and, to the extent that they require authorization by the Company, have been, or will be by the Premium Due Date, duly authorized and made by the Company.

vi. Plan Investments . Neither Prudential nor any of Prudential's affiliates is a fiduciary of the Plan who either (A) has or exercises any discretionary authority or control with respect to the investment of Plan Assets that are or will be involved in the transactions contemplated by the Commitment Agreement or the Ancillary Agreements or (B) renders investment advice (within the meaning of ERISA § 3(21)(A)(ii) or Code § 4975(e)(3)(B)) with respect to such assets. There are no commingled investment vehicles that hold Plan Assets, the units of which are or will be Plan Assets involved in the transactions contemplated by this Commitment Agreement or the Ancillary Agreements. No Plan Assets that are or will be involved in the transactions contemplated by this Commitment Agreement or the Ancillary Agreements are or will be managed by any investment manager listed on Schedule 6, and no investment advisor listed on Schedule 6 renders or will render investment advice (within the meaning of ERISA § 3(21)(A)(ii)) with respect to those assets.

vii. Independent Fiduciary. The Independent Fiduciary has been duly appointed as independent fiduciary of the Plan with respect to the purchase of one or more group annuity contracts to (1) be the sole fiduciary responsible for selecting one or more insurers to provide annuities in accordance and compliance with the ERISA Requirements, (2) determine whether the transactions contemplated by this Commitment Agreement and the Ancillary Agreements satisfy ERISA, (3) represent the interests of the Plan and its participants and beneficiaries in connection with the negotiation of a commitment agreement and, to the extent set forth in the IF Engagement Letter, the terms of any agreements with Prudential, including the Contract and the annuity certificates, (4) direct the Plan Trustee on behalf of the Plan to transfer the Premium Due Date Transfers in connection with the consummation of the transactions contemplated by this Commitment Agreement and any amounts required pursuant to paragraphs 1.d.iv. and 3.c. and (5) take all other actions on behalf of the Plan necessary to effectuate the foregoing to the extent set forth in the IF Engagement Letter.

viii. Plan Trustee is Directed Trustee. The Plan Trustee has been duly appointed as the directed trustee of the Plan Trust and is obligated to follow the Independent Fiduciary's directions to effectuate and consummate the transactions contemplated by this Commitment Agreement and the IF Engagement Letter.

ix. Litigation. There is no action pending or, to the Company's Knowledge, threatened against the Company, the Plan or the Independent Fiduciary that in any manner challenges or seeks to prevent, enjoin or materially alter or delay the transactions contemplated by this Commitment Agreement or that could reasonably be expected to materially impair or restrict such party's ability to consummate the transactions contemplated by this Commitment Agreement and to perform its obligations hereunder.

x. No Commissions. No fees, commissions or payments are or will be owed by the Company to any individual or entity in connection with the transactions contemplated in this Commitment Agreement and the Ancillary Agreements for which any other party, or its respective affiliates or representatives, could be liable.

c. Independent Fiduciary Representations and Warranties. The Independent Fiduciary hereby represents and warrants to the Company and Prudential as of the Commitment Agreement Date and as of the Premium Due Date and, with respect to paragraph 8.c.v.4 only, as of any other date on which the Plan Trustee pays Cash or assets to Prudential in connection with the transactions contemplated by this Commitment Agreement or the Contract, that:

i. Due Organization, Good Standing and Corporate Power . The Independent Fiduciary is a trust company, duly organized, validly existing and in good standing under the laws of the Commonwealth of Massachusetts. The Independent Fiduciary is duly qualified or licensed to do business and is in good standing in each jurisdiction in which its performance of its obligations in the Commitment Agreement and the Ancillary Agreements to which it is a party makes such qualification or licensing necessary, except in such jurisdictions where the failure to be in good standing or so qualified or licensed would not be material. The Independent Fiduciary has all requisite power and authority to enter into and carry out its obligations under this Commitment Agreement and the Ancillary Agreements to which it is a party and to consummate the transactions contemplated to be undertaken by the Independent Fiduciary in this Commitment Agreement and the Ancillary Agreements.

ii. Authorization of Commitment Agreement and Enforceability . The Independent Fiduciary has received all necessary corporate approvals and no other action on the part of the Independent Fiduciary is necessary to authorize the execution, delivery and performance of this Commitment Agreement and the Ancillary Agreements to which it is a party, and the consummation of the transactions contemplated to be undertaken by the Independent Fiduciary in this Commitment Agreement and the Ancillary Agreements to which it is a party. This Commitment Agreement and the Ancillary Agreements to which it is a party have been duly executed and delivered by the Independent Fiduciary and each is (or when executed will be) a valid and binding obligation of the Independent Fiduciary, enforceable against the Independent Fiduciary, in accordance with its terms, subject to the Enforceability Exceptions.

iii. No Conflict . The execution, delivery and performance of this Commitment Agreement and the Ancillary Agreements to which it is a party by the Independent Fiduciary, and the consummation by the Independent Fiduciary of the transactions contemplated to be undertaken by the Independent Fiduciary in this Commitment Agreement do not (1) violate or conflict with any provision of its certificates or articles of incorporation, bylaws, code of regulations, or the comparable governing documents, (2) violate or conflict with any law or order of any governmental authority applicable to the Independent Fiduciary, (3) require any governmental or governmental agency approval, (4) violate or conflict with any law or order of any governmental authority applicable to any provision of the Plan Governing Documents or (5) require any consent of or other action by any person under, constitute a default or an event that, with or without notice or lapse of time or both, would constitute a default under, or cause or permit termination, cancellation, acceleration or other change of any right or obligation or the loss of any benefit under, any provision of any contract to which the Independent Fiduciary is a party, except where the occurrence of any of the foregoing would not have a material adverse effect on the Independent Fiduciary's ability to consummate the transactions and perform its obligations contemplated by this Commitment Agreement.

iv. Independent Fiduciary Compliance with ERISA .

1. The Independent Fiduciary meets the requirements of, and in the transactions contemplated by this Commitment Agreement and the Ancillary Agreements is acting as, an "investment manager" under ERISA § 3(38), and further constitutes a "qualified professional asset manager" under the U.S. Department of Labor Prohibited Transaction Class Exemption 84-14 solely with respect to the transfer of assets to Prudential in connection with the transactions contemplated by this Commitment Agreement and the Ancillary Agreements (but not the selection of such assets or the management of such assets prior to the transfer).
2. The Independent Fiduciary has accepted, and has not rescinded or terminated, its designation as the sole fiduciary of the Plan with authority to select one or more insurers to issue one or more group annuity contracts in the IF Engagement Letter (a true and correct copy of which has been provided to Prudential, except that the fees to be paid to the Independent Fiduciary and indemnification provisions have been redacted), and the Independent Fiduciary reaffirms its fiduciary status as set forth in the IF Engagement Letter.
3. The Independent Fiduciary has accepted, and has not rescinded or terminated, appointment as independent fiduciary of the Plan with respect to the purchase of one or more group annuity contracts to (a) be the designated fiduciary responsible for selecting one or more insurers to provide annuities in accordance and compliance with the ERISA Requirements, (b) determine whether the transactions contemplated by this Commitment Agreement and the Ancillary Agreements satisfy ERISA, (c) represent the interests of the Plan and its participants and beneficiaries in connection with the negotiation of a commitment agreement and, to the extent set forth in the IF Engagement Letter, the terms of any agreements with Prudential, including the Contract and the annuity certificates, (d) direct the Plan Trustee on behalf of the Plan to transfer the Premium Due Date Transfers in connection with the consummation of the transactions contemplated by this Commitment Agreement and any amounts required pursuant to paragraphs 1.d.iv. and 3.c. and (e) take all other actions on behalf of the Plan necessary to effectuate the foregoing to the extent set forth in the IF Engagement Letter.
4. The Independent Fiduciary is fully qualified and has the requisite expertise together with its reliance on its consultant, Mercer Health and Benefits LLC, and its counsel, K&L Gates LLP, to serve as an independent fiduciary in connection with the transactions contemplated by this Commitment Agreement and the Ancillary Agreements, and it is independent of the Company and Prudential within the meaning of 29 C.F.R. § 2570.31(j). The Independent Fiduciary has ensured that it has established commercially reasonable ethical walls between its personnel working on the transactions contemplated in the Commitment Agreement and the Ancillary Agreements and its personnel working on other matters involving the Company, Prudential or any of their respective affiliates.

v. <u>ERISA Related Determinations</u> .

1. The Independent Fiduciary has selected Prudential to issue the Contract as set forth in this Commitment Agreement and such selection, the transactions contemplated by this Commitment Agreement, the Plan's use of assets for the purchase of the Contract as contemplated by this

Commitment Agreement and the Contract (including its terms) each satisfies the ERISA Requirements. The Independent Fiduciary has delivered a certification confirming the foregoing, executed by a duly authorized officer of the Independent Fiduciary, to the Fiduciary Review Committee of the Retirement Plan of International Paper Company.

2. The transactions contemplated by this Commitment Agreement and the purchase of the Contract do not result in a Non-Exempt Prohibited Transaction, provided that the representations in paragraphs 8.a.vi and 8.b.vi are true and correct in all material respects as of the Premium Due Date.
3. The Plan Trust (I) will receive no less than "adequate consideration" for the Transferred Assets and (II) will pay no more than "adequate consideration" for the Contract, in each case within the meaning of "adequate consideration" under ERISA § 408(b)(17)(B) and Code § 4975(f)(10).
4. The Independent Fiduciary is responsible for exercising independent judgment in evaluating any transactions that the Plan engages in with Prudential (including purchase of the Contract). The Independent Fiduciary understands that Prudential did not undertake and is not undertaking to provide impartial investment advice, or to give advice in a fiduciary capacity, in connection with any transactions that the Plan engages in with Prudential.
5. The Independent Fiduciary has provided and will continue to provide the services described in Section 2 of the IF Engagement Letter prudently and for the exclusive benefit and in the sole interest of the Plan and its participants and beneficiaries.

vi. No Commissions. No fees, commissions or payments are or will be owed by the Independent Fiduciary to any individual or entity in connection with the transactions contemplated in this Commitment Agreement and the Ancillary Agreements for which any other party, or its respective affiliates or representatives, could be liable.

9. Conditions to Closing. The parties' obligations to consummate the transactions contemplated by this Commitment Agreement in connection with the Premium Due Date Transfers, including the Independent Fiduciary's obligation to direct the Plan Trustee to consummate the transactions contemplated by this Commitment Agreement, are subject to the conditions that:

a. the Independent Fiduciary will have confirmed that the transactions contemplated by this Commitment Agreement continue to satisfy the ERISA Requirements because an Independent Fiduciary MAC has not occurred or, if an Independent Fiduciary MAC has occurred, it is not continuing on the Premium Due Date; and
b. no court or government agency has taken any action after the Commitment Agreement Date that would (i) cause the consummation of the transactions contemplated by this Commitment Agreement to violate the law or (ii) cause the Plan to fail to remain qualified under Code Section 401(a); provided that, if the condition to closing set forth in this paragraph 9.b.ii is not satisfied, the [***] shall be payable in accordance with paragraph 7.

10. Definitions . For purposes of this Commitment Agreement, the following defined terms will have the following meanings:

a. " AAA " is defined in Schedule 4.
b. " Ancillary Agreements " means, collectively, the Contract and the Plan Trustee Agreement.
c. " Annuity Start Date " means December 31, 2018.
d. " Annual Benefit " is defined in Schedule 8.
e. " Approved Firm " is defined in Schedule 4.
f. **[***] .**
g. [***] .
h. " Authorized Persons " is defined in paragraph 12.d.
i. **[***] .**
j. " Base File " means the data file titled [***], provided by the Company to Prudential posted to Willis Towers Watson OnePlace secure website at 3:24 p.m. eastern time on August 28, 2018.
k. " Business Day " means any day other than a Saturday, a Sunday or a day on which banks located in New York, New York are authorized or required by law to close.
l. " Call Center " is defined in paragraph 6.b.
m. " Cash " means a wire transfer, through the Federal Reserve System, of currency of the United States of America.
n. " Check Register " is defined in Schedule 7.
o. " Code " means the Internal Revenue Code of 1986 and the applicable Treasury Regulations issued thereunder.
p. " Commitment Agreement " is defined in the preamble.
q. " Commitment Agreement Date " is defined in the preamble.
r. " Company " is defined in the preamble.
s. " Company Contact " is defined in paragraph 6.b.
t. " Company Indemnified Party " is defined in paragraph 11.
u. " Company NDA " is defined in paragraph 12.c.
v. " Confidential Information " has the meaning ascribed to such term in the Company NDA.
w. " Contract " is defined in the preamble.
x. " Corridor Breach " is defined in Schedule 8.
y. " Cut-Off Time " means 1:00 p.m. eastern time on the Premium Due Date.
z. " Data Corrections " is defined in Schedule 8.
aa. " Data Correction Adjustment " is defined in Schedule 8.
bb. " Data Load File " is defined in Schedule 7.
cc. " Data Load File Sign-Off " is defined in Schedule 7.
dd. " Deleted Lives " is defined in Schedule 8.
ee. " Deleted Lives Percentage " is defined in Schedule 8.
ff. **[***] .**

gg. “ Enforceability Exceptions ” is defined in paragraph 8.a.ii.

hh. “ ERISA ” means Employee Retirement Income Security Act of 1974, as amended, and any federal agency regulations promulgated thereunder that are currently in effect and applicable.

ii. “ ERISA Requirements ” means all of the applicable requirements of ERISA and applicable guidance promulgated thereunder, including Interpretive Bulletin 95-1.

jj. [***]. [***].

[***]

kk. “ Final Annuity Quote Sheet ” is defined in paragraph 1.b.

ll. “ Final Production Data File ” is defined in Schedule 7.

mm. “ GAC Issuance Data ” is defined in paragraph 1.d.i.

nn. “ GAC Issuance Data Notice Date ” is defined in paragraph 1.d.i.

oo. “ GAC Issuance True-Up Premium ” is defined in Schedule 8.

pp. [***].

qq. [***] .

rr. “ IF Engagement Letter ” means the engagement agreement between the Fiduciary Review Committee of the Retirement Plan of International Paper Company and the Independent Fiduciary dated August 3, 2018.

ss. “ IFID NDA ” is defined in paragraph 12.c.

tt. “ Independent Fiduciary ” is defined in the preamble.

uu. “ Independent Fiduciary MAC ” means (i) the occurrence of a material adverse change, as determined in the Independent Fiduciary’s sole discretion, in or directly affecting Prudential after the Commitment Agreement Date that would cause the selection of Prudential and the purchase of the Contract to fail to satisfy the ERISA Requirements, or (ii) the occurrence of a change in ERISA Requirements after the Commitment Agreement Date that would cause the selection of Prudential and the Plan’s purchase of the Contract to fail to satisfy ERISA Requirements.

vv. [***]

ww. [***]. [***].

xx. “ Knowledge ” means actual knowledge after making appropriate inquiry.

yy. “ Liability Baseline Value ” is defined in Schedule 8.

zz. [***].

[[. [***].

aaa. [***].

bbb. “ Modified GAC Deadline Date ” is defined in paragraph 2.a.

ccc. “ Modified GAC Form ” is defined in paragraph 2.

ddd. “ Mortalities ” is defined in Schedule 8.

eee. “ Mortality Corrections ” is defined in Schedule 8.

fff. “ NAIC ” is defined in Schedule 12.

ggg. “ NDA ” is defined in paragraph 12.c.
hhh. “ New Lives ” is defined in Schedule 8.
iii. “ New Lives Percentage ” is defined in Schedule 8.
jjj. “ Non-Exempt Prohibited Transaction ” means a transaction prohibited by ERISA § 406 or Code § 4975, for which no statutory exemption or U.S. Department of Labor class exemption is available.
kkk. “ Payee ” means any payee under the Contract, including annuitants, contingent annuitants, alternate payees and beneficiaries, as applicable.
lll. [***].
mmm. “ Plan ” is defined in the preamble.
nnn. “ Plan Asset ” means an asset of the Plan within the meaning of ERISA.
ooo. “ Plan Governing Documents ” is defined in paragraph 8.b.iii.
ppp. “ Plan Trust ” means International Paper Company Retirement Plans Master Trust.
qqq. “ Plan Trustee ” means State Street Bank and Trust Company.
rrr. “ Plan Trustee Agreement ” means the agreement, dated as of the date hereof, among Prudential, the Plan Trustee and the Independent Fiduciary.
sss. “ Preliminary Production Data File ” is defined in Schedule 7.
ttt. “ Premium Amount ” is defined in paragraph 3.
uuu. “ Premium Due Date ” means five Business Days following the Commitment Agreement Date.
vvv. “ Premium Due Date Transfers ” is defined in paragraph 3.
www. “ Projected RBC Ratio ” means the projection of the RBC Ratio as of [***], as calculated under the method set forth on Schedule 12.
xxx. “ Proposal ” is defined in paragraph 1.b.
yyy. “ Prudential ” is defined in the preamble.
zzz. “ RBC Ratio ” means the company action level risk-based capital ratio of Prudential [***].
[[[. [***] .
aaaa. [***].
bbbb. “ Relevant Percentage ” is defined in Schedule 8.
cccc. “ Removed Lives ” is defined in Schedule 8.
dddd. [***] .
eeee. “ Scaled GAAP PBO ” is defined in Schedule 8.
ffff. [***].
gggg. “ Scheduled GAC Issuance Date ” means on or before April 18, 2019 or, if applicable, and, if later, by the date that is five Business Days following the final resolution of any arbitration disputes in accordance with Schedule 4.
hhhh. “ SEC ” is defined in paragraph 4.b.
iiii. “ Specimen GAC Form ” is defined in paragraph 1.a.
jjjj. [***]. [***].
kkkk.[***].
llll. [***].

mmmm.“ Update File ” is defined in Schedule 7.

nnnn. “ Welcome Kit ” is defined in paragraph 5.a.

11. **Indemnification** .

Prudential will indemnify, defend and hold the Company, the Plan, the Independent Fiduciary and their respective affiliates, officers, directors, stockholders, employees, Plan fiduciaries, agents and other representatives (each, a “ Company Indemnified Party ”) harmless from and against any and all actual, but not potential or contingent, losses, damages, costs and expenses (in each case, including reasonable out-of-pocket expenses and reasonable fees and expenses of counsel) to the extent arising out of or relating to the portion of any action, lawsuit, proceeding, investigation, demand or other claim against such Company Indemnified Party by a third party that is threatened or brought against or that involves a Company Indemnified Party and that arises out of or relates to any failure by Prudential to make, or cause to be made, any payments required to be made to a Payee pursuant to the Contract. Prudential will have the right at any time to assume the defense with counsel of its choice reasonably satisfactory to the Company Indemnified Party and to control the defense of such Company Indemnified Party, provided, however, that Prudential will not consent to the entry of any judgment or enter into any settlement without prior written consent of the Company Indemnified Party unless the judgment or proposed settlement involves only the payment of money by Prudential and does not admit liability on the part of a Company Indemnified Party. The prior written consent of a Company Indemnified Party with respect to such defense, including but not limited to, consenting to choice of counsel and entry into judgments or settlements shall be provided in a timely manner and shall not be unreasonably withheld, conditioned or delayed.

12. **Miscellaneous** .

a. This Commitment Agreement, together with the Schedules to this Commitment Agreement, which are incorporated by reference and made a part of this Commitment Agreement as if fully set forth herein, constitutes the sole and entire agreement of the parties to this Commitment Agreement with respect to the subject matter contained herein and therein. The parties each hereby acknowledge that they jointly and equally participated in the drafting of this Commitment Agreement and all other agreements contemplated hereby, and no presumption will be made that any provision of this Commitment Agreement will be construed against any party by reason of such role in the drafting of this Commitment Agreement or any other agreement contemplated hereby. No amendment of any of the provisions hereof shall be effective unless set forth in writing and signed by each party hereto. No waiver by any party of any of the provisions hereof shall be effective unless explicitly set forth in writing and signed by the party so waiving. No failure to exercise, or delay in exercising, any right, remedy, power, or privilege arising from this Commitment Agreement shall operate or be construed as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power, or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power, or privilege. Except to the extent expressly provided in this Commitment Agreement, nothing in this Commitment Agreement shall confer any rights or remedies upon any person other than the parties hereto.

b. This Commitment Agreement shall be governed by and construed in accordance with the internal laws of the State of New York without giving effect to any choice or conflict of law provision or rule (whether of the State of New York or any other jurisdiction). Any legal suit, action, or proceeding arising out of or relating to this Commitment Agreement or the transactions contemplated hereby may be instituted in the courts of the State of New York in each case located in the city of New York and County of New York, and each party hereby irrevocably submits to the non-exclusive jurisdiction of such courts in any suit, action, or proceeding. The parties agree that irreparable damage would occur if any provisions of this Commitment Agreement were not performed in accordance with the terms hereof and that the parties shall be entitled to equitable relief, including injunctive relief or specific performance of the terms hereof, in addition to any other remedy to which they are entitled at law or in equity. To the fullest extent permitted by law, none of the parties will be liable to any other party for any punitive or exemplary damages of any nature in respect of matters arising out of this Commitment Agreement.

c. Notwithstanding anything to the contrary in the Mutual Non-Disclosure Agreement, dated as of April 26, 2018, between the Company and Prudential (the " Company NDA "), and the Non-Disclosure Agreement, dated as of August 14. 2018, between Prudential and the Independent Fiduciary (the " IFID NDA " and, together with the Company NDA, the " NDAs " and each an " NDA "), each NDA shall continue in full force and effect except that, if the Premium Due Date Transfers are transferred to and received by Prudential, (a) each NDA shall continue indefinitely and shall not be terminated without the mutual written agreement of (i) the Company and Prudential in the case of the Company NDA and (ii) Prudential and the Independent Fiduciary in the case of the IFID NDA, and (b) with respect to the Company NDA, Prudential will not be required to return or destroy any Confidential Information and will not be restricted in its use or disclosure of any Confidential Information related to Payees, annuity payments under the Contract or the pricing or underwriting of the Contract, received from another party, provided, that Prudential will use such Confidential Information only in compliance with all applicable laws relating to privacy of personally identifying information.

d. Prudential will comply, and will ensure that all of its affiliates, agents, and subcontractors comply, with all applicable laws and regulations governing the Confidential Information of all Payees, including those laws relating to privacy, data security and protection and the safeguarding of such information, and its maintenance, disclosure and use. Prudential will maintain administrative, technical and physical safeguards to protect the privacy and security of the confidential information related to Payees. Prudential will comply in all material respects with any internal written policies relating to the confidential information of any Payee as in effect from time to time. Prudential acknowledges that it is solely responsible from and after the Commitment Agreement Date for any Data Breach. For purposes of this paragraph 12.d., "Data Breach" means any act or omission by Prudential or its agents, subcontractors or service providers (" Authorized Persons ") that compromises either the security, confidentiality or integrity of Payee data or the physical, technical, administrative or organizational safeguards put in place by Prudential (or any Authorized Persons) that relate to the protection of the security, confidentiality or integrity of any personally identifying information of any Payee.

e. Prudential, the Company and the Independent Fiduciary shall not assign or transfer this Commitment Agreement or any of its rights or obligations hereunder without the prior written consent of the other parties. Any assignment or transfer in violation of this paragraph 12.e. will be null and void from the outset, without any effect whatsoever.

f. This Commitment Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

[*Remainder of Page Intentionally Left Blank*]

IN WITNESS WHEREOF, the Company, Prudential, and the Independent Fiduciary have executed this Commitment Agreement as of the date first written above.

INTERNATIONAL PAPER COMPANY

By: /S/ ERROL HARRIS

Print Name: Errol Harris

Title: Vice President & Treasurer

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA

By: /S/ MARGARET G. MCDONALD

Print Name: Margaret G. McDonald

Title: AVP

STATE STREET GLOBAL ADVISORS TRUST COMPANY, acting solely in its capacity as Independent Fiduciary of the Plan

By: /S/ DENISE SISK

Print Name: Denise Sisk

Title: Managing Director

Schedule 1
to
Commitment Agreement

SPECIMEN GAC FORM

ATTACHED

SAMPLE BUY-OUT CONTRACT ([***])

The Prudential Insurance Company of America
Newark, New Jersey

Contract-Holder: NAME OF CONTRACT-HOLDER	Plan: NAME OF RETIREMENT PLAN Employer: NAME OF EMPLOYER
[***] [***]	Jurisdiction: STATE OF JURISDICTION
Effective Date: MM DD, YYYY Amendment Date: MM DD, YYYY	Contribution Amount as of Effective Date: $XXX,XXX Contribution Adjustment Amount: None, as of MM DD, YYYY Total Contribution Amount as of MM, DD, YYYY: $XXX,XXX
Pages Attached: 1-XX, Cash and Transferred Assets Exhibit, Cash and Transferred Assets Exhibit Supplement, Annuity Exhibits	

NAME OF CONTRACT-HOLDER

By: __ **SAMPLE** __________
Title:

Date:

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA
30 Scranton Office Park
Scranton, PA 18507-1789

SAMPLE
Chairman and Chief Executive Officer

SAMPLE
Secretary

Attest: ______________________________

Date:

Single-Premium Non-Participating Group Annuity Contract supported by a Separate Account providing for Annuity Payments, subject to the provisions of this Contract. The Annuity Payments hereunder do not vary based on any gains or losses of the assets held in the Separate Account.

TABLE OF CONTENTS

Provision I **Definitions, Separate Account Operation and Termination of Contract**

1.1 Definitions

In addition to other capitalized terms defined in this Contract, the following capitalized terms shall have the meanings indicated, which definitions shall control in the event a term is also defined in the Annuity Exhibits:

“Aggregate Monthly Payment” means, for each month, the total amount of Annuity Payments payable in respect of all Covered Lives (and, if applicable, Contingent Lives and Beneficiaries) for such month, subject to adjustment as provided in this Contract.

“Amendment Date” means, with respect to an amendment of this Contract, the date specified as such on the Cover Page of this Contract, as amended

“Annuity Exhibits” means the Annuity Exhibits attached hereto on the Effective Date, as amended and supplemented pursuant hereto.

“Annuity Commencement Date” means the date the Annuity Payments commence in respect of a Covered Life and, if applicable, Contingent Life and Beneficiary, which is specified on the Annuity Exhibits.

“Annuity Payments” means, with respect to each Covered Life (and, if applicable, Contingent Life and Beneficiary), the amount, if any, determined in accordance with Provision II of this Contract, as applicable.

“Beneficiary” means a person, other than a Covered Life or a Contingent Life, shown in Prudential’s records as the beneficiary associated with such Covered Life or, after the death of a Covered Life, associated with a Contingent Life. A Beneficiary may receive Annuity Payments under this Contract after the death of a Covered Life or Contingent Life if so provided for under the Annuity Form applicable to the Covered Life. A Representative of a Beneficiary shall have the rights of a Beneficiary hereunder. A Beneficiary is not a party to this Contract and has no rights hereunder, except those expressly conferred on it in Section 1.9.

"Business Day" means any weekday on which the banks in New York City, New York are open for business. If any payment under this Contract is due and payable on a day which is not a Business Day, or if any notice or report is required to be given on a day which is not a Business Day, such payment shall be due and payable or such notice or report shall be given on the next succeeding Business Day.

“Cash and Transferred Assets Exhibit” means the Cash and Transferred Assets Exhibit (substantially in the form attached hereto), setting forth the Contribution Amount, as well as the amount of cash and certain information about non-cash assets constituting the Contribution Amount paid on the Effective Date.

“Cash and Transferred Assets Exhibit Supplement” means, with respect to an Amendment Date, a supplement (substantially in the form attached hereto) to the Cash and Transferred Assets Exhibit, setting forth the Contribution Adjustment Amount paid on such Amendment Date, as well as (i) the amount of cash and certain information about non-cash assets constituting the Contribution Adjustment

Amount paid on such Amendment Date; and (ii) any agreed upon correction to the Cash and Transferred Assets Exhibit, including a correction to the Market Value of any non-cash asset that was previously paid as part of the Contribution Amount or any Contribution Adjustment Amount.

“Code” means the Internal Revenue Code of 1986, as amended from time to time, or any successor statute.

"Commingled Account" means the Non-Participating Group Annuity Separate Account of Prudential. This commingled separate account may hold assets supporting the payment obligations of Prudential under this Contract following a Small Account Conversion in accordance with Section 1.11. Such separate account also supports Prudential's payment obligations under other group annuity contracts issued by Prudential. Each such contract obligates Prudential to make payments to the contract-holder and/or to individual covered lives, contingent lives and beneficiaries in amounts measured by the life-span of such covered lives, by any lump sum amounts due, by the remaining portion of any period certain annuities.

"Contingent Life" means a person listed on the Annuity Exhibits as entitled to a periodic payment following the death of the Covered Life in accordance with a joint and survivor Form of Annuity, but does not include any Beneficiary. A Contingent Life is not a party to this Contract and has no rights hereunder, except those expressly conferred on it in Section 1.9. A Representative of a Contingent Life shall have the rights of a Contingent Life hereunder.

"Contingent Life Amount" means an amount that is specified in the Annuity Exhibits for the Covered Life's Annuity Form as the "Contingent Life Amount."

"Contract" means this Group Annuity Contract, including the Annuity Exhibits attached hereto, as amended from time to time.

"Contract-Holder" means the entity named as such on the Cover Page of this Contract, and any successors or permitted assigns.

"Contribution Adjustment Amount" means, with respect to an amendment of this Contract, the amount specified as such on the Cover Page of this Contract, as amended, payable on the applicable Amendment Date specified on the Cover Page.

"Contribution Amount" means the amount specified as such on the Cover Page of this Contract.

"Covered Life" means each Immediate Covered Life listed on the Annuity Exhibits as entitled to a periodic payment specified in the Annuity Exhibits, but does not include any Contingent Life or any Beneficiary. A Covered Life is not a party to this Contract and has no rights hereunder, except those expressly conferred on it in Section 1.9. A Representative of a Covered Life shall have the rights of a Covered Life hereunder.

"Covered Life Amount" means an amount that is specified in the Annuity Exhibits for the Covered Life's Annuity Form as the "Covered Life Amount."

"Data Finalization Date" means MM DD, YYYY or such other date as may be determined by mutual written consent of the Contract-Holder and Prudential.

"Data Finalization Amendment Date" means the Amendment Date, if any, on which the Annuity Exhibits are attached to this Contract reflecting the data determined by Prudential and the Contract-Holder as of the Data Finalization Date and, if applicable, the related Contribution Adjustment Amount is paid.

"Dedicated Account" means the [***] Separate Account of Prudential. This separate account will only hold assets supporting the payment obligations of Prudential under this Contract and Affiliate Contracts. After a Small Account Conversion in accordance with Section 1.11, the assets of this separate account may be transferred to the Commingled Account.

"Effective Date" means the date specified as such on the Cover Page of this Contract.

"Employer" means the NAME OF PLAN SPONSOR.

"ERISA" means the Employee Retirement Income Security Act of 1974, as amended, or any successor statute.

"General Account" means the general account of Prudential.

"Immediate Covered Life" means each person listed on the Annuity Exhibits as entitled to a periodic and/or lump-sum payment specified on the Annuity Exhibits whose Annuity Commencement Date is on or before MM DD, YYYY. An Immediate Covered Life is not a party to this Contract and has no rights hereunder, except those expressly conferred on it in Section 1.9 hereof.

"Market Value" (a) with respect to cash, means 100% thereof; (b) with respect to any non-cash assets, to the extent such Separate Account Assets are not covered by clause (c) below, means the fair market value of such assets, as such fair market value is determined by Prudential in accordance with its standard procedures for establishing the market value of its assets. , and (c) in respect of any portion of the [Total]B Contribution Amount paid by delivery of securities and other non-cash assets (if any) pursuant to Section 1.2, means the fair market value of each such asset in an amount and as of a date shown (i) in the case of the Contribution Amount, as specified in the Cash and Transferred Assets Exhibit and (ii) in the case of any Contribution Adjustment Amount, as specified in the Cash and Transferred Assets Exhibit Supplement dated as of the Amendment Date on which such Contribution Adjustment Amount is payable.

"Plan" means the plan specified on the Cover Page of this Contract.

"Prudential" means The Prudential Insurance Company of America, its successors and permitted assigns.

"Prudential's Office" means the following office of Prudential, unless Prudential provides a notice specifying another address for certain or all communications:

The Prudential Insurance Company of America

30 Scranton Office Park
Scranton, PA 18507-1789

Attention: Group Annuity Operations

"Qualified Domestic Relations Order" means a qualified domestic relations order that meets the requirements of ERISA as applied to employee benefit plan participants in effect from time to time.

"Representative" means , with respect to a Covered Life or Contingent Life or Beneficiary, an individual or entity demonstrating to the reasonable satisfaction of Prudential that such individual or entity is duly appointed (a) as a guardian of such Covered Life or Contingent Life or Beneficiary, (b) as a holder of a power of attorney from such Covered Life or Contingent Life or Beneficiary, (c) as a trustee of such Covered Life or Contingent Life or Beneficiary or (d) as a testamentary executor of such Covered Life's or Contingent Life's or Beneficiary's estate; provided, that a "Representative" does not include an assignee of the rights of such person hereunder in contravention of Provision II.

"Separate Account" means the Dedicated Account unless the Commingled Account is substituted for the Dedicated Account in accordance with Section 1.11, after which the Separate Account means the Commingled Account. This

Contract does not participate in the investment or other experience of either the Dedicated Account or the Commingled Account.

"Total Contribution Amount" means, as of any date, the Contribution Amount, as increased or decreased by any Contribution Adjustment Amounts specified on an amended Cover Page of this Contract through the most recent Amendment Date.

1.2 Agreement to Pay Contribution Amount; Deposit into the Separate Account

[***]. [***]. [***].

Upon receipt of the Contribution Amount due on the Effective Date, Prudential agrees to pay the Annuity Payments due under this Contract and further agrees that such obligation shall thereupon be irrevocable.

[***]. All assets allocated by Prudential to the Separate Account held by a custodian will be held by Prudential in one or more custody accounts at entities independent of Prudential and each such custody account shall only hold assets allocated to the Separate Account.

On each Amendment Date specified on an amended Cover Page of this Contract, if any, Contract-Holder and Prudential may, by separate amendment to this Contract, agree that (a) the Contribution Adjustment Amount specified on such amended Cover Page shall be paid on such Amendment Date (x) prior to or on the Data Finalization Amendment Date, in cash and/or non-cash assets and (y) following the Data Finalization Amendment Date, in cash; and (b) a Cash and Transferred Assets Exhibit Supplement dated as of such Amendment Date shall be attached to this Contract specifying: (i) such Contribution Adjustment Amount; (ii) the amount of cash and, if applicable, the Market Value and certain other information with respect to each non-cash asset being transferred as part of such Contribution Adjustment Amount; (iii) if such Contribution Adjustment Amount is payable by Prudential, whether each such asset is being paid from the General Account or from the Separate Account; and (iv) any agreed upon correction to the Market Value of any asset specified on the Cash and Transferred Assets Exhibit or any Cash and Transferred Assets Exhibit Supplement that was previously agreed and attached to this Contract. No such amendment shall require the consent of any person other than Contract-Holder and Prudential.

If the Contribution Adjustment Amount that is payable on the Amendment Date is a negative number, then such amount shall be paid by Prudential to the Contract-Holder on such Amendment Date by delivering cash and/or non-cash assets agreed to by Prudential and the Contract-Holder having the Market Value as of the determination date equal to such Contribution Adjustment Amount, as indicated on the applicable Cash and Transferred Assets Exhibit Supplement.

If the Contribution Adjustment Amount that is payable on the Data Finalization Amendment Date or any prior Amendment Date is a positive number, then the Contract-Holder shall pay such amount to Prudential on such Amendment Date by delivering cash and/or non-cash assets acceptable to Prudential having the Market Value as of the determination date equal to such Contribution Adjustment Amount, as indicated on the applicable Cash and Transferred Assets Exhibit Supplement, and Prudential will allocate the Contribution Adjustment Amount received on such date to the Separate Account.

If the Contribution Adjustment Amount that is payable after the Data Finalization Amendment Date is a positive number, then the Contract-Holder shall pay such amount to Prudential on such Amendment Date by delivering cash to Prudential in an amount equal to such Contribution Adjustment Amount, as indicated on the applicable Cash and Transferred Assets Exhibit Supplement, and Prudential will allocate the Contribution Adjustment Amount received on such date to the Separate Account.

For the avoidance of doubt, with respect to any amendment to the Annuity Exhibits increasing any Annuity Payments or adding Annuity Payments in respect of new Covered Lives [or Contingent Lives or Beneficiaries]H under this Contract, Prudential's obligation to make any such increase or addition with respect to any such Annuity Payment or to add any such new Covered Lives [or Contingent Lives or Beneficiaries] H shall be conditioned on Prudential's prior receipt of any payment due to Prudential under this Contract with respect to any such amendment.

1.3 Agreement to Make Annuity Payments; Associated Withdrawals from the Separate Account

Subject to receipt of the full Contribution Amount, Prudential agrees to pay Annuity Payments due from and after the Effective Date.

[***]. [***].

[***].

[***].

1.4 The Separate Account that Supports this Contract

During the period starting on the Effective Date and ending on the earlier of (i) the consummation of a Small Account Conversion and (ii) the payment of the last Annuity Payment due under this Contract, the Dedicated Account shall be the "Separate Account" supporting Annuity Payments hereunder. After consummation of a Small Account Conversion, the Commingled Account shall be the "Separate Account" supporting Annuity Payments hereunder.

1.5 Investments Held in Separate Account; Insulation of Separate Account Assets

The Separate Account is intended to be invested primarily in investment-grade fixed income securities, but other investments are permitted. Prudential will invest and reinvest the assets of the Separate Account at the time and in the amounts as Prudential determines in its discretion and in accordance with applicable law. Prudential may, with respect to any assets held in the Separate Account, delegate Prudential's investment management and/or voting rights to other entities, including institutions not affiliated with Prudential.

1.6 Insulation of Separate Account Assets

Prudential owns all the assets in each Separate Account. Pursuant to Section 17B:28-9(c) of the New Jersey Insurance Statutes, (A) none of the assets allocated to the Dedicated Account, [***] and (B) none of the assets allocated to the Commingled Account, [***], will be chargeable with liabilities arising out of any other business of Prudential.

1.7 Expenses; Establishing Reserves; Withdrawal of Assets from the Separate Account

Expenses may be charged against the Separate Account. Such expenses shall represent the direct and indirect costs (inclusive of general and administrative expenses) relating to this Contract and the Separate Account and shall be charged against the Separate Account in accordance with statutory accounting principles. Expense payables and withdrawals from the Separate Account will include custody fees applicable to the Separate Account, investment management related expenses, taxes due on the Separate Account earnings and general and administrative expenses allocated to the Separate Account. If Prudential's General Account pays such expenses or contractual obligations, then a payable owed by the Separate Account shall arise, and Prudential's General Account shall be later reimbursed by charging the Separate Account.

[***].

Periodically, Prudential will compare (A) the statutory carrying value of the assets held in the Separate Account reduced by payables related to expenses and to Contract obligations (and, following a Small Account Conversion, obligations of the other contracts supported by the Commingled Account) due on or prior to the date of determination, to (B) the statutory liability for the contractual annuity benefits with respect to the Contract (and, from and after a Small Account Conversion, the statutory liability for the other contracts supported by the Commingled Account), plus any interest maintenance reserve established for the Separate Account.

If the amount described in clause (B) exceeds the amount described in clause (A), then Prudential will establish and fund reserves in the General Account in support of this Contract equal to the amount by which (B) exceeds (A) on such date of determination; otherwise such reserves will be zero.

[***].

A withdrawal from the Separate Account will be made only on a Business Day, and the assets withdrawn will no longer be allocated to the Separate Account.

1.8 Process for Making Annuity Payments

From and after the later of the Annuity Commencement Date and the date Prudential receives information reasonably required by it to enable it to make Annuity Payments directly to Covered Lives (and, if applicable, Contingent Lives and Beneficiaries) (such as information concerning addresses, bank accounts, income tax withholding, designation of Beneficiaries and Qualified Domestic Relations Orders), Prudential shall make Annuity Payments arising after such date directly to such Covered Lives, Contingent Lives and Beneficiaries. Prior to receipt of such information, Prudential may withhold Annuity Payments until it receives such information, whereupon it shall pay Annuity Payments, without interest, directly to Covered Lives (and, if applicable, Contingent Lives and Beneficiaries).

1.9 Persons Entitled to Enforce this Contract

(a) ***Covered Lives and Contingent Lives.*** Any Covered Life or Contingent Life shall have the right to enforce his or her right to receive Annuity Payments under this Contract against Prudential in the capacity of an intended third party beneficiary thereof. The rights of a Covered Life or Contingent Life are not diminished if Contract-Holder ceases to exist and no successor is appointed.

(b) ***Contract-Holder and the Plan*** . Contract-Holder shall have the right to enforce any provision of this Contract against Prudential. Neither Contract-Holder nor the Plan shall have any obligation to any Covered Life or Contingent Life with respect to the Annuity Payments under this Contract.

(c) ***Prudential*** . Prudential shall have the right to enforce any provision of this Contract against Contract-Holder.

1.10 Termination of Contract

This Contract will terminate on the date that no further amounts are payable by either party hereunder.

1.11 Small Account Conversion

If at any time the Market Value of the assets held in the Dedicated Account does not equal at least $XX million Prudential reserves the right to discontinue the Dedicated Account. In the event of such discontinuance, Prudential may transfer (such transfer, a "Small Account Conversion") the assets held in the Dedicated Account to the Commingled Account, subject to the receipt of all necessary consents and approvals, including regulatory approvals including those relating to the transfer of assets from the Dedicated Account to the Commingled Account.

Provision II Payment Terms and Conditions for Forms of Annuities

2.1 Covered Lives, Contingent Lives, and Beneficiaries

The amount owed by Prudential under this Contract in respect of each Covered Life (and, if applicable, Contingent Life and Beneficiary) will be determined by Prudential in accordance with the terms of this Provision II.

Prudential will apply the terms of this Provision II using the information contained in the Annuity Exhibits with respect to such Covered Life, Contingent Life, and Beneficiary as such information is updated or corrected pursuant to this Contract. Capitalized terms used but not defined in Section 1.1 have the meanings assigned in this Provision II.

2.2 Definitions

The following definitions apply to Section 2.3.

" Annuity Forms " means in respect of a Covered Life, one of the types of annuities having such payment terms as are specified in Section 2.3.

2.3 Annuity Forms

(i) " Period Certain Annuity " means the following for each Covered Life identified in the Annuity Exhibits as receiving a distribution of a "Period Certain" Annuity Form.

Prudential will make monthly payments to the Covered Life equal to the Covered Life Amount. Prudential owes the first monthly payment on the Annuity Commencement Date. Prudential will pay subsequent monthly payments on the first day of each month. The total number of monthly payments will equal the Guaranteed Number of Payments specified for the Covered Life in the Annuity Exhibits. Once such Guaranteed Number of Payments has been paid, no further payments are due.

If the Covered Life dies after the Annuity Commencement Date, Prudential will determine the number of monthly payments Prudential made to the Covered Life after the Annuity Commencement Date. If the number of monthly payments made is less than such Guaranteed Number of Payments, then Prudential will pay the Covered Life Amount to the designated Beneficiary. These payments to such Beneficiary will stop when the total number of payments to the Covered Life, plus the number of payments to the Beneficiary, equals the Guaranteed Number of Payments.

(ii) " Life and Period Certain Annuity " means the following for each Covered Life identified in the Annuity Exhibits as receiving a distribution of a "Life and Period Certain" Annuity Form.

During the Covered Life's lifetime, Prudential will make monthly payments to the Covered Life equal to the Covered Life Amount. Prudential owes the first monthly payment on the Annuity Commencement Date. Prudential will pay subsequent monthly payments on the first day of each month. Prudential's last monthly payment to the Covered Life will be on the first day of the month in which the Covered Life dies.

Prudential will then compare the number of monthly payments Prudential made to the Covered Life after the Annuity Commencement Date to the Guaranteed Number of Payments specified for the Covered Life in the Annuity Exhibits. If the number of monthly payments is less than such guaranteed number, Prudential will pay the Covered Life Amount each month to the designated Beneficiary. These payments will stop when the total number of payments to the Covered Life, plus the number of payments to the Beneficiary, equals the Guaranteed Number of Payments.

(iii) “ Life Annuity ” means the following for each Covered Life identified in the Annuity Exhibits as receiving a distribution of a “Life” Annuity Form.

Prudential does not owe any payments to anyone under this Annuity Form if the Covered Life has died before the Annuity Commencement Date.

During the Covered Life’s lifetime, Prudential will make monthly payments to the Covered Life equal to the Covered Life Amount. Prudential owes the first monthly payment on the Annuity Commencement Date. Prudential will pay subsequent monthly payments on the first day of each month. Prudential’s last monthly payment to the Covered Life will be on the first day of the month in which the Covered Life dies.

(iv) “ Joint and Survivor Life Annuity ” means the following for each Covered Life identified in the Annuity Exhibits as receiving a distribution of a “Joint and Survivor” Annuity Form.

During the Covered Life’s lifetime, Prudential will make monthly payments to the Covered Life equal to the Covered Life Amount. Prudential owes the first monthly payment on the Annuity Commencement Date. Prudential will pay subsequent monthly payments on the first day of each month. Prudential’s last monthly payment to the Covered Life will be on the first day of the month in which the Covered Life dies.

After the Covered Life dies, Prudential may owe additional monthly payments. Prudential will owe additional monthly payments if the Contingent Life (as specified in the Annuity Exhibits) is alive when the Covered Life dies. Prudential will pay the first payment on the first day of the month following the Covered Life’s death. Prudential will pay subsequent monthly payments on the first day of each month. Prudential will pay the last payment on the first day of the month in which such Contingent Life dies. The amount of the payments will equal the Contingent Life Amount.

(v) “ Joint and Survivor Life with Period Certain Annuity ” means the following for each Covered Life identified in the Annuity Exhibits as receiving a distribution of a “Joint and Survivor with Period Certain” Annuity Form.

During the Covered Life’s lifetime, Prudential will make monthly payments to the Covered Life equal to the Covered Life Amount. Prudential owes the first monthly payment on the Annuity Commencement Date. Prudential will pay subsequent monthly payments on the first day of each month. Prudential’s last monthly payment to the Covered Life will be on the first day of the month in which the Covered Life dies.

After the Covered Life dies, Prudential may owe additional monthly payments. Prudential will owe additional monthly payments if the Contingent Life (as specified in the Annuity Exhibits) is alive when the Covered Life dies. Prudential will pay the first payment on the first day of the month following the Covered Life’s death. Prudential will pay subsequent monthly payments on the first day of each month. Prudential will pay the last payment to the Contingent Life on the first day of the month in which such Contingent Life dies. The amount of the payments will equal the Covered Life Amount until the total number of monthly payments made to both the Covered Life and the Contingent Life is equal to the Guaranteed Number of Payments specified for the Covered Life in the Annuity Exhibits. Thereafter monthly payments to the Contingent Life will be equal to the Contingent Life Amount.

After the death of the second to die of the Covered Life and the Contingent Life, Prudential will compare the number of monthly payments Prudential made to the Covered Life and the Contingent Life after the Annuity Commencement Date to the Guaranteed Number of Payments specified for the Covered Life in the Annuity Exhibits. If the number of monthly payments is less than such guaranteed number, Prudential will pay the Covered Life Amount each month to the designated Beneficiary. These payments will stop when the total number of payments to the Covered Life, plus the number of payments to the Contingent Life and the designated Beneficiary, equals the Guaranteed Number of Payments.

(vii)" Temporary Annuity " means the following for each Covered Life identified in the Annuity Exhibits as receiving a distribution of a "Temporary Annuity" Form.

Prudential does not owe any payments to anyone under this Annuity Form if the Covered Life has died before the Annuity Commencement Date.

During the Covered Life's lifetime, Prudential will make monthly payments to the Covered Life equal to the Covered Life Amount. Prudential owes the first monthly payment on the Annuity Commencement Date, if the Covered Life is living. Prudential will pay subsequently monthly payments on the first day of each month. Payments end with the monthly payment payable on the earlier of the temporary annuity expiry date specified in the Annuity Exhibits and the first day of the month in which the Covered Life dies.

2.4 No Assignment by Covered Lives and Contingent Lives

Neither a Covered Life or Contingent Life nor such person's Representative may (a) assign, pledge, transfer or otherwise alienate his or her rights under the Contract or their respective Annuity Form or an annuity certificate, or (b) enter into a transaction in which one or more Annuity Payments are anticipated or accelerated. Any attempt to do so shall be null and void at the outset, without any effect whatsoever. Also, to the maximum extent permitted by law, including but not limited to the relevant provisions of the Code, no Annuity Payment is subject to the claims of creditors. For the avoidance of doubt, compliance with the terms of a Qualified Domestic Relations Orders will not be considered to be an impermissible alienation under the Contract.

2.5 Proof of Continued Existence for Life Annuities; Escheatment

As a condition to making any Annuity Payment arising from an Annuity Form dependent upon the continued existence of a Covered Life or Contingent Life, Prudential may require the receipt of evidence satisfactory to it that the Covered Life and/or the Contingent Life is alive and no such payment is owed under this Contract unless and until Prudential receives such evidence.

If a Covered Life (or Contingent Life) in respect of whom remaining guaranteed payments are payable at the time of his or her death, dies without validly designating a Beneficiary, or if the Beneficiary is no longer living, Prudential may pay the "present value" (as such term is defined in Section 2.7) thereof in full settlement of its liability for such payments. Such present value may be paid to the estate of the Covered Life (or, Contingent Life, if applicable). After the period of time prescribed by applicable state law, any payments under a Payment Certain Annuity or lump sum benefit that have been withheld under the terms of this Section 2.5 may be considered abandoned or escheatable property. In such case, Prudential will follow the laws applicable to the disposition of any remaining period certain payments or remaining lump sum benefit payable. Any payments made to the state under such circumstances will relieve Prudential of all further obligations under this Contract with respect to such Annuity Forms.

2.6 Misstatements

The parties shall endeavor to agree to an equitable adjustment of the Contribution Amount caused by misstatements of (A) the date of birth, date of death, or the sex of a Covered Life or (if applicable) of a Contingent Life, or any other fact relevant to determining the amount or duration of the Annuity Payments owed by Prudential under the specified Annuity Form or the determination of the Contribution Amount charged by Prudential in respect to such Annuity Form or (B) the monthly payment amount or Annuity Form specified in the Annuity Exhibits (when compared to such payment amounts or benefit forms owed by the Plan to its participants) (each, a "data misstatement").

If, after such endeavors, equitable agreement is not reached between the Contract-Holder and Prudential with respect to such data misstatement, then with respect to misstatements described in (A) above Prudential will determine the portion of the Contribution Amount allocated to the Annuity Form for such Covered Life (and, if applicable, Contingent Life). The Annuity Payment owed by Prudential in respect of such Covered Life (and, if applicable, Contingent Life) will be increased or decreased to equal the amount that could have been purchased for such Covered Life (and, if applicable, Contingent Life) using the premium paid in respect of such Covered Life (and, if applicable, Contingent Life) assuming that the data misstatement had not occurred. Also, Prudential will not change the date of the first monthly payment. In making the preceding determinations and adjustments, Prudential in addition will use the following process:

(i) If the corrected Annuity Payment owed by Prudential in respect of such Covered Life (and, if applicable, Contingent Life) is less than the Annuity Payment calculated using the data misstatement, then such Annuity Payment will be decreased to the amount calculated pursuant to this paragraph. Prudential may reduce future Annuity Payments further by amounts previously overpaid by Prudential.

(ii) If the corrected Annuity Payment owed by Prudential in respect of such Covered Life (and, if applicable, Contingent Life) is more than the Annuity Payment calculated using the data misstatement, then such Annuity Payment will be increased to the amount calculated pursuant to this paragraph. Prudential will further pay the amount of the underpayments in one or more Annuity Payments owed by Prudential.

In addition to changing the amount of Annuity Payments, the adjustments made pursuant to this Section 2.6 may change other important terms of payment. For example, the Annuity Form for such Covered Life (or, if applicable, Contingent Life) may change, the percentage of the Annuity Payment owed by Prudential that is payable to the Contingent Life may change, and, whether there is any Contingent Life entitled to receive an Annuity Payment may change. All adjustments made pursuant to this Section 2.6 will be binding upon the Covered Life (and, if applicable, the Contingent Life). For the avoidance of doubt, the Annuity Exhibits will not be updated to reflect any actions taken by Prudential under this Section 2.6.

2.7 Concerning Designations

A Covered Life may designate a Contingent Life or Beneficiary and redesignate a Beneficiary from time to time in such manner specified by Prudential and in accordance with such related Annuity Form. Prudential will furnish an acknowledgment of the acceptance of any such designation or re-designation. Any spousal consent requirements of ERISA as applied to employee benefit plan participants in effect from time to time will apply to such designations. Such designations will not require the consent of any prior Contingent Life or Beneficiary, provided the change complies with the requirements of ERISA as applied to employee benefit plan participants in effect from time to time. If an Annuity Form involving a Contingent Life or spouse has become effective, the Contingent Life or spouse may, unless the Covered Life has directed otherwise, change the Beneficiary at any time after the death of the Covered Life to the estate of the Contingent Life or spouse, without the consent of such Beneficiary.

If there is no designated Beneficiary shown in Prudential's records when an Annuity Payment is payable to a Beneficiary under the terms of this Contract, payment will be made to the Covered Life's spouse, if living, otherwise to the estate of the last surviving recipient of the Annuity Payments or a Representative thereof. However, if no executor is named for the estate of the last surviving recipient of the Annuity Payments, Prudential may, at its option, pay such amount which would otherwise be payable to an estate as described in the preceding sentence to any one or jointly to any number of the following surviving relatives of the last surviving recipient of the Annuity Payments who appear to Prudential to be equitably entitled to payment because of expenses incurred in connection with the burial or last illness of such last surviving recipient of the Annuity Payments: children, parents, brothers, or sisters. Any payment described in this paragraph and made by Prudential will, to the extent of such payment, be a valid discharge of its obligation under this Contract.

The parties agree with each other that the acceptability of such designations and re-designations of Beneficiaries will meet the requirements of ERISA as applied to employee benefit plan participants in effect from time to time, and shall keep their records accordingly. Such designations shall be effective when they are accepted by Prudential and the applicable records are updated.

Prudential, in determining the existence, identity, ages, or any other facts relating to any relatives of any Covered Life (or Contingent Life) or any persons designated as Beneficiaries, either as a class or otherwise, may rely solely on any affidavit or other evidence deemed satisfactory by it. Any payment made by Prudential in reliance thereon will, to the extent of such payment, be a valid discharge of its obligation under this Contract.

If any remaining Annuity Payments under a Period Certain Annuity become payable to one or more Beneficiaries, and if the monthly amount of the payments payable to any Beneficiary is less than $ [***] , or if the Beneficiary is other than a natural person receiving payments in his own right, the Prudential may, in lieu of making such payments, pay the present value of the monthly payments to that Beneficiary in full settlement of its liability for such payments.

The "present value" of Annuity Payments, as of any date of determination, means the single sum equivalent to the present value of such payments using the applicable interest rate set forth under Section 417(e)(3) of the Code (as such section may be amended or interpreted from time to time) for the month of ________ preceding the calendar year in which the lump sum payment is made.

2.8 Concerning Qualified Domestic Relations Orders

If an Annuity Payment is subject to a domestic relations order (as defined in subsection 414(p) of the Code), no adjustments or payments to a Covered Life or to an alternate payee pursuant to such order will become payable until (i) Prudential has so received any such domestic relations order, (ii) Prudential has received a copy of the domestic relations order after it has been qualified by the Contract-Holder or Prudential has so qualified the domestic relations order and (iii) Prudential has so approved the domestic relations order. Any such Annuity Payment adjustment will take effect when entered upon Prudential's records.

2.9 Payments to Representatives

Prudential may withhold Annuity Payments owed to any Covered Life or Contingent Life or Beneficiary if, in the judgment of Prudential, such person is incapable for any reason of personally receiving and giving a valid receipt for such payment. In such case, Prudential may discharge its obligation to any Covered Life or Contingent Life or Beneficiary by making payments to such person's Representative. Prudential may pay to the Representative of a Covered Life or Contingent Life or Beneficiary amounts otherwise owed to such Covered Life or Contingent Life or

Beneficiary if Prudential receives satisfactory evidence of such Representative's authority. Any amount paid in accordance with this Section 2.9 will completely discharge the liability of Prudential for the amount paid.

2.10 Certificates

Upon receipt of applicable regulatory approvals, Prudential will issue each Covered Life (and, if receiving Annuity Payments on the date annuity certificates are issued, a Contingent Life) an annuity certificate. Each such certificate will set forth in substance the payments to which each Covered Life (and, if applicable, a Contingent Life) is entitled under this Contract. Also, Prudential may issue a substitute annuity certificate to correct errors contained in the previously issued certificate, whereupon the previously issued annuity certificate shall be null and void.

Each annuity certificate shall provide that only the Covered Life (and, if applicable, a Contingent Life) has the right to Annuity Payments under this Contract, and that such right to Annuity Payments is enforceable by the certificate-holder solely against Prudential and against no other person including the Plan, the Contract-Holder, or any affiliate thereof. Each certificate shall describe the consequences of any misstatements of age or other relevant fact, including Prudential's rights and obligations relating to such misstatements.

The rights of Covered Lives and Contingent Lives under this Contract are not conditioned upon the issuance of annuity certificates, and any delay in issuing an annuity certificate to such Covered Life or Contingent Life does not delay the date on which the Covered Life or Contingent Life begins to have third-party beneficiary rights under this Contract.

Provision III General Terms

3.1 Communications

All communications to Prudential regarding this Contract shall be addressed to Prudential's Office.

Communications to Contract-Holder and Employer will be addressed as shown in our records, as updated from time to time on Prudential's records based on notice provided by the Contract-Holder or Employer to Prudential.

All communications to Contract-Holder, Employer or Prudential will be in writing.

3.2 Currency; Payments

All moneys, whether payable to or by Prudential, shall be in lawful money of the United States of America. Dollars and cents refer to lawful currency of the United States of America. Payments owed to Prudential or to Contract-Holder shall be made pursuant to agreed procedures and wire instructions.

3.3 Reliance on Records; Correction of Errors

Contract-Holder will furnish all information which Prudential may reasonably require for the administration of this Contract. If Contract-Holder cannot furnish any required item of information, Prudential may (but is not required to) ask the relevant Covered Life, Contingent Life or Beneficiary to provide such information. Prudential will not be obligated to make Annuity Payments in any way dependent upon such information unless and until it receives all information necessary to fulfill its obligation.

Prudential will maintain the records necessary for its administration of this Contract. Such records will be prepared using the information furnished to it pursuant to this Contract and will constitute prima facie evidence as to the truth of the information recorded thereon. However, Prudential reserves the right to correct its records to eliminate erroneous information furnished to it and to reflect information it gathers reasonably believed by it to be reliable. Prudential may assume the accuracy of Contract-Holder's records in connection with Covered Lives, Contingent Lives and Beneficiaries. Any payment made by Prudential in reliance on such records shall be a valid discharge of its obligation under this Contract.

3.4 Contract-Holder; Successor

Prudential will be entitled to rely on any action taken or omitted by or on behalf of Contract-Holder pursuant to the terms of this Contract and shall not be required to obtain consents of any other person or organization with an interest in the Plan, except as provided in Section 1.9. With Prudential's consent, Contract-Holder may authorize representatives of the Plan, Employer or others to act on its behalf under this Contract. Prudential is entitled to rely on Contract-Holder (or its representative) in connection with the administration of this Contract. Contract-Holder at any time may, with the consent of Prudential, appoint a successor Contract-Holder, provided that if the successor Contract-Holder is a trustee for the Plan, such consent shall not be unreasonably withheld. Any such successor Contract-Holder will have all the rights, duties, and obligations of Contract-Holder. If Contract-Holder notifies Prudential that it will cease to exist or cease to perform the duties of Contract-Holder hereunder and no successor Contract-Holder is appointed, the Contract-Holder will thereafter have no rights or obligations under this Contract but this Contract shall nevertheless remain in full force and effect until the date on which there ceases to be any further Annuity Payments payable in accordance with the terms of this Contract.

3.5 No Implied Waiver

Except as expressly provided herein, any party's failure to insist in any one or more instances upon strict performance by any other party of any of the terms of this Contract shall not be construed as a waiver of any continuing or subsequent failure to perform or delay in performance of any term hereof.

3.6 Changes

(a) ***Mutual Agreement*** . This Contract may be amended at any time by written agreement between Prudential, Employer and Contract-Holder.

(b) ***Law or Regulation*** . Prudential may change this Contract as it deems necessary or appropriate to satisfy the requirements of any law enacted by (or of any regulation promulgated by) any legislative or governmental authority, body or agency.

(c) ***Absence of Contract-Holder*** . If Contract-Holder notifies Prudential that it will cease to exist, or cease to perform the duties of Contract-Holder hereunder, and no successor to Contract-Holder is appointed, then this Contract can thereafter be changed at any time by Prudential in its discretion, but subject to the rights of each Covered Life, Contingent Life and Beneficiary to receive Annuity Payments (as provided in Section 1.9).

3.7 Entire Contract - Construction

This Contract, together with the exhibits attached hereto, constitutes the entire agreement between the parties with respect to the subject matter of this Agreement and supersedes all prior agreements and understandings, both oral and written, between the parties with respect to the subject matter of this Contract.

This contract will be construed according to the laws of the jurisdiction set forth on the Cover Page without regard to the principles of conflicts of laws thereof except to the extent that those laws have been preempted by the laws of the United States of America.

3.8 Third Party Beneficiaries

Except as expressly set forth in Section 1.9, this Contract does not and is not intended to confer any rights or remedies upon any person other than the Contract-Holder.

[***] A.B.C. Company

ANNUITY EXHIBIT
Immediate Covered Lives – Retired

Annuity Commencement Date

Annuity Form is Life Payment Certain Form of Annuity

Covered Life	Social Security Number	Sex	Date of Birth	Covered Life Amount	Guaranteed Number of Payments	Lump Sum Death Benefit

Schedule 1 to Commitment Agreement, dated September 25, 2018

CONFIDENTIAL

Schedule 2
to
Commitment Agreement

[***]

A	B	C	D	E	F	G	H	I	J
[***]	[***]	[***]	[***]	[***]	[***]	[***]	[***]	[***]	[***]

N/A

Schedule 3
to
Commitment Agreement

[***]

[***] :

1. [***] .
2. [***]. [***] :
   a. [***] ,
   b. [***] ,
   c. [***] , or
   d. [***] .
3. [***] .
4. [***] .
5. [***] .
6. [***] .
7. [***] .
8. [***] .

Schedule 4
to
Commitment Agreement

ARBITRATION DISPUTE RESOLUTION

1. **Rules and Procedures .** Any dispute between the parties referenced herein shall be resolved by arbitration conducted by one arbitrator, in accordance with Commercial Arbitration Rules and Expedited Procedures for Large, Complex Commercial Disputes of the American Arbitration Association (" AAA "), as such rules and procedures are in effect at the time of the arbitration, except as they may be modified herein or by mutual agreement of the Company, Prudential, and, if a party to such dispute, the Independent Fiduciary.
2. **Location .** The seat of the arbitration shall be New York City, New York, at a mutually agreed upon location, or in the absence of agreement at the New York City offices of the AAA.
3. **Arbitrator .** The Company, Prudential and, if a party to the dispute, the Independent Fiduciary shall jointly engage a mutually agreed upon firm (such firm, the " Approved Firm "), within five Business Days after a dispute notice is delivered by either party to the other party to resolve any arbitration dispute. If the Company, Prudential and, if a party to such dispute, the Independent Fiduciary are unable to engage an Approved Firm within such time period on such terms, then the AAA shall appoint an arbitrator within three Business Days thereafter.
4. **Damages .** The arbitrator shall resolve any arbitration dispute within the range of difference between (a) any amounts or values as calculated or determined by Prudential and (b) any amounts or values as calculated or determined by the Company or, if a party to the dispute, any amounts or values as calculated or determined by the Independent Fiduciary. The arbitrator will have no authority to award any other damages other than as provided for herein.
5. **Judgment .** Any arbitration award shall be final and binding on the Company, Prudential and, if a party to the dispute, the Independent Fiduciary. The Company, Prudential and, if a party to such dispute, the Independent Fiduciary undertake to carry out any award without delay and waive their respective rights to any form of recourse based on grounds other than personal conflict of interest of the arbitrator that was undisclosed at the time of the arbitrator's appointment. Judgment upon the award may be entered by any court having jurisdiction thereof or having jurisdiction over the Company, Prudential or, if a party to such dispute, the Independent Fiduciary, as applicable, or their respective assets.
6. **Costs .** The Company and Prudential shall share the fees and disbursements of the arbitrator equally (i.e., on a 50%/50% basis). The Company, Prudential and, if a party to the dispute, the Independent Fiduciary shall each bear their own costs and expenses incurred in connection with prosecuting and/or defending any arbitration dispute.
7. **[***] .** [***] .

Amended Schedules . If applicable, the Company, Prudential and the Independent Fiduciary will promptly amend the schedules hereto to reflect any arbitration decision.

Schedule 5
to
Commitment Agreement

[***]

				[***]		[***]	
[***]		[***]	[***]				
[***]	[***]			[***]	[***]	[***]	[***]

Schedule 6
to
Commitment Agreement

INVESTMENT MANAGERS AND INVESTMENT ADVISERS

1. Jennison Associates LLC
   Doing Business As:
   - Jennison
   - Jennison Associates
2. Quantitative Management Associates LLC
   Doing Business As :
   - QMA
3. PGIM, Inc.
   Doing Business As :
   - Prudential Investments
   - PGIM Investments
   - Prudential Capital Group
   - PGIM
   - PGIM Fixed Income
   - Prudential Fixed Income
   - PGIM Institutional Advisory & Solutions
   - PGIM Real Estate
   - PGIM Global Partners
   - Prudential Financial, Inc.
   - PREI
   - PGIM Real Estate Finance
   - Prudential Real Estate Investors
   - Pramerica Real Estate Investors
   - Prudential Real Estate Fixed Income Investors
   - PRICOA Capital Group
   - Prudential Capital Partners

- Pramerica Capital Partners
- Pramerica Investment Management – Fixed Income
- PCG
- PRICOA Capital Group Limited
- PRICOA Capital Partners
- Prudential Capital Energy Partners
- PRICOA Capital Energy Partners
- Pramerica Capital Energy Partners

4. The Prudential Insurance Company of America

   Doing Business As :
   - Prudential Financial, Inc.
5. Prudential Trust Company
6. Prudential Retirement Insurance and Annuity Company
7. PGIM Limited

   Doing Business As :
   - PGIM Fixed Income
   - PGIM Real Estate
   - PGIM Real Estate Finance
   - PRICOA Capital Group
8. PGIM Fund Management Limited

   Doing Business As :
   - PGIM Real Estate
9. Global Portfolio Strategies, Inc.
10. PGIM Investments LLC

    Formerly Known As :
    - Prudential Investments LLC
11. Prudential Private Placement Investors, L.P.
12. AST Investment Services, Inc.
13. Prudential International Investment Advisers, LLC

    Doing Business As:
    - PGIM Global Partners
14. Pruco Securities LLC

Doing Business As:

- Prudential Financial Planning Services

15. PGIM Real Estate Finance, LLC

Doing Business As:

- PGIM Real Estate Finance
- Prudential Agricultural Investments

Formerly Known As :

- PRICOA Mortgage Capital Company
- Prudential Mortgage Capital Company

16. PGIM Real Estate Luxembourg S.A.
17. Prudential Customer Solutions LLC

Schedule 7
to
Commitment Agreement

ADMINISTRATION AND TRANSFER

This Schedule 7 sets forth the actions that the Company and Prudential will take or cause to be taken at the times identified in the table below. All Delivery Dates after the first Delivery Date assume the prior delivery, to a party responsible for a subsequent deliverable, of relevant materials needed from other parties, on or prior to the required Delivery Dates set forth below, including cooperation of other parties in resolving any open issues.

Defined Terms

" Check Register " means an electronic file showing gross amounts, net amounts and deductions with respect to payments to each Payee. Dates shown for the Check Register can be changed if mutually agreed upon.

" Data Load File " means the file as extracted from Prudential's recordkeeping systems and reflected in a report provided to the Plan and Company.

" Data Load File Sign-Off " means the written confirmation by the Plan that the Data Load File accurately reflects the data provided.

" Final Production Data File " means the complete updated Preliminary Production Data File, reflecting all corrections since the Preliminary Production Data File and any addendums thereto.

" Preliminary Production Data File " means the preliminary production data file, as populated based on information from the recordkeeper's internal system.

" Update File " means an itemized list of updates that should be made to the file that was last delivered.

Deliverable	Delivery Date	Action by the Company/Plan	Action by Prudential
Preliminary Production Data File	September 27, 2018	Deliver Preliminary Production Data File	Receive and reconcile Preliminary Production Data File to begin data cleanse and data mapping
Final Production Data File	October 22, 2018	Deliver Final Production Data File	Receive Final Production Data File
Check Register October 31, 2018 and November 1, 2018	October 22, 2018	Deliver Check Register	Receive Check Register
Update File	November 14, 2018	Deliver Update File	Receive Update File
Data Load File (related to Final Production Data File)	November 26, 2018	Receive Data Load File	Deliver Data Load File
Data Load File Sign-Off (related to Final Production Data File)	December 3, 2018	Approve Data Load File	Receive Data Load File Sign-Off
Update File	December 3, 2018	Deliver Update File	Receive Update File

Schedule 8
to
Commitment Agreement

GAC ISSUANCE TRUE-UP PREMIUM

This Schedule provides a description of the methodologies and procedures by which Prudential will calculate the GAC Issuance True-Up Premium.

[***] .

[***] . [***] . [***] .

[***] . [***] . [***] .

[***] . [***] . [***] .

[***] .

[***] .

1. [***] .

[***] :

a. [***] ,
b. [***] ,
c. [***] ,
d. [***] ,
e. [***] ,
f. [***] ,
g. [***] ,
h. [***] ,
i. [***] ,
j. [***] , or
k. [***] ,

[***] . [***] . [***] .

[***] .

[***] . [***] . [***] .

2. [***] .

[***] . [***] .

[***] . [***] . [***] .

3. [***] .

a. [***]

[***] . [***] .

b. [***]

[***] . [***] .

c. [***]

[***] . [***] .

4. **[***] .**

[***] :

[***]

Where

(4A) [***] ;
(4B) [***] ;
(4C) [***] .
(4D) [***] .

5. [***] .

[***] .

[***]

Where

(5A) [***] ;
(5B) [***] ;
(5C) [***] .
(5D) [***] . [***] .
(5E) [***] .
(5F) [***] . [***] .
(5G) [***] :
   (i) [***] .
   (ii) [***] .

[***] .

6. [***] .

[***] . [***] .

7. [***] .

[***] . [***] .

8. [***] .

[***] . [***] .

9. [***] .

[***] . [***]:

a. [***] .
b. [***] .
c. [***] .
d. [***] .

[***] . [***] .

[***]

[***] .

[***]

(x) [***] ,

[***]

(y) [***] .

where:

[***] .

[***] .

[***] . [***] .

Schedule 10
to
Commitment Agreement

HISTORICAL MORTALITY DATA

Historical mortality data was provided by the Company to Prudential in the file titled " [***] " posted to Willis Towers Watson OnePlace secure website on May 23, 2018.

Schedule 11
to
Commitment Agreement

STATE INSURANCE GOVERNMENTAL AUTHORITIES

1. Arkansas
2. Florida
3. Idaho
4. Iowa
5. Louisiana
6. Minnesota
7. Mississippi
8. Montana
9. New Hampshire
10. North Dakota
11. Ohio
12. Oklahoma
13. Puerto Rico
14. South Dakota
15. Tennessee
16. Texas
17. Vermont
18. Washington
19. West Virginia

Schedule 12
to
Commitment Agreement

RBC RATIO CALCULATION

Prudential's normal-course RBC Ratio preparation is completed in a reasonable manner, using reasonable assumptions and in accordance with prevailing regulatory standards. [***] . [***] .

Such Projected RBC Ratios are completed in accordance with methodologies prescribed by the National Association of Insurance Commissioners (" NAIC ") for the calculation of company action level risk-based capital and total adjusted capital. The NAIC publishes detailed instructions annually for calculating year-end reported company action level risk-based capital ratios using company action level risk-based capital and total adjusted capital (NAIC Life Risk-Based Capital Report Including Overview and Instructions for Companies). Prudential's Projected RBC Ratio utilizes the same formula as these instructions, [***]. Such projections also incorporate NAIC changes to the extent Prudential expects that these changes are expected to be adopted by the NAIC and effective for the forecasted period.

Exhibit 21

International Paper Company (NY)
Subsidiaries and Joint Ventures (Majority Owned)
as of December 31, 2018

Name	Jurisdiction
Balsa Forests LLC	Delaware
Basswood Forests IIA LLC	Delaware
Basswood Forests LLC	Delaware
Branigar Organization, Inc., The	Illinois
Carton y Papel Reciclado, S.A.	Spain
Cartonajes International, S.L.	Spain
Cartonajes Union S.L.	Spain
Cartonnerie de Martinique SAS	France
Certified Forest Management LLC	Delaware
CircleTree Insurance Company	Vermont
CMCP - INTERNATIONAL PAPER S.A.S.	Morocco
Commercial Realty & Properties LLC	Delaware
Comptoir des Bois de Brive SAS	France
Dogal Kagit Hammaddeleri Sanayi ve Ticaret Limited Sirketi	Turkey
EM Xpedx, S.A. De C.V.	Mexico
Emballages Laurent SAS	France
English Oak LLC	Delaware
Envases Antonio Grau, S.A.	Spain
Envases Grau, S.L.	Spain
Federal Forestlands Inc.	Delaware
Forest Insurance Limited	Bermuda
Haig Point, Inc.	Delaware
I.P. CONTAINER HOLDINGS (SPAIN) S.L.	Spain
Instituto International Paper	Brazil
International Paper - Comércio de Papel e Participações Arapoti Ltda.	Brazil
International Paper - Kwidzyn Sp. Z O.O.	Poland
International Paper (Asia) Limited	Hong Kong
International Paper (Deutschland) GmbH	Germany
International Paper (Europe) S.à r.l.	Luxembourg
International Paper (India) Private Limited	India
International Paper (New Zealand) Limited	New Zealand
International Paper (Poland) Holding sp. z o.o.	Poland
International Paper (UK) Limited	Scotland
International Paper Agroflorestal Ltda.	Brazil
International Paper APPM Limited	India
International Paper Asia Limited (Branch Office)	Korea
International Paper Benelux SPRL	Belgium
International Paper Canada Pulp Holdings ULC	Alberta
International Paper Cartones Ltda.	Chile
International Paper Cellulose Fibers (Poland) sp. z o.o.	Poland
International Paper Cellulose Fibers Sales Sàrl	Switzerland
International Paper Company Employee Relief Fund	New York
International Paper Company Foundation	New York
International Paper Company Limited	England & Wales
International Paper Container (France) Holding SAS	France
International Paper CTA (Mexico), S.A. de C.V., SOFOM, E.N.R.	Mexico

International Paper Company (NY)
Subsidiaries and Joint Ventures (Majority Owned)
as of December 31, 2018

Name	Jurisdiction
International Paper Czech Republic, s.r.o.	Czech Republic
International Paper Distribution (Shanghai) Limited	China
International Paper Distribution Group (Taiwan) Limited	China
International Paper do Brasil Ltda.	Brazil
INTERNATIONAL PAPER DUTCH SERVICES B.V.	Netherlands
International Paper Embalagens da Amazônia Ltda.	Brazil
International Paper Export Sales, Inc.	Delaware
International Paper Exportadora Ltda.	Brazil
International Paper Financial Services, Inc.	Delaware
International Paper France SAS	France
International Paper Global Cellulose Fibers Holdings S.à r.l.	Luxembourg
International Paper Group (UK) Limited	England & Wales
International Paper Holdings (Luxembourg) S.à r.l.	Luxembourg
International Paper Hungary Kereskedelmi Kft.	Hungary
International Paper Industrie France SA	France
International Paper Investment (Shanghai) Co., Ltd.	China
International Paper Investment (Shanghai) Co., Ltd., Guangzhou Branch	China
International Paper Investments (Asia) B.V.	Netherlands
International Paper Investments (France) S.A.S	France
International Paper Investments (Luxembourg) S.à r.l.	Luxembourg
International Paper Italia Srl	Italy
International Paper Japan Limited	Japan
International Paper Madrid Mill, S.L.	Spain
International Paper Manufacturing & Distribution Limited	Hong Kong
International Paper Mexico Company, S. de R.L. de C.V.	Mexico
International Paper Nordic Sales Company Oy	Finland
International Paper Packaging Malaysia Sdn. Bhd.	Malaysia
International Paper Papiers de Bureau SARL	France
International Paper Peru S.R.L.	Peru
International Paper Polska Sp. z o.o.	Poland
International Paper Procurement (Shanghai) Limited	China
International Paper Professional Services Corporation	Delaware
International Paper Russia Holding B.V.	Netherlands
International Paper S.A.	France
International Paper Switzerland GmbH	Switzerland
International Paper Trading (Shanghai) Limited	China
International Paper Ukraine SE	Ukraine
IP Belgian Services Company SPRL	Belgium
IP Canada Holdings Limited	Canada
IP Cartones Y Corrugados, S. de R.L. de C.V.	Mexico
IP CBPR Properties 2 LLC	Delaware
IP CBPR Properties LLC	Delaware
IP Celimo SAS	France
IP Commercial Properties LLC	Delaware
IP Corporate Management (Shanghai) Co. Ltd.	China
IP Eagle LLC	Delaware
IP East Holding (Singapore) Pte. Ltd.	Singapore

International Paper Company (NY)
Subsidiaries and Joint Ventures (Majority Owned)
as of December 31, 2018

Name	Jurisdiction
IP Forest Resources Company	Delaware
IP Foret Services	France
IP India Foundation	India
IP International Holdings, Inc.	Delaware
IP Investment (Brazil) S.a r.l.	Luxembourg
IP Mexico Holdings S.à r.l.	Luxembourg
IP Mineral Holdings LLC	Delaware
IP Papers Holding S.a r.l.	Luxembourg
IP Petroleum LLC	Delaware
IP Realty Holdings LLC	Delaware
IP Singapore Holding Pte. Ltd.	Singapore
IP Timberlands Operating Company, Ltd.	Texas
IP-35, Inc.	Delaware
Joshua Tree Forests LLC	Delaware
Juniper Forests LLC	Delaware
Lacebark LLC	Delaware
Lake Superior Land Company	Delaware
Longleaf Insurance Company	Tennessee
Lost Creek, Inc.	Delaware
Med Packaging SARL	Morocco
Montauban Cartons SAS	France
Northwest Pines, Inc.	Delaware
Olmuksan International Paper Ambalaj Sanayi ve Ticaret Anonim Sirketi	Turkey
Papeteries d'Espaly SAS	France
Piper LLC	Delaware
Przedsiebiorstwo Produkcyjno-Handlowe "Tor-Pal" Spolka z Ograniczona Odpowiedzialnoscia	Poland
Red Bird Receivables, LLC	Delaware
Sabine River & Northern Railroad Company	Texas
Societe Guadeloupeenne de Carton Ondule SAS	France
Societe Mauritanienne de Cartons - SOMACAR, S.A.	Mauritania
Societe Mediterraneenne d'Emballages SAS	France
Societe Normande de Carton Ondule SAS	France
SP Forests L.L.C.	Delaware
Supplier Finance Company, LLC	Delaware
Sustainable Forests L.L.C.	Delaware
Sycamore Forests LLC	Delaware
Temple Associates LLC	Texas
Timberlands Capital Corp. II, Inc.	Delaware
Timberlands Capital Corp. III, Inc.	Delaware
TIN Intermediate, LLC	Delaware
TIN Land Financing, LLC	Delaware
TIN Timber Financing, LLC	Delaware

International Paper Company (NY)
Subsidiaries and Joint Ventures (Majority Owned)
as of December 31, 2018

Name	Jurisdiction
U. C. Realty LLC	Delaware
Velarium Oy Ab	Finland
ZAO International Paper	Russia
ZAO Tikhvinsky Komplexny Lespromokhoz	Russia

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-223170 on Form S-3 and Registration Statements Nos. 333-01667, 333-75235, 333-37390, 333-85830, 333-85828, 333-85826, 333-85824, 333-85822, 333-85818, 333-85820, 333-108046, 333-120293, 333-145459, 333-154522, 333-154523, 333-159336, 333-129011, 333-164230, 333-212998 and 333-212999 on Forms S-8 of our reports dated February 20, 2019, relating to the consolidated financial statements of International Paper Company, and the effectiveness of International Paper Company’s internal control over financial reporting, appearing in this Annual Report on Form 10-K of International Paper for the year ended December 31, 2018.

/s/ Deloitte & Touche LLP

Memphis, Tennessee
February 20, 2019

Exhibit 23.2

CONSENT OF INDEPENDENT AUDITORS

We consent to the incorporation by reference in Registration Statement No. 333-223170 on Form S-3 and Registration Statements Nos. 333-01667, 333-75235, 333-37390, 333-85830, 333-85828, 333-85826, 333-85824, 333-85822, 333-85818, 333-85820, 333-108046, 333-120293, 333-145459, 333-154522, 333-154523, 333-159336, 333-129011, 333-164230, 333-212998 and 333-212999 on Forms S-8 of our reports dated February 20, 2019, relating to the consolidated financial statements of Ilim S.A. and its subsidiaries, appearing in this Annual Report on Form 10-K of International Paper Company for the year ended December 31, 2018.

/s/ AO Deloitte & Touche CIS

Moscow, Russia
February 20, 2019

Exhibit 31.1

CERTIFICATION

I, Mark S. Sutton, certify that:

1. I have reviewed this annual report on Form 10-K of International Paper Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

February 20, 2019

/s/ Mark S. Sutton

Mark S. Sutton
Chairman and Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Timothy S. Nicholls, certify that:

1. I have reviewed this annual report on Form 10-K of International Paper Company;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

February 20, 2019

/s/ Timothy S. Nicholls

Timothy S. Nicholls

Senior Vice President and Chief
Financial Officer

Exhibit 32

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

The certification set forth below is being submitted in connection with the Annual Report of International Paper Company (the "Company") on Form 10-K for the period ended December 31, 2018 for the purpose of complying with Rule 13a-14(b) or Rule 15d-14(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code. Mark S. Sutton, Chief Executive Officer of the Company, and Timothy S. Nicholls, Chief Financial Officer of the Company, each certify that, to the best of his or her knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Exchange Act; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Mark S. Sutton

Mark S. Sutton
Chairman and Chief Executive Officer
February 20, 2019

/s/ Timothy S. Nicholls

Timothy S. Nicholls
Senior Vice President and Chief Financial Officer
February 20, 2019

Ilim S.A. and its Subsidiaries

Consolidated Financial Statements
At December 31, 2018 and 2017
and for the Years Ended December 31, 2018, 2017 and 2016

CONTENTS

INDEPENDENT AUDITORS' REPORT

To the Board of Directors of Ilim S.A.:

We have audited the accompanying consolidated financial statements of Ilim S.A. and its subsidiaries (the "Group"), which comprise the consolidated balance sheets as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, cash flows and changes in equity for the years ended December 31, 2018, 2017 and 2016, and the related notes to the consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Group's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Ilim S.A. and its subsidiaries as of December 31, 2018 and 2017 and the results of their operations and their cash flows for the years ended December 31, 2018, 2017 and 2016, in accordance with accounting principles generally accepted in the United States of America.

/s/ AO Deloitte & Touche CIS

February 20, 2019

ILIM S.A. AND ITS SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
AT DECEMBER 31, 2018 AND 2017
(All amounts are presented in thousands of US Dollars, unless otherwise stated)

	Notes	December 31, 2018	December 31, 2017
ASSETS			
Current assets			
Cash and cash equivalents	4	529,436	238,035
Accounts receivable	4	143,373	124,772
Accounts receivable from related parties	9	27,473	24,303
Value added tax receivable		30,123	38,756
Prepayments		23,629	23,206
Inventories	4	224,426	237,813
Other current assets		2,286	2,083
Total current assets		**980,746**	**688,968**
Non-current assets			
Plant, properties and equipment, net	4	1,565,972	1,521,441
Prepayments for property, plant and equipment		66,405	93,258
Intangible assets	4	27,658	28,002
Goodwill	4	6,982	8,421
Deferred income tax assets	5	6,946	4,418
Other non-current assets	4	36,246	40,719
Total non-current assets		**1,710,209**	**1,696,259**
TOTAL ASSETS		**2,690,955**	**2,385,227**
LIABILITIES AND EQUITY			
Current liabilities			
Current maturities of long-term debt	7	286,563	733,694
Accounts payable		62,206	66,890
Accounts payable to related parties	9	7,101	7,542
Accrued payroll and benefits		36,030	39,003
Taxes payable		22,711	35,774
Other accruals and liabilities	4	130,425	155,871
Total current liabilities		**545,036**	**1,038,774**
Non-current liabilities			
Long-term debt	7	1,350,312	844,982
Deferred income tax liabilities	5	105,501	112,620
Employee benefit plan obligation		5,001	5,745
Other liabilities		8,984	8,586
Total non-current liabilities		**1,469,798**	**971,933**
Equity			
Common stock (1 CHF par value; 133,582,480 shares)	8	109,341	109,341
Additional paid-in capital		41,693	15,939
Receivables from shareholders	9	(158,434)	(155,091)
Retained earnings		1,228,262	893,321
Accumulated other comprehensive loss	3	(555,319)	(494,594)
Total Ilim S.A. shareholders' equity		**665,543**	**368,916**
Non-controlling interests		10,578	5,604
Total equity		**676,121**	**374,520**
TOTAL LIABILITIES AND EQUITY		**2,690,955**	**2,385,227**

The notes set forth on pages 8 to 28 form an integral part of these consolidated financial statements.

The consolidated financial statements as set forth on pages 4 to 28 were approved on February 20, 2019.

K. Sosnina A. Emdin

Attorney-at-fact of Ilim S.A.   Attorney-at-fact of Ilim S.A.

CONSOLIDATED STATEMENTS OF OPERATIONS
FOR THE YEARS ENDED DECEMBER 31, 2018, 2017 AND 2016
(All amounts are presented in thousands of US Dollars, unless otherwise stated)

	Notes	2018	2017	2016
NET SALES	4	**2,713,368**	**2,150,029**	**1,926,567**
COSTS AND EXPENSES				
Cost of products sold, excluding depreciation and amortization		(1,010,042)	(959,001)	(854,497)
Distribution and selling costs		(303,905)	(279,985)	(239,761)
General and administration costs		(129,734)	(150,817)	(123,622)
Depreciation		(150,573)	(144,880)	(115,706)
Amortization		(6,220)	(6,205)	(5,260)
Taxes other than payroll and income taxes		(39,209)	(25,972)	(19,645)
Other operating expenses, net	4	(23,147)	(39,444)	(9,327)
Foreign exchange (loss) gain		(203,632)	37,179	67,141
Interest expense, net	4	(70,265)	(87,203)	(78,650)
EARNINGS BEFORE INCOME TAXES		**776,641**	**493,701**	**547,240**
Income tax expense	5	(184,174)	(115,184)	(127,900)
NET EARNINGS		**592,467**	**378,517**	**419,340**
Net earnings attributable to non-controlling interests		(21,267)	(16,375)	(28,132)
NET EARNINGS ATTRIBUTABLE TO ILIM S.A.		**571,200**	**362,142**	**391,208**

The notes set forth on pages 8 to 28 form an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2018, 2017 AND 2016
(All amounts are presented in thousands of US Dollars, unless otherwise stated)

	Notes	2018	2017	2016
NET EARNINGS		**592,467**	**378,517**	**419,340**
OTHER COMPREHENSIVE INCOME (LOSS), NET OF TAX				
Remeasurement of defined benefit obligation (net of income tax of \$48, \$99 and \$(14) respectively)		190	396	(57)
Change in cumulative foreign currency translation adjustments		(62,850)	21,446	81,854
TOTAL OTHER COMPREHENSIVE INCOME (LOSS), NET OF TAX	3	**(62,660)**	**21,842**	**81,797**
Total comprehensive income		529,807	400,359	501,137
Net earnings attributable to non-controlling interests		(21,267)	(16,375)	(28,132)
Other comprehensive loss (income) attributable to non-controlling interests		1,935	(1,869)	945
COMPREHENSIVE INCOME ATTRIBUTABLE TO ILIM S.A.		**510,475**	**382,115**	**473,950**

The notes set forth on pages 8 to 28 form an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2018, 2017 AND 2016
(All amounts are presented in thousands of US Dollars, unless otherwise stated)

	Notes	2018	2017	2016
OPERATING ACTIVITIES				
Net earnings		**592,467**	**378,517**	**419,340**
Adjustments to reconcile net earnings to net cash provided by operating activities:				
Depreciation and amortization		156,793	151,085	120,966
Income tax expense, net	5	184,174	115,184	127,900
Net interest expense, net of amounts capitalized	4	70,265	87,203	78,650
Loss (gain) on disposal of plant, properties and equipment	4	(1,177)	64	(2,976)
Loss (gain) from disposal of other assets	4	10,571	2,132	(746)
Foreign exchange (gain) loss		203,632	(37,179)	(67,141)
Allowance for doubtful accounts receivable		344	1,059	1,694
Impairment of plant, properties and equipment	4	7,838	8,960	2,500
Write down of inventories		2,925	1,554	(170)
Other, net		4,314	11,114	(7,057)
Changes in current assets and liabilities				
Accounts receivable		(22,481)	(24,260)	(13,667)
Inventories		(30,794)	(25,213)	(15,494)
Accounts payable and accrued liabilities		(37,498)	35,524	2,862
Taxes payable other than income tax		4,947	790	(3,405)
Interest paid		(72,198)	(93,086)	(81,711)
Income tax paid	5	(194,515)	(95,251)	(54,005)
CASH PROVIDED BY OPERATING ACTIVITIES		**879,607**	**518,197**	**507,540**
INVESTMENT ACTIVITIES				
Invested in capital projects		(455,140)	(405,850)	(282,737)
Proceeds from sale of plant, properties and equipment		4,107	3,289	2,898
Other		3,079	(8,592)	(630)
CASH USED FOR INVESTMENT ACTIVITIES		**(447,954)**	**(411,153)**	**(280,469)**
FINANCING ACTIVITIES				
Issuance of debt		1,202,586	365,579	808,402
Repayment of debt		(1,061,751)	(285,435)	(564,393)
Loans issued to shareholders		(20,000)	-	(81,818)
Loan repaid by a shareholder	9	15,906	6,699	-
Purchase of non-controlling interest in JSC Ilim Group		-	(80,191)	(35,144)
Dividends paid	8	(250,604)	(260,143)	(129,960)
CASH USED FOR FINANCING ACTIVITIES		**(113,863)**	**(253,491)**	**(2,913)**
Effect of exchange rate changes on cash and cash equivalents		**(26,389)**	**(12,436)**	**18,110**
Change in cash and cash equivalents		**291,401**	**(158,883)**	**242,268**
Cash and cash equivalents				
Beginning of the year	4	238,035	396,918	154,650
End of the year	4	529,436	238,035	396,918

The notes set forth on pages 8 to 28 form an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2018, 2017 AND 2016
(All amounts are presented in thousands of US Dollars, unless otherwise stated)

	Ilim S.A. shareholders							
	Common Stock	Additional Paid-in Capital	Receivables From Shareholders	Retained Earnings	Accumulated Other Comprehen-sive Loss	Total Ilim S.A. Shareholders' Equity	Non-controlling Interests	Total Equity
BALANCE, JANUARY 1, 2016	**109,341**	**12,777**	**(77,272)**	**555,967**	**(578,542)**	**22,271**	**20,995**	**43,266**
Dividends paid ($ 0.87 per share; Note 8)	-	-	-	(118,118)	-	(118,118)	-	(118,118)
Dividends paid to non-controlling interests by subsidiary (Note 8)	-	-	-	-	-	-	(19,776)	(19,776)
Loan issued to a shareholder (Note 9)	-	5,074	(78,474)	-	-	(73,400)	(125)	(73,525)
Purchase of non-controlling interest in subsidiaries from third parties	-	(6,710)	(1,228)	(14,065)	(6,539)	(28,542)	(6,602)	(35,144)
Comprehensive income	-	-	-	391,208	82,742	473,950	27,187	501,137
BALANCE, DECEMBER 31, 2016	**109,341**	**11,141**	**(156,974)**	**814,992**	**(502,339)**	**276,161**	**21,679**	**297,840**
Dividends paid ($ 1.81 per share; Note 8)	-	-	-	(241,760)	-	(241,760)	-	(241,760)
Dividends paid to non-controlling interests by subsidiary (Note 8)	-	-	-	-	-	-	(10,829)	(10,829)
Loan issued to a shareholder, net (Note 9)	-	4,868	4,294	-	-	9,162	(61)	9,101
Purchase of non-controlling interest in subsidiaries from third parties	-	(70)	(2,411)	(42,053)	(12,228)	(56,762)	(23,429)	(80,191)
Comprehensive income	-	-	-	362,142	19,973	382,115	18,244	400,359
BALANCE, DECEMBER 31, 2017	**109,341**	**15,939**	**(155,091)**	**893,321**	**(494,594)**	**368,916**	**5,604**	**374,520**
Dividends paid ($ 1.74 per share; Note 8)	-	-	-	(232,632)	-	(232,632)	-	(232,632)
Dividends paid to non-controlling interests by subsidiary (Note 8)	-	-	-	-	-	-	(17,981)	(17,981)
Loans issued to / collected from shareholders, net (Note 9)	-	25,754	(3,343)	-	-	22,411	(4)	22,407
Change of non-controlling interest in subsidiaries	-	-	-	(3,627)	-	(3,627)	3,627	-
Comprehensive income (loss)	-	-	-	571,200	(60,725)	510,475	19,332	529,807
BALANCE, DECEMBER 31, 2018	**109,341**	**41,693**	**(158,434)**	**1,228,262**	**(555,319)**	**665,543**	**10,578**	**676,121**

The notes set forth on pages 8 to 28 form an integral part of these consolidated financial statements.

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

1. SUMMARY OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES

Financial statements

These consolidated financial statements at December 31, 2018 and 2017 and for the years ended December 31, 2018, 2017 and 2016 have been prepared in conformity with accounting principles generally accepted in the United States of America that require the use of management's estimates. Estimates are used when accounting for certain items such as the recoverability of long-lived assets, allowance for doubtful accounts, obligations related to employee benefits, useful lives of plant, properties and equipment and intangible assets, asset retirement obligations, environmental remediation obligations, legal and tax contingencies, valuation of inventories, financial instruments and deferred tax assets, including valuation allowances. Estimates are based on historical experience, where applicable, and other assumptions that management believes are reasonable under the circumstances. Actual results could differ from management's estimates.

Nature of business

The principal activity of Ilim S.A. (formerly Ilim Holding S.A., see details below) (the "Company") and its subsidiaries (together – the "Group") is forestry and pulp and paper production.
The Group was formed in 2006 as a result of the restructuring of a group of legal entities under common control, collectively referred to as Ilim Pulp Group.

Ilim S.A. is a joint stock company incorporated in Switzerland. The Company is a joint venture of International Paper Company ("IP") and a group of Russian shareholders. IP and the Russian shareholders (collectively) each own 50% of the Company's shares.

The Group's manufacturing operations are located in the Russian Federation and sales are made in Russia and abroad. At December 31, 2018, the Group employed 16,613 employees (December 31, 2017: 16,824 employees).

The Group consists of 8 legal entities (December 31, 2017: 10 entities) which are incorporated in the Russian Federation (except as otherwise indicated).

The Company's ownership and voting power in its subsidiaries were as follows:

			Ownership Percentage and Voting Rights	
Entity	**Principal activity**	**Country of incorporation**	**December 31, 2018**	**December 31, 2017**
JSC Ilim Group	Manufacturing of pulp, paper and linerboard	Russia	96.37%	96.37%
LLC Fintrans GL	Transportation of cargo	Russia	96.37%	96.37%
LLC Ilim Gofra	Corrugated packaging	Russia	96.37%	96.37%
Ilim Trading S.A.*	Trading company	Switzerland	-	100.00%

*On December 12, 2018 Ilim Trading S.A. was merged into Ilim Holding S.A., and Ilim Holding S.A.'s name was changed to Ilim S.A.

JSC Ilim Group has branches in Bratsk, Ust-Ilimsk and Koryazhma, Russia, where the three pulp and paper mills are located.

Consolidation

These consolidated financial statements include the accounts of the Company and its wholly-owned and controlled majority-owned subsidiaries. All intercompany balances and transactions are eliminated.

Investments in joint ventures where the Company has significant influence over their operations are accounted for by the equity method.

1. SUMMARY OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Revenue recognition

Generally, the Group recognizes revenue on a point-in-time basis when the customer takes title to the goods and assumes the risks and rewards for the goods.

The Group's revenue is primarily derived from fixed consideration; however, we do have contract terms that give rise to variable consideration, primarily cash discounts and volume rebates.
The Group offers early payment discounts to customers across the Group's businesses. Management estimates the expected cash discounts and other customer refunds based on the historical experience across the Group's portfolio of customers to record reductions in revenue which is consistent with the most likely amount method outlined in ASC 606 "Revenue from Contracts with Customers," (new revenue standard). Management has concluded that this method is the best estimate of the consideration the Group will be entitled to from its customers.

The Group has elected to account for shipping and handling activities as fulfillment activities, recognize the incremental costs of obtaining a contract as expense when incurred if the amortization period of the asset the Company would recognize is one year or less, and not record interest income or interest expense when the difference in timing of control or transfer and customer payment is one year or less.

On January 1, 2018, the Group adopted the new revenue recognition standard and all related amendments, using the modified retrospective method. We have analyzed revenue streams and terms of contracts with customers indicating that the adoption of the standard did not require a change in the amount of revenue recognized.

In order to meet new revenue standard's requirements, management has considered certain qualitative and quantitative information to be disclosed in Note 4 so that the financial statements' users can better understand the nature, amount, timing and uncertainty, if any, of revenue and cash flows generated from contracts with customers.

Annual maintenance costs

Costs of repair and maintenance activities are expensed in the month that the related activity is performed.

Cash and cash equivalents

Cash and cash equivalents include cash in hand, cash held on demand with banks, bank deposits repayable on demand without penalty and bank deposits with original maturities of three months or less. Cash and cash equivalents are carried at cost plus interest accrued, which approximates market value. Bank deposits with original maturities of more than three months are classified as short-term or long-term investments depending on the expected maturity and are carried at amortized cost using the effective interest method.

Inventories

Inventories are valued at the lower of cost or market value and include all costs directly associated with manufacturing products: materials, labor and manufacturing overhead.
Cost is determined on the weighted average basis.

Plant, properties and equipment

Plant, properties and equipment are stated at cost less accumulated depreciation. Expenditures for improvements are capitalized, whereas normal repairs and maintenance are expensed as incurred. Upon sale or retirement, the cost and related accumulated depreciation are eliminated.

Gains and losses on disposal are determined by comparing the proceeds with the carrying amount and are included in other operating income or expense.

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

1. SUMMARY OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets are depreciated on a straight-line basis from the date they are ready for use. Land, assets under construction and equipment for installation are not depreciated.

The estimated useful lives are as follows:

Asset category	Useful life (years)
Buildings	35-50
Plant and equipment	5-25
Other	3-20

Leasing

Leasing transactions are classified according to the lease agreements which specify the rewards and risks associated with the leased property. Leasing transactions where the Group is the lessee are classified as capital or operating leases. In a capital lease, the Group receives the major portion of the economic benefits of the leased property and recognizes the assets and associated liability on its consolidated balance sheet. All other transactions, in which the Group is the lessee, are classified as operating leases. Payments made under operating leases are recorded as expense.

Intangible assets

All of the Group's intangible assets have finite useful lives and include primarily computer software, patents, and licenses. Intangible assets are amortized using the straight-line method from the date they are ready for use over their estimated useful lives as follows:

Asset category	Useful life (years)
Management accounting system (SAP)	5-10
Other software	3-5
Licenses and patents	3-5
Other	3-5

Goodwill

Goodwill related to a single business reporting unit is included as an asset of the applicable segment. Annual testing for possible goodwill impairment is performed at the end of the year, with additional interim testing performed when management believes that it is more likely than not events and circumstances have occurred that would result in the impairment of the reporting unit's goodwill.

In calculating the estimated fair value of its reporting units in step one, the Company uses the projected future cash flows to be generated by each unit, discounted using the estimated discount rate for each reporting unit. For reporting units whose recorded value of net assets plus goodwill is in excess of their estimated fair values, the fair values of the individual assets are determined to calculate the amount of any goodwill impairment charge required.

Forestlands

The Group uses forests for logging from local forestry authorities under 49-year agreements, cancellable by the Group at any time. Logging volumes and other conditions are determined annually. The Group does not own the trees until they are harvested. At December 31, 2018, the Group has exclusive harvesting rights on forest areas exceeding 18.9 million acres
(7.7 million hectares) (December 31, 2016: 16.4 million acres (6.6 million hectares)).

1. SUMMARY OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Impairment of long-lived assets

Long-lived assets (or groups of assets) are reviewed for impairment upon the occurrence of events or changes in circumstances that indicate that the carrying value of the assets may not be recoverable. A recoverability test is performed based on undiscounted cash flows, requiring judgments as to the weighting of operational alternatives being considered by management and estimates of the amount and timing of expected future cash flows from the use of long-lived assets generated by their use. Impaired assets are recorded at their estimated fair value.

Accounts receivable

Accounts receivable are carried at face value, less an allowance for doubtful accounts.
An allowance for doubtful accounts is established when there is objective evidence that the Group will not be able to collect all amounts due according to the original terms of sale.

The primary factors that the Group considers in determining whether receivables are impaired are their overdue status and the reliability of related collateral, if any. Other principal criteria used to determine whether there is objective evidence that an impairment loss has occurred, are as follows:

- the counterparty experiences a significant financial difficulty as evidenced by its financial information;
- the counterparty considers bankruptcy or a financial reorganization;
- there is an adverse change in the payment status of the counterparty as a result of changes in the national or local economic conditions that impact the counterparty.

The amount of the allowance is the difference between the face value and the recoverable amount, being the present value of expected cash flows discounted at the market rate of interest for similar borrowers that prevailed when the receivable was originated. Uncollectible receivables are written off against the related allowance for doubtful accounts after all necessary procedures to recover the receivables have been completed and the amount of the loss has been determined. Subsequent recoveries of amounts previously written off are credited to the impairment loss account within the consolidated statement of operations.

Loans issued to shareholders

Loans issued to shareholders are recorded as a reduction of equity.

Debt

Debt includes bank loans and finance lease liabilities. Borrowings are recognized initially at fair value, net of transaction costs incurred, and are subsequently carried at amortized cost using the effective interest method; any difference between the amount at initial recognition and the redemption amount is recognized as interest expense over the period of the debt. Interest payable on debt is included in other accruals and liabilities.

Income taxes

The Group uses the asset and liability method of accounting for income taxes, whereby deferred income taxes are recorded for the future tax consequences attributable to differences between the financial statement and tax bases of assets and liabilities. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years, in which those temporary differences are expected to be recovered or settled. Deferred tax assets and liabilities are remeasured to reflect new tax rates in the periods rate changes are enacted.

1. SUMMARY OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

The Group records its tax provision based on the respective tax rules and regulations of the jurisdictions in which it operates. Where the Group believes that a tax position is supportable for income tax purposes, the item is included in its income tax returns. Where treatment of a position is uncertain, liabilities are recorded based upon the Group's evaluation of the "more likely than not" outcome considering the technical merits of the position based on specific tax regulations and the facts of each matter. Changes to recorded liabilities are made only when an identifiable event occurs that changes the likely outcome, such as settlement with the relevant tax authority, the expiration of statutes of limitation for the subject tax year, a change in tax laws, or a recent court case that addresses the matter.

While the judgments and estimates made by the Group are based on management's evaluation of the technical merits of a matter, assisted as necessary by consultation with outside consultants, historical experience and other assumptions that management believes are appropriate and reasonable under current circumstances, actual resolution of these matters may differ from recorded estimated amounts, resulting in charges or credits that could materially affect future financial statements.

The Group provides valuation allowances for deferred tax assets for which it does not consider realization of such assets to be more likely than not. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the historical taxable income generation, projected future taxable income, the reversal of existing deferred tax liabilities and tax planning strategies in making this assessment.

Environmental remediation costs

Costs associated with environmental remediation obligations are accrued when such costs are probable and reasonably estimable. Such accruals are adjusted as further information develops or circumstances change. Costs of future expenditures for environmental remediation obligations are discounted to their present value when the amount and timing of expected cash payments are reliably determinable.

Translation of financial statements

Functional and presentation currency

After the merger of Ilim Trading S.A. into Ilim S.A., the functional currency of the Company was changed from the Swiss Franc (CHF) to the US dollar (USD). The change in functional currency was applied on a prospective basis.

The functional currency of the Group's entities domiciled in the Russian Federation is the Russian Ruble (RUB). Functional currencies noted above reflect the economic substance of the underlying events and the circumstances of the Group entities.

The US dollar has been chosen as the presentation currency for these consolidated financial statements.

Translation of foreign currency items into functional currency

Transactions in foreign currencies are translated to the respective functional currency of each entity in the Group, at the foreign exchange rates prevailing at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated at the reporting date, into the functional currency at the exchange rates prevailing at that date. Foreign exchange gains and losses resulting from the settlement of the transactions and from the translation of monetary assets and liabilities at year-end exchange rates are recognized in the statement of operations.

1. SUMMARY OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Translation from functional to presentation currency

The results and financial position are translated from functional currency into US dollars for presentation purposes using the following procedures:

- assets and liabilities for each balance sheet are translated at the closing rate at the date of that balance sheet;
- share capital and other equity components are translated at historical rates;
- income and expenses for each statement of operations and statement of comprehensive income are translated at average monthly exchange rates that approximate the translation using the actual transaction date rates; and
- all resulting exchange differences are recognized as a separate component of equity in other comprehensive income.

Value-added tax

Output value-added tax ("VAT") related to sales is payable to tax authorities on the earlier of (a) collection of the receivables from customers or (b) delivery of the goods or services to customers. Input VAT is generally recoverable against output VAT upon receipt of the VAT invoice. The tax authorities permit the settlement of VAT on a net basis. VAT related to purchases, where all the specified conditions for recovery have not been met yet, is recognized in the consolidated balance sheet and disclosed separately within current assets, while input VAT that has been claimed is netted off with the output VAT payable. Where an allowance has been made for the impairment of receivables, an impairment loss is recorded for the gross amount of the receivable, including VAT.

Financial instruments

Financial instruments – key measurement terms

Depending on their classification, financial instruments are carried at fair value or amortized cost as described below.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The best evidence of fair value is the price in an active market. An active market is one in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis.

The fair value of current financial assets and liabilities approximates their carrying amounts.

Valuation techniques such as discounted cash flow models, or models based on recent arm's length transactions, or consideration of financial data of the investees are used to measure fair value of certain financial instruments for which external market pricing information is not available. Fair value measurements are analyzed by level in the fair value hierarchy as follows:
(i) level one are measurements at quoted prices (unadjusted) in active markets for identical assets or liabilities, (ii) level two measurements are valuation techniques with all material inputs observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices), and (iii) level three measurements are valuations not based on solely observable market data (that is, the measurement requires significant unobservable inputs).

1. SUMMARY OF BUSINESS AND SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Transaction costs are costs to sell an asset or transfer a liability in the principal (or most advantageous) market for the asset or liability, that are directly attributable to the disposal of the asset or the transfer of the liability and meet both of the following criteria: they result directly from and are essential to the transaction and they wouldn't have been incurred by the entity had the decision to sell an asset or transfer the liability not been made. Transaction costs include fees and commissions paid to agents (including employees acting as selling agents), advisors, brokers and dealers, levies by regulatory agencies and securities exchanges, and transfer taxes and duties. Transaction costs do not include debt premiums or discounts, financing costs or internal administrative or holding costs.

Amortized cost is the amount at which the financial instrument was recognized at initial recognition less cash collected, plus accrued interest, and for financial assets, less any write-down to date. Accrued interest includes amortization of transaction costs deferred at initial recognition and of any premium or discount to the maturity amount using the effective interest method. Accrued interest income and accrued interest expense, including both accrued coupon and amortized discount or premium (including fees deferred at origination, if any), are not presented separately and are included in the carrying values of the related items in the consolidated balance sheet.

2. RECENT ACCOUNTING DEVELOPMENTS

Certain new standards, pronouncements have been issued that are mandatory for annual periods beginning on or after January 1, 2019 or later, and which the Group has not early adopted:

Fair value measurement

In August 2018, the Financial Accounting Standards Board (FASB) issued ASU 2018-13, "Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement." The new guidance modifies disclosure requirements related to fair value measurement. This guidance is effective for annual reporting periods beginning after December 15, 2019, and interim periods within those years. Implementation on a prospective or retrospective basis varies by specific disclosure requirement. Early adoption is permitted. The Group is currently evaluating the provisions of this guidance; however, we do not anticipate a material impact on the financial statements.

Retirement Benefits

In August 2018, the FASB issued ASU 2018-14, "Compensation - Retirement Benefits - Defined Benefit Plans - General (Topic 715-20): Disclosure Framework — Changes to the Disclosure Requirements for Defined Benefit Plans." This guidance adds, removes, and clarifies disclosure requirements related to defined benefit pension and other postretirement plans. This guidance is effective for annual reporting periods beginning after December 15, 2020. Early adoption is permitted. This guidance should be applied on a retrospective basis to all periods presented.
The Group early adopted the provisions of this guidance in 2018 with no material impact on the financial statements.

Intangibles

In August 2018, the FASB issued ASU 2018-15, "Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract." The guidance aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license).
The accounting for the service element of a hosting arrangement that is a service contract is not affected by the amendments in this guidance. This guidance is effective for annual reporting periods beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted. The Group is currently evaluating the provisions of this guidance.

2. RECENT ACCOUNTING DEVELOPMENTS (CONTINUED)

In January 2017, the FASB issued ASU 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment." This guidance eliminates the requirement to calculate the implied fair value of goodwill under Step 2 of today's goodwill impairment test to measure a goodwill impairment charge. Instead, entities will record an impairment charge based on the excess of a reporting unit's carrying amount over its fair value. This guidance should be applied prospectively and is effective for annual reporting periods beginning after December 15, 2019, for any impairment test performed in 2020. Early adoption is permitted. The Group is currently evaluating the provisions of this guidance; however, we do not anticipate that the adoption of the standard will have a material impact on the Group's consolidated financial statements.

Cash Flow Classification

In August 2016, the FASB issued ASU 2016-15, "Classification of Certain Cash Receipts and Cash Payments (a consensus of the Emerging Issues Task Force)." The primary purpose of the ASU is to reduce the diversity in practice that has resulted from the lack of consistent principles in the classification of certain cash receipts and payments in the statement of cash flows. The ASU's amendments add or clarify guidance on eight cash flow issues, including; (1) debt prepayment or debt extinguishment costs; (2) settlement of zero-coupon debt instruments or other debt instruments with coupon interest rates that are insignificant in relation to the effective interest rate of borrowing; (3) contingent consideration payments made after a business combination; (4) proceeds from the settlement of insurance claims; (5) proceeds from the settlement of corporate-owned life insurance policies, including bank-owned life insurance policies; (6) distributions received from equity method investees; (7) beneficial interests in securitization transactions; and (8) separately identifiable cash flows and application of the predominance principle. This ASU is effective for annual reporting periods beginning after December 15, 2017, and interim periods with those years and must be applied retrospectively to all periods presented but may be applied prospectively from the earliest date practicable if retrospective application would be impracticable. The Group adopted the provisions of this guidance in 2018 with no material impact to the financial statements.

Leases

In February 2016, the FASB issued ASU 2016-02, "Leases". This ASU will require most leases to be recognized on the balance sheet which will increase reported assets and liabilities. Lessor accounting will remain substantially similar to current US GAAP. This ASU is effective for annual reporting periods beginning after December 15, 2018, and interim periods within those years, and mandates a modified retrospective transition method for all entities.

The Group will adopt this guidance using the newly approved transition method. We will recognize a liability and corresponding asset associated with in-scope operating and finance leases.
The Group is in the final stages of determining those amounts and processes required to account for leasing activity on an ongoing basis. Based on a preliminary assessment of existing operating leases, we expect to recognize a right of use asset and lease liability upon adoption of approximately $ 90 million, based upon the present value of the remaining rental payments under current leasing standards for existing operating leases.

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

3. OTHER COMPREHENSIVE LOSS

The following tables present changes in accumulated other comprehensive income (loss) (AOCI), net of tax, for the years ended December 31, 2018, 2017 and 2016:

	Defined Benefit Obligation Items	Change in Cumulative Foreign Currency Translation Adjustments	Total
Balance at December 31, 2017	**653**	**(495,247)**	**(494,594)**
Other comprehensive income (loss)	17	(62,850)	**(62,833)**
Amounts reclassified from accumulated other comprehensive income	173	-	**173**
Net current period other comprehensive income (loss)	**190**	**(62,850)**	**(62,660)**
Other comprehensive income (loss) attributable to non-controlling interest	(7)	1,942	**1,935**
Balance at December 31, 2018	**836**	**(556,155)**	**(555,319)**

	Defined Benefit Obligation Items	Change in Cumulative Foreign Currency Translation Adjustments	Total
Balance at December 31, 2016	**271**	**(502,610)**	**(502,339)**
Other comprehensive income	179	21,446	**21,625**
Amounts reclassified from accumulated other comprehensive income (loss)	217	-	**217**
Net current period other comprehensive income (loss)	**396**	**21,446**	**21,842**
Other comprehensive income (loss) attributable to non-controlling interest	(14)	(1,855)	**(1,869)**
Adjustment due to purchase of non-controlling shares	-	(12,228)	**(12,228)**
Balance at December 31, 2017	**653**	**(495,247)**	**(494,594)**

	Defined Benefit Obligation Items	Change in Cumulative Foreign Currency Translation Adjustments	Total
Balance at December 31, 2015	**325**	**(578,867)**	**(578,542)**
Other comprehensive income (loss)	(246)	81,854	**81,608**
Amounts reclassified from accumulated other comprehensive income	189	-	**189**
Net current period other comprehensive income (loss)	**(57)**	**81,854**	**81,797**
Other comprehensive income attributable to non-controlling interest	3	942	**945**
Adjustment due to purchase of non-controlling shares	-	(6,539)	**(6,539)**
Balance at December 31, 2016	**271**	**(502,610)**	**(502,339)**

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

3. OTHER COMPREHENSIVE LOSS (CONTINUED)

The following table presents details of the reclassifications out of AOCI, net of tax, reported in the consolidated financial statements for the three years ended December 31:

	Amounts Reclassified from Accumulated Other Comprehensive Loss			**Location of Amounts Reclassified from AOCI**
	2018	**2017**	**2016**	
Defined benefit obligation items:				
Prior-service costs	(416)	(477)	(455) [a]	Cost of products sold
Actuarial gains	200	206	219 [a]	Cost of products sold
Total pre-tax amount	**(216)**	**(271)**	**(236)**	
Tax benefit	43	54	47	
Net of tax	**(173)**	**(217)**	**(189)**	

(a) These accumulated other comprehensive income components are included in the computation of net periodic defined benefit plan cost.

4. SUPPLEMENTARY FINANCIAL STATEMENT INFORMATION

Cash and cash equivalents

	December 31, 2018	**December 31, 2017**
Bank deposits	501,310	36,936
Cash in current bank accounts	28,126	201,099
Total	**529,436**	**238,035**

Cash transactions are conducted through high-credit-quality financial institutions. Cash is placed with financial institutions (most of them are rated from A to BBB- based on Standard and Poor's and Fitch national ratings for the Russian Federation), which are considered at the time of deposit to have minimal risk of default.

Accounts receivable

	December 31, 2018	**December 31, 2017**
Trade receivables	149,406	134,245
Other receivables	2,808	1,074
Less: allowance for doubtful accounts	(10,032)	(11,395)
Total financial assets within trade and other receivables	**142,182**	**123,924**
Other	1,191	848
Total	**143,373**	**124,772**

A substantial majority of the Group’s customers operate in the pulp and paper industry.
As a result, the Group’s exposure to credit risk may be affected by negative developments in the industry. In addition, the top ten customers of the Group comprise 50% of the Group’s gross trade receivables at December 31, 2018 (December 31, 2017: 47%) and default of any of these customers may have a significant effect on the Group. There is a long-standing history of trading relationships with these customers with no defaults in the past.

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

4. SUPPLEMENTARY FINANCIAL STATEMENT INFORMATION (CONTINUED)

The movement in the allowance for doubtful accounts is as follows:

	Trade receivables	Other receivables	Total
At January 1, 2017	**10,381**	**1,094**	**11,475**
Additions charged to Earnings	839	253	**1,092**
Deductions from allowance (a)	(923)	(762)	**(1,685)**
Translation difference	480	33	**513**
At December 31, 2017	**10,777**	**618**	**11,395**
Additions charged to Earnings	630	19	**649**
Deductions from allowance (a)	(332)	(10)	**(342)**
Translation difference	(1,563)	(107)	**(1,670)**
At December 31, 2018	**9,512**	**520**	**10,032**

(a) Includes write offs, less recoveries, of uncollectible accounts.

Inventories

	December 31, 2018	December 31, 2017
Raw materials	107,855	115,673
Operating supplies, net of provision	54,382	62,006
Finished pulp, paper and packaging products	50,557	44,249
Other, net of provision	11,632	15,885
Total	**224,426**	**237,813**

Plant, properties and equipment

	December 31, 2018	December 31, 2017
Land and buildings	365,625	402,567
Plant and equipment	1,411,034	1,500,539
Other	425,996	444,489
Assets under construction and equipment for installation	350,449	228,279
Gross cost	**2,553,104**	**2,575,874**
Less: Accumulated depreciation	(987,132)	(1,054,433)
Plant, properties and equipment, net	**1,565,972**	**1,521,441**

Goodwill

On May 11, 2016, JSC Ilim Group acquired a 69% stake of LLC Gofra-Dmitrov (the Group's effective ownership interest equals 64.062%) for consideration of $14,554. The fair value of net assets acquired was $7,241 at acquisition. As a result of the transaction the Group recognized goodwill of $7,313.

	December 31, 2018	December 31, 2017
Opening balance	8,421	7,997
Translation difference	(1,439)	424
Closing balance	**6,982**	**8,421**

On July 19, 2016, JSC Ilim Group acquired the remaining 31% shares of LLC Gofra-Dmitrov for $3,644. The net assets acquired equaled $3,359. The difference between the consideration paid and net assets acquired of $285 was recorded in equity.

As a result of impairment testing, no goodwill impairment was recorded in 2018 and 2017.

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

4. SUPPLEMENTARY FINANCIAL STATEMENT INFORMATION (CONTINUED)

Other non-current assets

	December 31, 2018	December 31, 2017
Prepayment for non-current assets other than plant, properties and equipment	14,364	16,360
Prepayment to pension fund	6,966	8,077
Non-current receivables	19	141
Other non-current assets	14,897	16,141
Total	**36,246**	**40,719**

Other accruals and liabilities

	December 31, 2018	December 31, 2017
Payables and accruals for plant, properties and equipment	45,112	30,943
Customer advances	43,067	88,064
Unused vacations	20,341	21,164
Accruals for audit and consulting services	2,868	1,712
Interest payable on debt	2,842	1,049
Other accruals and liabilities	16,195	12,939
Total	**130,425**	**155,871**

The customer advances represent a contract liability that is created when customers prepay for goods prior to the Group transferring those goods to the customer. The contract liability is reduced once control of the goods is transferred to the customer. The majority of our customer prepayments are received during the fourth quarter of each year for goods that will be transferred to customers over the following twelve months.

Net sales

A geographic disaggregation of revenues across the Group products and service lines in the following tables provide information to assist in evaluating the nature, timing and uncertainty, if any, of revenue and cash flows and how they may be impacted by economic factors.

			2018				
	Pulp	Cardboard	Paper	Timber	Services	Other	Total
Asia without the Middle East	1,245,290	130,184	31,042	42,082	-	4,164	**1,452,762**
Russia and the CIS	183,925	165,589	314,342	86,029	33,092	146,523	**929,500**
Europe	99,845	73,014	51,556	-	669	5,208	**230,292**
Other	22,298	57,801	20,677	-	-	38	**100,814**
Total	**1,551,358**	**426,588**	**417,617**	**128,111**	**33,761**	**155,933**	**2,713,368**

			2017				
	Pulp	Cardboard	Paper	Timber	Services	Other	Total
Asia without the Middle East	941,918	89,301	21,610	42,337	52	5,291	**1,100,509**
Russia and the CIS	126,137	150,045	285,440	70,831	27,099	143,319	**802,871**
Europe	71,116	55,059	54,202	-	701	3,485	**184,563**
Other	14,675	32,263	15,148	-	-	-	**62,086**
Total	**1,153,846**	**326,668**	**376,400**	**113,168**	**27,852**	**152,095**	**2,150,029**

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

4. SUPPLEMENTARY FINANCIAL STATEMENT INFORMATION (CONTINUED)

	2016						
	Pulp	Cardboard	Paper	Timber	Services	Other	Total
Asia without the Middle East	815,329	92,976	18,498	35,755	99	3,212	**965,869**
Russia and the CIS	130,261	119,005	260,556	56,904	21,961	116,838	**705,525**
Europe	53,843	50,934	50,072	-	889	4,356	**160,094**
Other	54,007	36,442	4,630	-	-	-	**95,079**
Total	**1,053,440**	**299,357**	**333,756**	**92,659**	**22,949**	**124,406**	**1,926,567**

The nature of the Group's contracts can vary based on the business, customer type and region; however, in all instances it is the Group's customary business practice to receive a valid order from the customer, in which each parties' rights and related payment terms are clearly identifiable.

Contracts or purchase orders with customers could include a single type of product or it could include multiple types/grades of products. Regardless, the contracted price with the customer is agreed to at the individual product level outlined in the customer contracts or purchase orders. The Group does not bundle prices; however, we do negotiate with customers on pricing and rebates for the same products based on a variety of factors (e.g. level of contractual volume, geographical location, etc.). Management has concluded that the prices negotiated with each individual customer are representative of the stand-alone selling price of the product.

Shipping and handling costs

	2018	2017	2016
Shipping and handling costs	261,524	245,492	225,267

Shipping and handling costs (such as freight to the customers) are included in distribution and selling costs in the consolidated statement of operations.

Other operating income

	2018	2017	2016
Income from the government grant funding (railroad tariff subsidy)	18,256	-	-
Gain on disposal of plant, properties and equipment	1,177	-	2,976
Penalties received	1,054	1,297	704
Reversal of allowance for doubtful receivables and prepayments	343	54	117
Gain on disposal of non-core materials and spare parts	-	-	746
Other	4,976	1,612	7,764
Total	**25,806**	**2,963**	**12,307**

Other operating expenses

	2018	2017	2016
Social costs and donations	10,851	12,654	6,204
Loss from disposal of non-core materials and spare parts	10,571	7,219	-
Impairment of plant, properties and equipment	7,838	8,960	2,500
Non-refundable VAT	2,185	1,755	397
Redundancy expenses	2,181	2,160	2,995
Penalties paid	746	554	1,035
Allowance for doubtful receivables and prepayments, accounts payable write-off	687	1,113	1,811
Loss from disposal of property, plant and equipment	-	64	-
Tax obligations	-	-	1,462
Other	13,894	7,928	5,230
Total	**48,953**	**42,407**	**21,634**

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

4. SUPPLEMENTARY FINANCIAL STATEMENT INFORMATION (CONTINUED)

Interest

	2018	2017	2016
Interest income	8,197	4,485	3,333
Interest expense	(78,462)	(91,688)	(81,983)
Total interest expense, net	**(70,265)**	**(87,203)**	**(78,650)**
Capitalized interest costs	15,539	7,631	2,993

Intangible assets

Intangible assets include the following:

	At December 31, 2018		At December 31, 2017	
	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Management accounting system (SAP)	41,771	22,272	41,184	23,337
Other software	22,679	14,949	24,732	14,801
Licenses and patents	616	258	360	227
Other	285	214	340	249
Total	**65,351**	**37,693**	**66,616**	**38,614**

Based on current intangibles subject to amortization, estimated amortization expense for each of the next 5 years and thereafter is as follows: 2019 – $ 10,484, 2020 – $ 4,282, 2021 – $ 3,431, 2022 – $ 3,024, 2023 – $ 2,186, and cumulatively thereafter– $ 4,251.

5. INCOME TAXES

The components of the Group’s earnings from continuing operations before income taxes by taxing jurisdiction were as follows:

	2018	2017	2016
Earnings			
Russia	744,735	443,450	513,335
Other markets	31,906	50,251	33,905
Earnings from continuing operations before income taxes	**776,641**	**493,701**	**547,240**

The (expense) benefit for income taxes (excluding non-controlling interests) by taxing jurisdiction was as follows:

	2018	2017	2016
Current tax expense			
Russia	(147,883)	(80,070)	(39,191)
Other markets	(31,166)	(26,043)	(21,712)
	(179,049)	**(106,113)**	**(60,903)**
Deferred tax (expense) benefit			
Russia	(7,558)	(15,380)	(66,679)
Other markets	2,433	6,309	(318)
	(5,125)	**(9,071)**	**(66,997)**
Income tax (expense)	**(184,174)**	**(115,184)**	**(127,900)**

The Group made income tax payments, net of refunds, of $ 194,515, $ 95,251 and $ 54,005 in 2018, 2017 and 2016, respectively.

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

5. INCOME TAXES (CONTINUED)

A reconciliation of income tax expense using the statutory Russian income tax rate compared with the actual income tax expense was as follows:

	2018	2017	2016
Earnings from continuing operations before income taxes	776,641	493,701	547,240
Statutory Russian income tax rate	20%	20%	20%
Tax (expense) using statutory Russian income tax rate	(155,328)	(98,740)	(109,448)
Tax rate and permanent differences on non-Russian earnings	3,763	4,453	1,589
Non-deductible expenses	(8,022)	(7,451)	(4,861)
Tax on dividends	(24,484)	(12,619)	(15,668)
Other, net	(103)	(827)	488
Income tax (expense)	**(184,174)**	**(115,184)**	**(127,900)**
Effective income tax rate	**24%**	**23%**	**23%**

The tax effects of significant temporary differences and tax loss carryforwards, representing deferred income tax assets and liabilities at December 31, 2018 and 2017, were as follows:

	December 31, 2018	December 31, 2017
Deferred income tax assets:		
Net operating loss carryforwards	687	571
Inventory	9,849	7,484
Other	13,343	10,626
Deferred income tax assets	**23,879**	**18,681**
Deferred income tax liabilities:		
Intangible assets	(5,325)	(5,558)
Plant, properties and equipment	(116,423)	(120,680)
Other	(686)	(645)
Deferred income tax liabilities	**(122,434)**	**(126,883)**
Net deferred income tax (liabilities)	**(98,555)**	**(108,202)**

In 2018 and 2017, the Group utilized part of its tax loss carryforwards. The remaining tax loss carryforwards at December 31, 2018, in the amount of $ 687 are recorded in the consolidated balance sheet under the caption deferred income tax assets and have an unlimited life. Taking this into account and having assessed the Group's cash flow forecasts in the context of current and projected market conditions, the Group concluded that it is not more likely than not that any portion of the deferred taxes will not be realized; and therefore, no valuation allowance was recorded against the Group's deferred income tax assets at December 31, 2018 and December 31, 2017.

The Group does not recognize a deferred tax liability for temporary differences associated with the accumulated retained earnings of the Group subsidiaries at the beginning of the respective year, as these earnings are considered indefinitely invested. Future dividends, if any, will be paid out of earnings of the current year and subsequent years. No such deferred tax liability is recorded for this temporary difference at December 31, 2018 (December 31, 2017: nil). Temporary differences for which no deferred taxes are provided are $ 283,363 (December 31, 2017: $ 294,212).

6. COMMITMENTS AND CONTINGENT LIABILITIES

Operating environment of the Group

Emerging markets such as Russia are subject to different risks than more developed markets, including economic, political and social, and legal and legislative risks. Laws and regulations affecting businesses in Russia continue to change rapidly and tax and regulatory frameworks are subject to varying interpretations. The Russian economy was growing in 2018 and 2017, after overcoming the economic recession of 2016 and previous years. The future economic direction of Russia is heavily influenced by the fiscal and monetary policies adopted by the government, together with developments in the legal, regulatory, and political environment. Because Russia produces and exports large volumes of oil and gas, its economy is particularly sensitive to the price of oil and gas on the world market.

Starting from 2014, sanctions have been imposed in several packages by the U.S. and the E.U. on certain Russian officials, businessmen and companies. This led to reduced access of the Russian businesses to international capital markets.

The impact of further economic and political developments on future operations and the financial position of the Group is uncertain but might be significant.

Tax legislation

Russian tax and customs legislation, which was enacted or substantively enacted at the end of the reporting period, is subject to varying interpretations when being applied to the transactions and activities of the Group. Consequently, tax positions taken by management and the formal documentation supporting the tax positions may be challenged by the tax authorities. Russian tax administration is gradually strengthening, including the fact that there is a higher risk of review of tax transactions without a clear business purpose or with tax incompliant counterparties. There are also cases, where companies were penalized by the tax authorities for their counterparties not being compliant with VAT legislation. Fiscal periods remain open to review by the authorities, with respect to taxes, for three calendar years preceding the year when decisions about the review were made. Under certain circumstances reviews may cover longer periods.

The Russian transfer pricing legislation is to a large extent, based on international transfer pricing principles developed by the Organization for Economic Cooperation and Development (OECD). This legislation provides the possibility for tax authorities to make transfer pricing adjustments and impose additional tax liabilities, with respect to controlled transactions (transactions with related parties and some types of transactions with unrelated parties), provided that the transaction price is not arm’s length. Management has implemented internal controls to be in compliance with this transfer pricing legislation.

Tax liabilities arising from transactions between companies are determined using actual transaction prices. It is possible, with the evolution of the interpretation of the transfer pricing rules, that such transfer prices could be challenged. The impact of any such challenge cannot be reliably estimated; however, it may be significant to the financial position and/or the overall operations of the Group.

As Russian tax legislation does not provide definitive guidance in certain areas, the Group adopts, from time to time, interpretations of such uncertain areas that reduce the overall tax rate of the Group. While management currently estimates that it is probable that tax positions and interpretations will be sustained, there is a possible risk that an outflow of resources will be required should such tax positions and interpretations be challenged by the tax authorities.
The impact of any such challenge cannot be reliably estimated; however, it may be significant to the financial position and/or the overall operations of the Group.

The Group recognized additional tax obligations from its exposure to different tax risks assessed by tax authorities due to examinations of prior periods and the additional tax liability recorded is $ 143 at December 31, 2018 (December 31, 2017: $285). These tax obligations are recognized in the consolidated balance sheet as other liabilities. Management will vigorously defend the entity's positions and interpretations that were applied in determining tax charges, benefits, assets and obligations recognized in these consolidated financial statements.

6. COMMITMENTS AND CONTINGENT LIABILITIES (CONTINUED)

The Company's management estimated the risk of accrual additional taxes, penalties and fines, the total of which is believed to be less than 1% of revenue as at December 31, 2018.

Legal proceedings

From time to time and in the normal course of business, claims against the Group may be received. At December 31, 2018 and 2017, the Group estimates that it does not have any material potential obligations from exposure to possible legal risks.

Environmental matters

The enforcement of environmental regulation in the Russian Federation is evolving and the enforcement posture of government authorities is continually being reconsidered. The Group annually evaluates its obligations under environmental regulations. As obligations are determined to be probable and reasonably estimable, they are recognized immediately. Potential liabilities, which might arise as a result of changes in existing regulations, civil litigation or legislation are uncertain but could be material.

Forestry legislation

The Group's logging activities are subject to the forestry legislation of the Russian Federation. Management believes that the Group's activities are in compliance with current legislation.

The Group has an obligation to perform reforestation of the timberland it harvests. This obligation arises and the liability for the respective costs is recorded when the Group commences harvesting of a particular plot. At December 31, 2018 and 2017, the Group had substantially fulfilled its obligations.

Insurance matters

The Group is subject to political, legislative, fiscal and regulatory developments and risks, which are not covered by insurance. No provisions for self-insurance are required and therefore are not included in these consolidated financial statements. The occurrence of significant losses and impairments could have a material effect on the Group's operations.

Sales commitments

During the year ended December 31, 2018, the Group had a commitment to supply heating and water (in prior years also electricity) to inhabitants of Koryazhma, since the Group owns the only steam generator and electricity station in the town. The supply terms are renewed annually,
with prices determined by the respective local state energy commissions. Management estimates that revenue and related costs from the supply of heating and water in Koryazhma for the year ending December 31, 2019 are expected to be approximately $ 4,800 and $ 4,200, respectively.

Contractual capital expenditure commitments

At December 31, 2018, the Group had outstanding contractual commitments to purchase or construct plant, properties and equipment in the amount of $ 310,640 (December 31, 2017: $ 215,789).

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

7. DEBT AND LINES OF CREDIT

A summary of long-term debt is as follows:

	Weighted average interest rates	Notional currency	December 31, 2018	December 31, 2017
Fixed rate long-term bank loans	8.24%	RUB	753,827	513,013
Floating rate long-term bank loans	4.54%	US Dollar	875,897	1,056,536
Finance lease liabilities	9.21%	RUB	7,151	9,127
Total long-term borrowings (a)			**1,636,875**	**1,578,676**
Less: current maturities			286,563	733,694
Long-term debt			**1,350,312**	**844,982**

(a) The estimated fair market value was approximately $ 1,641,111 at December 31, 2018 and $ 1,591,308 at December 31, 2017. The fair values are determined on the basis of expected cash flows discounted at current interest rates for new instruments with similar credit risks and remaining maturities and were categorized to level 2 of the fair value hierarchy.

Total maturities of long-term debt over the next 5 years and thereafter are 2020 – $ 840,577; 2021 – $ 504,086; 2022 – $ 600; 2023 – $ 657; 2024 and later – $ 4,392.

At December 31, 2018 and 2017, no assets were pledged as collateral for the above borrowings. At December 31, 2018 and 2017, the Group was in compliance with all the financial covenants of its loan agreements.

At December 31, 2018 the Group has unused lines of credit in the amount of $ 57,578 (December 31, 2017: $ 350,000).

In prior years the Group entered into arrangements related to certain of its manufacturing equipment, which were classified as finance leases. The carrying amount of the leased equipment at December 31, 2018 was $ 6,022 (December 31, 2017: $ 7,985): gross book value – $ 8,896 (December 31, 2017: $ 10,729); accumulated depreciation – $ 2,874 (December 31, 2017: $ 2,744). The depreciation expense related to the leased equipment for 2018 was $ 667 (2017: $ 714; 2016: $ 624). The leases are for 15 years and are denominated in Russian Rubles. The interest rates underlying the obligations under finance leases are 9.0-9.4% per annum.

	Less than 1 year	1-5 years	Over 5 years	Total
Minimum lease payments at December 31, 2018	1,096	4,382	5,542	**11,020**
Less: future finance charges	(640)	(2,079)	(1,150)	**(3,869)**
Present value of minimum lease payments at December 31, 2018	**456**	**2,303**	**4,392**	**7,151**

	Less than 1 year	1-5 years	Over 5 years	Total
Minimum lease payments at December 31, 2017	1,322	5,285	8,005	**14,612**
Less: future finance charges	(820)	(2,750)	(1,915)	**(5,485)**
Present value of minimum lease payments at December 31, 2017	**502**	**2,535**	**6,090**	**9,127**

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

8. CAPITAL STOCK

At December 31, 2018 and 2017, authorised, fully paid, outstanding and issued share capital of the Company comprised 133,582,480 ordinary shares with par value of CHF 1 ($ 0.82) each. Each ordinary share entitles a shareholder to one vote.

In March 2017, JSC Ilim Group, a significant subsidiary of the Company, repurchased 612,309,294 of its own shares from the Company and third parties at $ 0.52 (31 Russian ruble) per share for total amount of $ 321,221.

Dividends

The Company declared and paid dividends of $ 232,632 (CHF 1.65 ($ 1.74) per share) in March 2018, of $ 241,760 (CHF 1.83 ($ 1.81) per share) in March 2017 and $ 118,118 (CHF 0.86 ($ 0.87) per share) in May 2016.

In November 2018, the Shareholders of JSC Ilim Group approved dividends of $ 411,587 (RUB 4.90 ($ 0.07) per share). In June 2018, the Shareholders of JSC Ilim Group approved dividends of $ 84,160 (RUB 0.95 ($ 0.02) per share). Dividends attributable to non-controlling interests amounted to $ 17,981 in 2018. In December 2017, the Shareholders of JSC Ilim Group approved dividends of $ 197,548 (RUB 2.10 ($ 0.04) per share). In June 2017, the Shareholders of JSC Ilim Group approved dividends of $ 58,023 (RUB 0.60 ($ 0.01) per share). Dividends attributable to non-controlling interests amounted to $ 10,829 in 2017. In December 2016, the Shareholders of JSC Ilim Group approved dividends of $ 307,690 (RUB 3.20 ($ 0.05) per share). In June 2016, the Shareholders of JSC Ilim Group approved dividends of $ 21,521 (RUB 0.23 ($ 0.004) per share). Dividends attributable to non-controlling interests amounted to $ 19,776 in 2016.

9. RELATED PARTY TRANSACTIONS

Related party relationships are determined by reference to ASC No. 850, *Related Parties Disclosures* .

Related parties of the Group fall into the following categories:

- companies controlled by the Russian Shareholders;
- International Paper Company.

Amounts purchased from and sold to related parties are recorded in these consolidated financial statement line items where similar non-related party transactions are recorded. Outstanding balances at December 31, 2018 and 2017 are recorded in the accompanying consolidated balance sheet in accounts receivable from related parties and accounts payable to related parties.

Companies controlled by the Russian Shareholders

Operating transactions

Balances with the companies controlled by the Russian Shareholders at December 31, 2018 and 2017 consist of the following:

	December 31, 2018		December 31, 2017	
Sales/purchases of:	**Receivables**	**Payables**	**Receivables**	**Payables**
Other services	3,815	-	1,258	(776)
Raw materials	1,562	(615)	5,184	(558)
Transport services	319	(508)	513	-
Operating lease	248	(2)	272	(20)
Energy, gas, water and heat	139	-	78	-
Total	**6,083**	**(1,125)**	**7,305**	**(1,354)**

(All amounts are presented in thousands of US Dollars, unless otherwise stated)

9. RELATED PARTY TRANSACTIONS (CONTINUED)

All outstanding balances with related parties are required to be settled in cash and are not secured. Management believes that the terms and conditions of these related party transactions are generally similar to those that are available or are reasonably expected to be available for similar transactions with unrelated parties.

Transactions during the years ended December 31, 2018, 2017 and 2016 between the Group and the companies controlled by the Russian Shareholders were as follows:

	2018		2017		2016	
	Income	Expenses	Income	Expenses	Income	Expenses
Raw materials	50,990	(8,365)	46,377	(5,578)	40,023	(5,275)
Energy, gas, water and heat	2,038	-	1,353	-	1,350	-
Other services	2,014	(7,834)	1,682	(8,617)	1,362	(4,103)
Operating lease	861	(1,624)	447	(1,580)	451	(1,254)
Transport services	840	-	1,085	-	1,238	-
Total	**56,743**	**(17,823)**	**50,944**	**(15,775)**	**44,424**	**(10,632)**

Loans issued to shareholders

The Group extended two loans to companies controlled by one of the Russian shareholders (the "Borrower"): in 2016 in the amount of $ 100,000 and in 2015 in the amount of $ 75,000. Both loans are denominated in US dollars, bear interest at the market rate and mature in July 2021. The loans are secured by the pledge of shares in a non-listed company. Under the loans, the Borrower shall perform early partial prepayments of the principal amount of the loans in the amount equal to the substantial portion of the dividend that the Company may pay for the benefit of that Russian shareholder, less higher priority payments (including accrued interest, charges, fees, costs and expenses related to the loan) provided that the amount of such portion of the dividend is sufficient to cover those higher priority payments. During 2018, the Borrower repaid $ 15,906 of principal and $ 12,205 of interest.

In November 2018 the Group extended a short-term loan to another Russian shareholder for $20,000 denominated in US dollars. It bears interest at the market rate and matures in April 2019.

The related interest income accrued in the amount of $ 13,022 (2017: $ 13,361) and foreign exchange gain in the amount of $ 19,042 (2017: loss of $ 7,713) have been presented within equity and are included in additional paid-in capital and receivables from the shareholders, respectively, in these consolidated financial statements.

International Paper Company

Balances with International Paper Company and its subsidiaries were as follows:

	December 31, 2018		December 31, 2017	
Sales/purchases of:	Receivables	Payables	Receivables	Payables
Finished goods	21,390	(1,081)	16,950	(380)
Services	-	(4,895)	48	(5,808)
Total	**21,390**	**(5,976)**	**16,998**	**(6,188)**

Transactions between the Group and International Paper Company and subsidiaries were as follows:

	2018		2017		2016	
	Sales	Purchases	Sales	Purchases	Sales	Purchases
Finished goods	234,041	-	221,838	-	200,500	(47)
Services	95	(2,831)	158	(1,816)	-	(214)
Total	**234,136**	**(2,831)**	**221,996**	**(1,816)**	**200,500**	**(261)**

10. SUBSEQUENT EVENTS

Subsequent events were evaluated through February 20, 2019, the date when these consolidated financial statements were available to be issued, and there are no subsequent events of significance to report.